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University of California
Berkeley, California

University History Series

Robert Danforth Ogg

BUSINESS AND PLEASURE:

ELECTRONICS, ANCHORS, AND THE UNIVERSITY OF CALIFORNIA

With an Introduction by
Virginia Conn

Interviews Conducted by
Paul Williams and Harriet Nathan
1987 and 1988

Edited by
Suzanne B. Riess

Since 1954 the Regional Oral History Office has been interviewing leading participants in or well-placed witnesses to major events in the development of Northern California, the West, and the Nation. Oral history is a modern research technique involving an interviewee and an informed interviewer in spontaneous conversation. The taped record is transcribed, lightly edited for continuity and clarity, and reviewed by the interviewee. The resulting manuscript is typed in final form, indexed, bound with photographs and illustrative materials, and placed in The Bancroft Library at the University of California, Berkeley, and other research collections for scholarly use. Because it is primary material, oral history is not intended to present the final, verified, or complete narrative of events. It is a spoken account, offered by the interviewee in response to questioning, and as such it is reflective, partisan, deeply involved, and irreplaceable.

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ROBERT DANFORTH OGG
1988

*Photograph by Jane Scherr
[in Glenn Seaborg's office]*

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PREFACE

When President Robert Gordon Sproul proposed that the Regents of the University of California establish a Regional Oral History Office, he was eager to have the office document both the University's history and its impact on the state. The Regents established the office in 1954, "to tape record the memoirs of persons who have contributed significantly to the history of California and the West," thus embracing President Sproul's vision and expanding its scope.

Administratively, the new program at Berkeley was placed within the library, but the budget line was direct to the Office of the President. An Academic Senate committee served as executive. In the more than three decades that followed, the program has grown in scope and personnel, and has taken its place as a division of The Bancroft Library, the University's manuscript and rare books Library. The essential purpose of the office, however, remains as it was in the beginning: to document the movers and shakers of California and the West, and to give special attention to those who have strong and often continuing links to the University of California.

The Regional Oral History Office at Berkeley is the oldest such entity within the University system, and the University History series is the Regional Oral History Office's longest established series of memoirs. That series documents the institutional history of the University. It captures the flavor of incidents, events, personalities, and details that formal records cannot reach. It traces the contributions of graduates and faculty members, officers and staff in the statewide arena, and reveals the ways the University and the community have learned to deal with each other over time.

The University History series provides background in two areas. First is the external setting, the ways the University stimulates, serves, and responds to the community through research, publication, and the education of generalists and specialists. The other is the internal history that binds together University participants from a variety of eras and specialties, and reminds them of interests in common. For faculty, staff, and alumni, the University History memoirs serve as reminders of the work of predecessors, and foster a sense of responsibility toward those who will join the University in years to come. For those who are interviewed, the memoirs present a chance to express perceptions about the University and its role, and offer one's own legacy of memories to the University itself.

The University History series over the years has enjoyed financial support from a variety of sources. These include alumni groups and individuals, members of particular industries and those involved in specific subject fields, campus departments, administrative units and special groups, as well as grants and private gifts. Some examples follow.

Professor Walton Bean, with the aid of Verne A. Stadtman, Centennial Editor, conducted a number of significant oral history memoirs in cooperation with the University's Centennial History Project (1968). More recently, the Women's Faculty Club supported a series on the club and its members in order to preserve insights into the role of women in the faculty, in research areas, and in administrative fields. Guided by Richard Erickson, the Alumni Association has supported a variety of interviews, including those with Ida Sproul, wife of the President; athletic coaches Clint Evans and Brutus Hamilton; and alumnus Jean Carter Witter.

The California Wine Industry Series reached to the University campus by featuring Professors Maynard A. Amerine and William V. Cruess, among others. Regent Elinor Heller was interviewed in the series on California Women-Political Leaders, with support from the National Endowment for the Humanities; her oral history included an extensive discussion of her years with the University through interviews funded by her family's gift to the University.

On campus, the Friends of the East Asiatic Library and the UC Berkeley Foundation supported the memoir of Elizabeth Huff, the library's founder; the Water Resources Center provided for the interviews of Professors Percy H. McGaughey, Sidney T. Harding, and Wilfred Langelier. Their own academic units and friends joined to contribute for such memoirists as Dean Ewald T. Grether, Business Administration; Professor Garff Wilson, Public Ceremonies; Regents' Secretary Marjorie Woolman; and Dean Morrough P. O'Brien, Engineering.

As the class gift on their 50th Anniversary, the Class of 1931 endowed an oral history series titled "The University of California, Source of Community Leaders." These interviews will reflect President Sproul's vision by encompassing leadership both state- and nationwide, as well as in special fields, and will include memoirists from the University's alumni, faculty members and administrators. The first oral history focused on President Sproul himself. Interviews with 34 key individuals dealt with his career from student years in the early 1900s through his term as the University's 11th President, from 1930-1958.

More recently, University President David Pierpoint Gardner has shown his interest in and support for oral histories, as a result of his own views and in harmony with President Sproul's original intent. The University History memoirs continue to document the life of the University and to link its community more closely -- Regents, alumni, faculty, staff members, and students. Through these oral history interviews, the University keeps its own history alive, along with the flavor of irreplaceable personal memories, experiences, and perceptions.

A full list of completed memoirs and those in process in the series is included in this volume.

The Regional Oral History Office is under the administrative supervision of Professor James D. Hart, the Director of The Bancroft Library.

Harriet Nathan
Project Head
University History Series

Willa K. Baum
Division Head
Regional Oral History Office

9 November 1987
Regional Oral History Office
Room 486 The Bancroft Library
University of California
Berkeley, California



INTRODUCTION

How do you describe an old friend? That he has a restless mind that never seems to relax? That he is warm and generous and kind? That he is energetic, eager to embrace new technology, a strong leader with the curiosity of a hundred cats and a huge bag of wily tricks designed to let him have his way?

What do you say about a friend who is impatient, demanding, sometimes exceedingly harsh, impetuous and often selfish? A man who possesses a diabolical sense of humor and the enthusiasm of a six month old puppy? A man who is so sentimental that sometimes his friends worry that he remembers things as much better than they were?

This is the Bob Ogg I know--the same Bob Ogg who is often recognized for his accomplishments in university, church and industry. The Ogg I know could easily impress people with his disregard for convention, his joy in the ridiculous, his pride in doing something by himself, whether inventing a new anchor or typing a business letter on his word processor.

The Ogg I know is a man's man who doesn't even feign interest in women's affairs. He likes women for their obvious charms and he admires them if they possess the abilities of men, but he tunes them out tactlessly when they bore him. For all that, Bob is a staunch family supporter and a zealous nest-builder. He is devoted to children and relatives and has a vast extended family. People often live with the Oggs, and Bob treats his guests with the same casual acceptance he gives his kids.

Bob is pleased with what he has; I know of no one happier with his possessions, his house, his real estate, his cars, his boats. His delight is obvious, but he has never been smug or ungracious to those with less. Bob is also proud of his well-earned title of Captain Bligh, and depending on size, his boats are named either Bligh's Barge or Bounty. The Ogg temper is respected by friends and family: he can be an impatient taskmaster, and expects to be obeyed immediately--and, of course, without question!

When we were much younger Bob gleefully led us through a series of escapades that are typical of his love for pranks: hoisting a dead codfish to the top of a neighbor's flagpole, harassing friends at dawn with a small, but noisy cannon; moving a pump organ to his rustic cottage on White Island in the middle of the night--never mind that the house is perched on a rocky hill two miles at sea.

Bob has been married three times. And while his wives have been very different, they all share one gift: intelligence. Bob is impatient with dullards and bores, intolerant of stupidity, and has little respect for those who don't carry their own weight. As for himself, he is one of the country's great volunteers. Ask him to lead a worthy cause and ninety percent of the time he'll say "yes." That's because he likes to direct, he likes to work, and he actually believes in what he champions.

For many years, Bob kept silent about his covert activities in Japan during World War Two, activities described in this book. The revelations came as a complete surprise to his friends, who do not consider Bob capable of keeping a secret. But then, Bob is full of surprises, as you will learn when you read his story. He's a man who loves the sea, but now chooses to live on a ranch. He invented an anchor as a youth that still is the great standard for both Navy ships and small boats. And he is devoted to a great university because that institution apparently allows him to serve it on his own terms.

I'll always remember Bob as a man who loves steak, kids and gadgets-- politics, VIPs and patriotic events; sailing, sleeping and talking on the telephone--a man who eagerly serves his country and his neighbors; someone who, no longer young, simply won't grow old.

Virginia Conn

May 1, 1989
Kilmarnock, Virginia

[Author's note: Bob and Virginia Conn have been Bob Ogg watchers for more than thirty years. The Conns, who both recently retired from the Navy, now live on the water in Kilmarnock, Virginia. They still summer in East Boothbay, Maine, where they exchange Bob Ogg stories with their friends. Mr. Conn is a former Assistant Secretary of the Navy for Financial Management.]

INTERVIEW HISTORY

Robert Danforth Ogg hails from both sides of America, and always from the shoreline, or close to it. It is the sea that has given him his work and much of his pleasure. He invents maritime devices, anchors and compasses. He is a navy man by heritage and commission. And from a tender age he has been a sailor, not lingering long away from water. His speedy trips back and forth across the country over the years seem only to have slowed down long enough for him to hear Wendell Willkie speak in Indiana in 1940.

Bob Ogg--he makes it clear to the interviewer that Bob is what he is to be called--was interviewed in 1987 and 1988 by the Regional Oral History Office. He was interviewed for the insights he could offer into the workings of a creative, inventive mind. He was interviewed also because of his very articulate understanding of how an institution such as the University of California at Berkeley needs its friends, and how it can best use those friends.

Since 1937 when he spent a summer studying physics at Berkeley, Bob Ogg has felt himself to be a true Old Blue. Never mind that he put in a number of years studying elsewhere, he finished his studies at Berkeley in 1946. That made Berkeley not only his hometown and the source of many deep friendships, but his alma mater, the recipient of his alumni time and energy and devotion. And now in the 1980s when it is seeking to identify new sources of financing and to strengthen its various research arms, UC Berkeley is availing itself of Bob Ogg's finely-honed instincts for how to sell a product and to whom and by whom.

The first and longest part of the oral history is an interview conducted by Paul Williams. Mr. Williams, related by marriage to Bob Ogg and his wife Nancy, is a writer and historian newly settled in the Bay Area. He and Bob Ogg had their recording sessions at the Oggs's home, a bit far from the sea perhaps, but beautifully landlocked in Knight's Valley, Sonoma County, California. Those seven hour-long sessions were held June 20th to September 5, 1987. The conversations began with early life influences, family, education, life in Maine and St. Croix, and Robert Danforth Ogg's naval career.

During the war years commissioned officer Ogg was presented with a number of challenges that he met with characteristic ingenuity and delight. Stationed at Admiral Nimitz's headquarters, Pearl Harbor, he designed a new signal tower for Guam, and he conceived of and had built an ingenious prefabricated joint harbor entrance control post and airport control, a system installed at Iwo Jima. He reveled in the assignments.

The fertile mind of the inventor reveals itself to the reader as Mr. Ogg discusses with his interviewer the circumstances of devising and patenting a new anchor type, and the business he started subsequently with his uncle and mentor Richard Stevens Danforth. Danforth Anchor relocated to Maine in 1958, and over the next decades Mr. Ogg redesigned his anchor and designed compasses and a variety of nautical measuring devices--many are described in the interview--solving problems as they presented themselves.

An important chapter of California history is recounted in the oral memoir as Mr. Ogg discusses setting up in 1947 the state's Division of Communications at the request of Governor Earl Warren. His next job was to undertake a statewide review of telephone company equipment--and the telephone company was an organization whose acquaintance Bob Ogg had made years earlier. Before the war, as a member of naval intelligence he posed as a phone company serviceman in order to gain admittance to hotel rooms in San Francisco, rooms he then wired to record the conversations of the Japanese occupants under suspicion.

The oral history is laced with anecdotes, from stories of summer camp adventures in Maine and California in the early 1930s, to daredevil motoring escapades in the Berkeley hills, to tales of prewar and wartime counter-espionage work. Utilizing brilliant homegrown methods, Bob Ogg made an art of wiretapping and bugging.

A second set of two interviews, conducted by University historian, and oral historian, Harriet Nathan, was held in late 1987 and early 1988 on the Berkeley campus. The interviews were scheduled for days that Bob Ogg was conducting other University of California business, and he set aside time to complete the oral history story, first reviewing for Mrs. Nathan his past accomplishments, and then spelling out in a kind of detail that is like a casebook study his hopes for the future development of the University at Berkeley. Those chapters constitute a lesson in how a university might use its loyal supporters.

We have included with the oral history a sampling of the patent work and the writings on compasses and anchors of Mr. Ogg. They are a vital part of the memoir and reflect the careful mind at work. But Bob Ogg is on to other things now, and in Knight's Valley he has a shop set up that enables him to keep his hand in, improving on his inventions. Once clear about a need, he sets about devising a solution. A simple formula, but one that is as viable in inventing as it is in helping a university see clearly where its best interests lie.

Because there were two interviewers, there was an understandable amount of overlap of basic information. Therefore the interviews received an overall editorial review by senior editor Suzanne Riess, who later spent a day with Mr. and Mrs. Ogg in Knight's Valley collecting illustrations, clarifying small

points, and coming under the spell of Bob Ogg. Virginia Conn has written the kind of introduction that a very good and close friend can offer, a bright beginning to the memoir, for which we thank her. University archivist emeritus James R. K. Kantor proofread the text for accuracy. University vice-chancellor Roderic Park sponsored the oral memoir with Mr. Ogg, which was made possible through the generosity of the Belvedere Scientific Foundation.

The Regional Oral History Office is under the direction of Willa Klug Baum, Division Head, and under the administrative supervision of Professor James D. Hart, the Director of The Bancroft Library.

Suzanne Riess, Senior Editor
Regional Oral History Office

May 15, 1989
Berkeley, California

BIOGRAPHICAL INFORMATION

(Please write clearly. Use black ink.)

Your full name ROBERT DANFORTH OGG

Date of birth 6-10-18 Birthplace GARDNER, MAINE

Father's full name JAMES OGG

Occupation BUILDER OF SUGAR MILLS Birthplace DUNMILL, ABERDEENSHIRE, SCOTLAND

Mother's full name ELEANOR BURNHAM DANFORTH OGG

Occupation HOUSEWIFE Birthplace CLISTOGA CA

Your spouse _____

Your children _____

Where did you grow up? MAINE & CALIF

Present community CLISTOGA (KNIGHTS VALLEY - SEDONA)

Education _____

Occupation(s) MANY

Areas of expertise MANY

Other interests or activities MANY

Organizations in which you are active MANY

ROBERT DANFORTH OGG

Biography 8-1-86

Retired: - Business executive, inventor, oceanographer, seismologist, communication engineer, consultant and author.

Born: - Gardiner, Maine 6-10-18, the son of Eleanor Barnard Danforth and James Ogg. Children by previous marriage - Richard A., R. Danforth jr., James E., Anne B. and Thomas H..

Education: - Tamalpais Boys Sch., Berkeley High, Gov. Dummer Acad., San Francisco J.C., Univ. of Calif.(Berkeley) and Stanford.

Military: - U. S. Navy active duty March 1941 - March 1946, initially 12ND Naval Intelligence - Jap. cntr. espng agent - later Asst to the Comm Planing Off., COMSERVPAC/CINCPAC; prior to transfer (1958) to the retired list as LCDR-USNR(ret) was Exec. Off. Naval Resrv -"Special Electronic Warfare Co." Richmond, CA. with DD596 (USS Shields) as training ship. Medals include: - Amer. Def. Svc., Amer. Theater, Pacific Theater, WW II Victory and Naval Reserve Medal.

Business: - 1937-41 inv. and dev. of Danforth anchor, 1947-49 at Earl Warren's request was special asst to Jim Dean, Calif State Director of Finance:- set up the Calif. State Div. of Comm. and laid out the states microwave system basically as it is today. 1949-1979: - manager, president and CEO, Danforth Anchors, a Calif. Corp. later Div. the Eastern Co. Currently active as an author and consultant.

Univ. of Calif.: - V.P. Univ. Calif. Berkeley Foundation, Trustees; Chm. of its Finance and Audit Committees, Initiator of it's "Discover Cal" program, mem.adv.bd. Lawrence of Science, mem. adv. bd. Univ. Research Expeditions Program, mem. Nimitz Lectureship com., mem. Chancellor's Circle Com., mem. Friends of the Bancroft Library, mem. adv. com. Cal Sailing, mem. Bear Backers, mem. Sports adv. com., mem. Cal and Engineering Alumnis.

Professional Assns: - Honorary Fellow, Calif. Acad. of Sciences; Life Fellow, The Explorers Club; Member - Soc. Naval Arch & Mar. Engineers; Member - Amer. Soc. of Naval Eng.; Amer. Geophysical Union; Portland Marine Soc.-(Maine); Amer Boat and Yacht Council; Boating Writers International; U S Naval Inst.; Woodshole Associates; DOCA (Defence Orientation Conference Assn.);

Registered Maine Guide and IEEE.

Directorships are or have included: The Eastern Co., Danforth Anchors; Alpha Ocean Systems; Hodgdon Brothers (shipbuilding -Maine); Brewers Boatyard (Maine); Henry R. Hinckley & Co. (boat builders - Maine), National Marine Products Assn., Boating Industry Assn., Navy League - Marin co. - founder, Navy League - Casco Bay Council (Maine) founder.

Author subjects: - Anchors, compasses, mooring systems and oceanographic engineering.

Clubs: Pacific Union; NY Yacht and Sierra.

Inventions: -include : - Anchors, compasses, inertial altimeters, auto-pilot, gas detectors, depth sounders, water speed and others.

I EARLY INFLUENCES, FAMILY AND FRIENDS

Mayflower

P.W.: You mentioned that some of your family came over on the Mayflower. You are a ninth descendent of John Howland.

Ogg: That's true. My mother was a Colonial Dame. I'm not sure what the qualifications for being a Colonial Dame were but my family did have one ancestor on the Mayflower that I've substantiated, and that was John Howland, who on the way over fell overboard when he was fourteen and barely grabbed a line and was rescued--otherwise I might not be aboard today! The Mayflower Society advised me that I have perhaps five other ancestors that were aboard the Mayflower and they could substantiate these if I wanted to pay the fee-per-ancestor. I have not decided that I wish to undergo that. [laughter]

P.W.: Young Howland's falling overboard is mentioned in Plymouth Plantation by William Bradford which is a history he wrote of the settlement that was never published until the 1800s. I see from this letter you have given me that you also are descended from John Tilley of the Mayflower and Richard Warren.

Ogg: Right. Those are the ones that I've not pursued further.

P.W.: Does it give you a special feeling to be descended from Mayflower people?

Ogg: I think it's very interesting to be able to track the Danforth family way back into the 1400s in England. Here we've got every step of the way documented, including Mayflower descent and so forth.

P.W.: How did you come to be born in Maine, Bob?

Ogg: I was conceived in Hawaii because my mother [Eleanor Barnard Danforth], who frequently spent time in her youth in the Islands, met my father [James Ogg] there. He was a sugar mill engineer. He was a contractor, similar to the Bechtels or the Kaisers. He took on and built complete mills, and he built them in Cuba, and he built I believe almost every mill that existed before the war in the Hawaiian

Ogg: Islands. He then moved on and built them later in the Philippines.

He was Scotch, born in Wardmill, Drumoak, Aberdeenshire, Scotland, which is a lowland suburb of Aberdeen. The Ogg family goes back to the 1300s there. He was rather poor. They were millers of some nature. He got his engineering degree by going to college at night in Edinburgh. He was the first of nine children that his mother had. After he was born she married, but she never would say "who did it." [laughter] Her maiden name was Ogg. I've always enjoyed the fact that I never knew who my grandfather on the Ogg side was so I don't feel quite as inhibited [laughs] as if I had to own up to being a Mayflower descendent, or again from the Boston Four Hundred. I feel very proud and privileged that my dad was what he was.

My parents got married in Honolulu and lived there. My father was a British citizen, and so my mother lost her citizenship due to the United States law at that time if you married a foreigner. In order to give me citizenship rights she took me back to the old family homestead in Maine where I was born [June 10, 1918]. When I was about six weeks old she moved out to California to live with my uncle in Belvedere. Subsequent to that we lived both in the East and the West alternately. My parents divorced in 1926 or later. I was not advised until my dad died that it [the divorce] was over her refusal to move to Scotland with me. She until her death regretted the decision.

P.W.: You've told me about going to Maine for the summer. Would you comment more on that.

Ogg: It was routine that we spent the winters in California and the summers in Maine, because the family had both a winter home in Gardiner, which is about thirty miles upriver, and an island home in Boothbay Harbor, an island called Squirrel Island which had about a hundred homes on it. So we used to spend the summers on Squirrel Island.

P.W.: Is that where you got your first love of sailing?

Ogg: Oh, I think that would have been in Belvedere. We used to have a little flat-bottomed skiff in Belvedere and I used to put a mast in it and sail it, make an artificial keel. I did that when I was six. I used to sail really in the Belvedere cove until I was seven. And from that age on, I sailed in Maine in the summers.

Titanic

P.W.: Bob, you said your mom had something to do with the Titanic.

Ogg: My mother was on a trip to Europe on the steamer Carpathia. I think her own words are very descriptive of what she went through. Maybe I ought to quote from her diary, written April 10, 1912:

E.B.S. [that's her Aunt Eleanor] and I left for New York. Mrs. Lowell and Mary on same train. Spent night at Belmont Hotel.

[Thursday, April 11, 1912] Sailed at noon on Carpathia for Genoa, Florence, Venice, Trieste and the Dalmatian Coast, and other places.

[Sunday, April 14, 1912] Church. Everyone at the [struggling to read handwriting]--I waked up at about 2:30 to wonder why there was so much running around and talking in the corridors. Then I realized that the engine had quickened speed and it flashed through my mind that possibly we were hurrying to some ship in distress. I tried to get it out of my mind but I finally rang for the steward and then minutes later we were dressing with all haste.

I went on deck and even in the darkness I could see the glimmer of the iceberg they had struck, then some five miles away. Shortly, to my disgust, the little English doctor very politely drove me back to my stateroom. However I soon discovered a porthole in the passageway where I could see, and there I watched the first boat come in, the people climbing the ladder up the side of the ship, being pulled up in a sling sort of thing. A bag was let down for the babies and children.

Shortly after that we went on deck as the boats came in one by one. How some of the people stood the cold, and half-frozen as they must have been managed to climb the ladder, I don't understand, because some of them were in lifeboats about seven or eight hours, if not longer, and all of them four or five hours in that awful cold. Some were dressed in evening clothes, some in anything and everything, and others in their nightclothes.

The dawn was perfectly beautiful, the calm sea, the light just touching the icebergs into rosy colors. We were literally surrounded by icebergs, some quite near, others off the horizon line, of all sizes from dinky little ones to those that seemed like mountains. And not so many miles away was an

icefield some twenty miles long, interspersed with wonderfully beautiful bays.

Of course we stayed around the scene of the wreck for ever so long and we went round and around about 52 miles of icebergs. It is said that the Titanic was some 150 miles out of her course. We went 60 miles north out of ours to help her. Had we been a faster ship we would have been out of communication with her. What a wonder wireless is!

We seemed to be so perfectly helpless. There didn't seem much to do except stand around and watch. I did manage to get hold of two little French children about one-and-a-half and three years old who came in half-naked and got them dressed and fed and warmed and taken care of. I have given away underclothes, a shirtwaist, and so forth, but as I'd taken as few things as I could possibly get along with, and most of those weren't suitable for what was wanted, I couldn't do much more in that line.

Everything and everywhere is filled with people. We have two people in our stateroom, a girl and her mother who are both ever so nice, and we are fortunate in having people who have the rest of their family on board.

The staterooms are full. People are sleeping in the bathtubs, on the floors, on and under the dining room tables where mattresses have been placed. Men all mixed up with each other in the smoking room. I think in sixty hours I have had some six hours sleep, so last night, though I waked up several times, I wasn't aware of the fact that we had had a bad thundershower. Just now it is foggy and the whistle is booming away every minute.

To think that after a solid week of ocean voyage, enough to get us to England, we end up in New York again! The captain told me we would spend six hours there getting coaled and provisioned, etc., and rushing everyone to death, and then come back to sea again to get rested. I asked him about the report that we were being transferred to the Saxonia instead of coming back on this and he didn't deny, yet he told me not to believe everything I hear. We will find out these things though by tomorrow night when we land.

The doctors and the purser have nowhere to sleep. I know one man who gets a half-hour of sleep once in a while when he finds a quiet corner, and the rest of his sleep he gets walking the deck. One stateroom has five men in it. After four get into bed the fifth puts his mattress on the floor. He's hoping one of the four don't forget he's there and jump out in a hurry! One man spent half of one night on the bathroom floor on top of some towels he found there. I saw the Italian doctor and the Hungarian doctor lying together on a seat in the hallway, not an over-wide seat either, and the feet of one were under the arms of the other.

The Titanic must have been a perfect palace, electric fires and fireplaces in every room, windows instead of portholes, running hot and cold water in every room, separate suites with their own private promenade deck, the restaurant with its own promenade deck. Gymnasium, Turkish baths, swimming pool, everything, and on the largest scale.

Some of the people though do get me. One woman was overheard blowing up at our steward because there was kerosene in her glass of water. She said she "didn't come on board this ship to get poisoned." They have had wonderful treatment on board this ship. Everyone has done everything, given away clothes, doubled up on their own staterooms, and all kinds of other things. They say that when the Republic went down the rescuing passengers and crew were horrid to the rescued ones.

This ship is not so speedy as some but she certainly is steady. There really was an awful heavy sea last night, and a good many of the larger boats would have been rolling around at a great rate, but there wasn't such a lot of motion to this. I understand she was built for the troops of the Boer War, yet--[unclear in letter]

There was one girl on board who said her husband came off the Titanic in the only one of his suits that she didn't like. It didn't look like him, it looked like a gambler. Funny what some people will think of.

Aunt Margaret

P.W.: You were telling me once about an aunt, Margaret Danforth, who was born in 1883. She was a bookbinder?

Ogg: She became a bookbinder professionally. I don't think she ever needed to make money at it, but I think she enjoyed the practice. She learned bookbinding from a person who was fairly famous in the bookbinding area known as Mary Sears. Then my aunt taught bookbinding. She specialized in very, very fine handmade bindings, and she had exhibits of her work and awards made to her by the Library of Congress. I don't know whether they still have any of her bindings on exhibit there, but she did have bindings at that location.

The school where she taught--my memory is that she usually had maybe seven or eight students, each of whom went on to become well-known in their own areas for the bookbinding that they did.

P.W.: She lived in Boston?

Ogg: She lived in Boston. She lived a great deal of time with my aunt, Mary Hollingsworth. She also had her own apartment at 12 Commonwealth Avenue in Boston. That's just south of Arlington Avenue, in a complex of apartments then owned by the Ritz-Carlton Hotel which was around the corner on Arlington.

P.W.: Where was her bindery?

GARDINER GIRL'S STORY OF RESCUE

Miss Eleanor Danforth As-
sisted Sufferers When
Reached Carpathia.

Will Return to Home in Maine
At Once---Resume Trip Later

NEW YORK, April 19 (Special).—Miss Eleanor Danforth of Gardiner, Me., was a passenger on the Carpathia, bound for Europe, and among those to lend succor to the sufferers from the Titanic.

Miss Danforth is forced to return to Gardiner before continuing her journey, her companion on the trip being unable to leave on the Carpathia on Saturday. Miss Danforth will resume her journey on April 25, leaving on the Saxonia.

Miss Danforth gives the following dramatic story of her terrible experi-

ences on the Carpathia to the Lewiston Journal correspondent. Miss Danforth said:

"Early Monday morning I awoke and went on deck as usual. The steward said, 'We are going to the help of the Titanic.'

"It was still dark and we could see the tops of the icebergs. Shortly the day dawned and the sight was magnificent but terrifying. Our ship was surrounded by icebergs, one ice field being twenty miles long, so the steward told me. We were forced to go fifty miles

[Continued on third page.]

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DEATH

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General No.

Society No. 1059

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1620



Signing of the Mayflower Compact, 21 November, 1620

1897

Richard Cabot's Standard Mayflower Ancestor

This certifies that Rev. Dr. Henry D. Hall is a member of the General Society of Mayflower Descendants founded 12 January, 1897, to perpetuate the memory of the Pilgrims, to maintain and defend the principles of civil and religious liberty, to cherish and maintain the ideals and institutions of American Freedom and to oppose any theories or actions that threaten their continuity.

Joseph B. Latimer Governor General

Ernest D. Hall Historian General



Anno Domini

Nov. 11. 1973



Mayflower Society House — Plymouth, Massachusetts

Ogg: Her bindery was on Newbury Street. That's on the other side of the Ritz-Carlton, between Clarendon and Exeter, somewhere along there. It was on the north side of Newbury Street, up on the second or third floor.

P.W.: You used to visit her there?

Ogg: Yes, any time I was Boston, and I spent a lot of time learning how to use the engraving tools, and how to put books together by the fine, handmade process.

P.W.: Did you know enough about it that you could go out and bind books?

Ogg: Oh, I wouldn't say that, but I would say if I had to bind a book I could bind a book. Not a profession I would like to practice, but I enjoyed very much learning how to engrave book covers and to work in gold leaf and other things. I enjoyed that.

Grade School and School Friends

P.W.: Where did you go to school?

Ogg: I went to kindergarten in Belvedere, I went to kindergarten in Maine. [laughs] I would say most of my school years were divided years, with the early part of the year in Maine schools, and the latter part, in winter, the majority part, in California, in Belvedere when we were living in Belvedere--wherever we were, Belvedere first, then Burlingame. For a time I went to school in Hillsborough. Then San Rafael where we stayed from 1928 through 1931 or '32 when we moved to Berkeley. So most of my years were split. The family wanted to stay in Maine until it got cold. Then they would move here.

P.W.: Was that difficult, that change?

Ogg: It was difficult probably entering the schools out here after they had been going a couple of months. I don't recall it ever disturbed me. I certainly wasn't concerned about my education.

P.W.: Could we talk about your early Berkeley memories? Who was Bobby Owens?

Ogg: Bobby Owens, the son of Billy Owens, lived on Edith Street in Berkeley where he remains today. I met him in high school. He was very equally to myself interested in electronics in those early years, and very innovative in things that he made. We became very good friends. His dad was the head of PG&E for its underground cabling systems and taught me a great deal in that area.

Ogg: Bobby and I were playful and innovative to where we got ourselves in trouble a couple of times. I've given you the articles that were in the Berkeley Gazette that related to us.

One of the articles was the column called "About Town," sub-headed "One Man Whoopee":

With all the ingenuity of youth a 19-year-old Creston Road resident blasted the quiet of his neighborhood the other evening, jangling nerves, rattling windows, and loosening eardrums. Sent galloping in his gasoline-burdened steed when snappy, decisive complaints began pouring into the Police Station, Officer H.R. Morrison thought at first that a circus menagerie was engaged in a free-for-all fight with an army of domesticated animals. As he neared the offender's home he found a large loudspeaker set up on the back porch and the sounds emanating from it vibrating all the windows in the vicinity. The youth, an ardent radio amateur, calmly explained he had heard another loudspeaker apparently being used by someone holding a garden party, had set up his rig on the porch, and was carrying on a two-way conversation. After laying down the law to the radio fan in no uncertain terms Officer Morrison began a search for the second offending speaker, but it had been silenced when the youth's verbal blast stopped and he was unable to locate it.

P.W.: And that other speaker was Bobby Owens's speaker?

Ogg: Yes, and I think from time to time we had similar confrontations that might have affected the peace of Berkeley.

P.W.: This was over a distance of about a mile?

Ogg: Yes.

P.W.: How did you rig this stuff up?

Ogg: I don't think there was anything special about it. We devised audio amplifiers and hooked them up to speakers. And my mother's house at that time, my home, was at the thousand-foot level on Creston Road in Berkeley--in fact it was one of the only houses, if not the only house on Creston Road at that time--and being way up on the hill it was easy to shout out over the rest of Berkeley. [laughter]

Model-T Adventures

P.W.: You also told me something that had to do with a Model-T.

Ogg: We were both very much interested in automobiles. Bobby's family had a 1931 Cadillac sedan and at that time the sedan probably weighed about six or seven thousand pounds. It was a gigantic car. We had acquired a small Model-T roadster with a rajo head and a ruxtle rear end. Both of these made a souped-up car.

In driving the car down Oxford Street and going through the intersection of Oxford and Hearst making a left turn onto Hearst to go up eastward, the ruxtle rear end locked. There was nothing we could do to unlock it and the car was frozen, stalled in the center of the intersection. We obtained Bobby's dad's Cadillac and hooked it up to the roadster and towed it with the wheels locked up Oxford, up Spruce Street, and then we pulled it north on Spruce up the long Spruce hill at speeds such that the tire rubber fell off in flames on the road as we went up. I might say that the tracks that we left on Spruce hill were there for many, many years. [laughs]

After we towed the car back to my mother's home we removed the engine and set it up below the house and converted it, at a later date, to a marine engine to drive a boat. Then we took the roadster, wheels and all, put it crosswise the road in front of my mother's house, and took the Cadillac and came down the street and hit it broadside, causing quite a horrible-looking mess, but not hurting the Cadillac at all.

After all the ruckus over us having the car in that situation up on the side of the road we decided it was best to dispose of the car and we towed it out into what is now Tilden Park and shoved it over a hill and it went rolling and tumbling down that hill. We've never heard of the car since. Maybe it's still buried in the brush! And I might say that that was long before there was a park there.

P.W.: Do you have any other comments about Bobby Owens?

Ogg: Well, if I didn't tell you before, I might say that for thirty or forty years he was maintenance foreman for the Alameda Naval Air Station, which drew on his multitude of abilities. He was very highly respected for the work that he did, whatever came up.

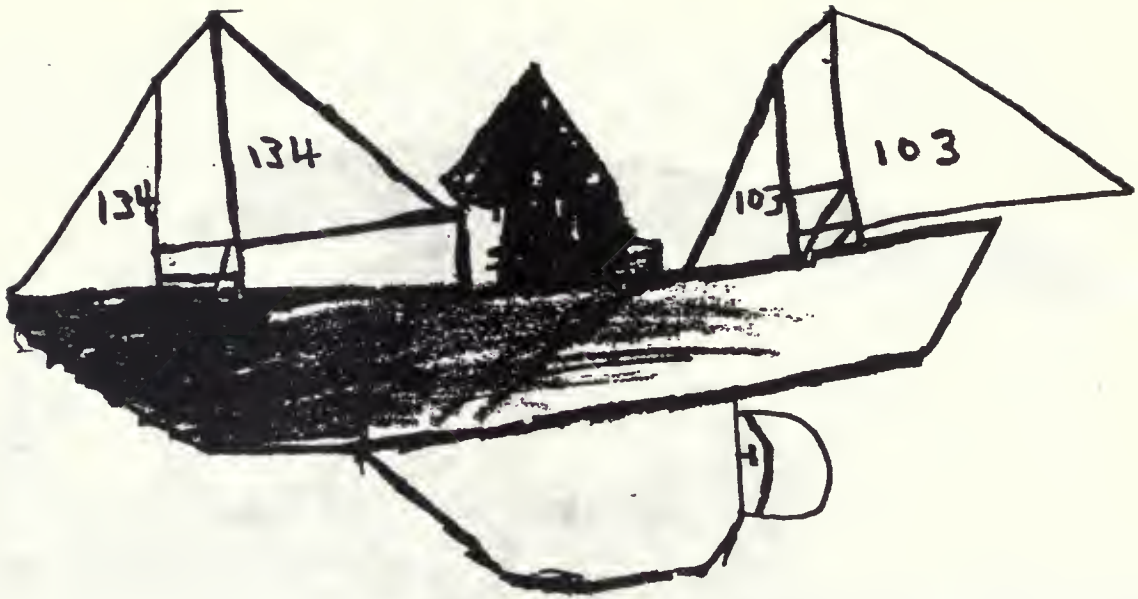
P.W.: Do you see him now and then?

Ogg: I saw him yesterday en route to the football game in Berkeley. I see him from time to time. We've always stayed in touch, with great respect for each other. If one needs something, it's a mutual situation to solve it.



"Bobby, six years old"

8b.



Ex-11

"8 yrs old"

Steam Engines

P.W.: Didn't you have some interesting memories about riding steam engines?

Ogg: I think perhaps in my youngest days I didn't understand fully what an engineer was and I admired my father so terribly much that I thought engineer was what I wanted to be. When I was five or six years old my desire was to be an engineer and run a locomotive. That's what an engineer was!

Then because of the family relationships in the railroad industry --my grandfather had been railroad commissioner of Maine and had laid out much of the Maine Central Railroad's actual track systems--it was possible for me to go down after school and join on one of the switching engines in the freight yard and be a guest of the engineer and ride the switching engine for the rest of the afternoon. I learned a lot about steam engines and I loved them from then on.

Stan Ward's dad, Stan Ward, Sr., assistant to the president of the Southern Pacific Railroad, gave me and Stan together ample freedom of use of the engines on the Southern Pacific line, particularly running from the Oakland area up to Norden, which we frequently took on weekends. It made it possible for us to ride in the cab of the Mallet Mogul engines which generally were put on in Roseville to climb the Sierra mountains. We were always welcome to ride that cab. Today that would be impossible in the regulations of the Department of Commerce.

Paper Routes

P.W.: Did you mention having some paper routes in Berkeley?

Ogg: When I was in Berkeley High I had a route with the Berkeley Daily Gazette which I had partly combined with another fellow named Barney Neilson. I don't know what's happened to him today. His dad ran a garage, a service shop in Berkeley. I learned a lot automotively from his dad.

Barney and I sort of alternated on the route for the Gazette, which was the area bounded by Hearst going up the hill to the east from Euclid, and Euclid up to Cedar Street, and Cedar Street up to the hill again to the east. There were a number of apartment houses in that area which now consists of University buildings.

I had a magazine route there in 1936 called the Literary Digest. It was a strong competitor at the time, if not almost an equal, with Time magazine. In the last days before the election between Roosevelt and Landon the Literary Digest made an error: it cut its throat

Ogg: because on the eve of the election it predicted the strong win of Landon over Roosevelt. This of course was reversed and that was the end of my Literary Digest route.

P.W.: You also delivered papers in Maine?

Ogg: Yes, I was much younger then. I probably was eight or nine. I had a route for the Kennebec Journal. Again it was combined, with another fellow named Blair--I don't remember his first name. I had first to walk about a half a mile to where the papers were picked up and then bring them back and distribute them in the area where I lived. I'd start at 4:30 or 5:00, very early in the morning. And I enjoyed that very much, but I remember the snowy days, and there were some awful cold days.

And about the same period in my life I had a Curtis magazine distributing setup where I had the basic one, which was the Saturday Evening Post, and I had the Ladies' Home Journal and Country Life as well. I don't know whether there was a third, but the primary one was the Saturday Evening Post.

Cyrus H.K. Curtis. I never knew him well personally. He used to come to Squirrel Island where we had our summer home. I used to see him every summer and I talked with him just briefly. I admired his great big yacht.

II EDUCATION AND SPORTS

High School and Prep School

P.W.: You went to Cal in 1937. But you told me you went to another college before Cal?

Ogg: I went to San Francisco State College. I went to Cal first, then wanted to go back for a vacation in Maine after summer session and didn't want to start Cal right away. So I went back east and enjoyed myself, and then I went to San Francisco because it started much later. At that time Cal started in the middle of August, and San Francisco State started the end of September.

How much I worried about my education--I went to a prep school after Berkeley High for one year. That was Governor Dummer Academy, which was about thirty miles north of Boston near Newburyport. I had a choice of going to two or three academies to prepare myself to go to the old family school of three generations, Dartmouth. The number one school was Deerfield Academy which seemed very happy to have me at that time. Governor Dummer was building a new main assembly hall and dining room and all that, and that delayed the starting of Governor Dummer until some time in October. I thought the shorter school year was the best thing, and so I went to Governor Dummer.

I left Berkeley High before graduating and went to a school called A-to-Zed in Berkeley because Berkeley High said to the family that I was not capable of understanding mathematics and therefore should take something that was not mathematically oriented. So I went there [A-to-Zed], then took the year back east at Governor Dummer to get myself lined up to go to Dartmouth.

Then I spent Easter vacation week at Dartmouth and decided that I really didn't like the all-boys school. I spent a week up there living in a fraternity and going to classes, and just living college life at Dartmouth, which I really did not enjoy. So I decided on coming out to Cal where my girlfriend was, and then my girlfriend's family sent her back to Smith! [laughter]

San Francisco Junior College and San Francisco State

Ogg: Anyway, I went to San Francisco State and started out in freshman courses, but my Governor Dummer education was sufficiently above it that the only courses I could really go into at San Francisco State were upper division math or technical subjects. So I went to San Francisco Junior College. This was the third year it was open and it had about 2,000 students. It now is San Francisco City College and has about 30,000 students. That was because the county of Alameda didn't have educational facilities and paid San Francisco for my attending San Francisco Junior College. They paid my transportation and my going to SFJC where I had some friends who were going and convinced me that was where I'd like to go.

I played football for San Francisco State College, and when I went to San Francisco Junior College I played for Lee Eisen who had been on the Wonder Team. I think football may have been one of the reasons I went to San Francisco JC. I did enjoy it. We were the number one junior college team on the West Coast. Most of our games were night games under lights, Friday nights at Kezar Stadium. We three-quarters, or completely filled Kezar every game we played! (They didn't have any pro teams in those days.)

In my prep school I also played, and they were the number one. I played tackle then. My height was six foot, and my weight was 180, which was super-large at that time. In fact I was probably one of the heaviest on the teams I played on, one of the largest. (Probably couldn't carry a water bucket, my current size.)

I played tackle for San Francisco State, and tackle first for SFJC. Then I became center and defensive fullback. That's when we played 60-minute games. Then I wrecked my knee and retired from the activity of football.

I was also moderately involved with other sports at San Francisco Junior College. I threw the javelin for them in track; I played golf for them; I started the ski team which did very well in the Pacific Intercollegiate group.

P.W.: Who did you play in football?

Ogg: The other junior colleges, Menlo, Marin, Santa Rosa, and we also played the UC Frosh.

P.W.: And it was there that you got injured?

Ogg: No, I got injured playing for San Francisco State, which did my knee in. There I played tackle, and that was the year before I went to San Francisco Junior College.

P.W.: You were also head of the club advisory board there? What was that?

Ogg: That was set up to regulate and to run all fraternal or social-type activity that existed on the campus. The campus was growing and this board was to set up regulations for the various clubs and organizations, to give them regulations to live by and to administer their operations on campus. They were given the power of running and establishing the rules for these organizations.

I became more related to my work at Cal when I came back after the war. I had four years of federal and one year of state basically free education which gave me enough to live on. I don't remember just what it was. My wife who I married in 1946 also had been in the military, and she also had credits, and so we both had credits and attended Cal at that time. She was the first girl to graduate in seismology.

P.W.: What was her name?

Ogg: Her name was Phyllis Idun Aasgaard. And with her, as the years went on, I had three boys.

III ELECTRONIC BUGGING FOR THE NAVY, 1941

Joining Up

P.W.: How did you happen to go into the navy?

Ogg: I've been related to the navy ever since I was fairly young. In 1934 I spent a week with my then great uncle who was--I had two great uncles who were in the Annapolis class of 1899, both of them admirals. The one I went with then was an admiral named Adolphus E. Watson. He was in 1934 in command of the scouting force. His flagship was the cruiser Raleigh and I spent a week with the navy on that ship. I became very much in love with the navy at that time. Of course I am a sailor and waterbound anyway.

My relationship with the navy actually started with being on the battleship Mississippi in 1926 in San Francisco Bay. The battleship Mississippi had had a turret explosion that killed men somewhere in that area of time. Anyway I came very close to the navy I would say from 1926 on.

P.W.: When did you join?

Ogg: In 1941, early '41. But in 1940 I tried to get a commission, for which I was qualified at that time, in both the East and the West, and failed physicals because my front teeth did not come together. It was called malocclusion, and it did not meet the requirements of an officer to have teeth that could close the Monson lung if you ended up in a submarine and needed to escape. So I didn't qualify for that.

Counterespionage, Wiretapping

Ogg: When I did join I went in because of being sold on my country's need for my electronic capabilities, although I didn't know that at the end it would be counterespionage work. At that time I enlisted at the lowest level of seaman first class. I wasn't to wear a uniform and be

Ogg: identified with the navy; it was just a means of paying me for my needed services.

P.W.: You worked in the San Francisco Bay Area then?

Ogg: Yes.

P.W.: Are you free to describe what you did then?

Ogg: Yes. I was really basically a Japanese counterespionage agent in naval intelligence. My primary duties in the next years that I was related to that work through 1943 were in wiretapping and bugging, and activities of that nature.

P.W.: Could you tell some of the things you did?

Ogg: Well, it's a lengthy story, but just briefly let me perhaps relate some of the responsibilities that were given to me. When I went into naval intelligence I became a very special agent, doing things that nobody else did or even knew about, or very few would have understood.

I worked with a fellow named Al [Ellsworth A.] Hosmer who was a lieutenant. (Here I was, a lowly enlisted man.) Hosmer had been a radio man in World War I with the navy. He'd been a communications expert, and he took me in to go into wiretapping, bugging, and that, things that I guess he felt he was too old for and didn't wish to do. So, I did all the dirty work.

I used to do bugging of where we presumed or knew there would be a meeting of these people. If they knew the location I would be advised of that so that I could go in advance and put their telephone system in trouble at the hotel, wherever they were meeting, and then go in and find the "trouble" in the room, and while I was there be able to put a microphone in the telephone, or hook the telephone up so it could be a microphone. Then we would be in the basement and could record the Japanese spy groups' meetings.

I also from July '41 on put a microphone hookup in the conference room of the Japanese Consulate in San Francisco. I didn't know Japanese to any degree. I learned the language in very simple ways and so forth, but had a very skilled Japanese interpreter who was available for telling me what was going on, and everything else.

P.W.: What was his name?

Ogg: Bill Magistretti. He is now, unfortunately, dead. He was probably about my age, maybe a couple of years older.

P.W.: He was working for naval intelligence too?

- Ogg: Principally he was working with naval intelligence, but he certainly was involved with FBI and military intelligence too, and maybe other entities.
- P.W.: Was there a lot of Japanese spy activity in the Bay Area?
- Ogg: It was the center of all activity in the country.

A Toothpaste Tube and a Code Book

- P.W.: Could you describe some of the things you ran across?
- Ogg: My memory isn't that complete in that area, Paul. I can say some things that we ran into and picked up this way. In one instance ship plans were in microfilm which was going in a toothpaste tube. This we learned from one of the hotel conference room buggings which enabled our group to pick that up in the baggage checkout, or whatever they went through, and substitute another toothpaste tube with altered plans. These were plans of a destroyer, and they altered the plans sufficiently that the ship would be topheavy enough that it would roll over when it made a sharp turn. And the Japs did build the ship and the ship did roll over.

Another situation, in July, maybe a little later than that, an agent named Seaman Gaddis (that was not a rank, that was his first name), he had been an associate with a fellow named Commander Gene Kerrigan who had been the top divorce lawyer in California, I guess, centered in San Francisco. Gaddis had been his right arm in all of the dirty work of divorces--which was quite a business in those days, as history will record.

Gaddis was well-skilled in finding out everything; I would say he was a super top guy that way. He arranged for the acquisition of a Japanese naval reserve code book from one of the officers on a Japanese passenger ship that was in the Japanese naval reserve--and I'm going to say again this was in mid or slightly after mid-1941. For \$25,000 in cash he arranged the acquisition of that book for microfilming. We microfilmed it--I did the sound recording--in a warehouse on the Embarcadero in San Francisco. I believe the time was between maybe two-thirty and three-thirty in the morning. It was interesting to see \$25,000 in cash handed over! A lot of money in 1941.

The next day the code book, the filmed information and all, was flown back to Washington. I don't know where it went from there. It was interesting to be involved in that.

- P.W.: Was bugging very advanced at that time?

Ogg: I would say that probably I did as much to advance the skill in bugging as anybody. I don't think it was well-known at all. I know I'm the one who as far as I know devised the methods of using the telephone for bugging. I have not known of others that did it.

I used to just add another wire internally in the phone and bring the other wire out so that the transmitting part of the microphone end of the phone went out of the location in a pair of wires. One of the wires I used was one of the wires that was in the phone anyway, and the other--generally speaking private lines only used two telephone wires and most telephones were wired with four wires, so it was easy to have a spare wire. That's because in those days probably 90 per cent of telephones were on party lines or on multiple party lines, ten-party lines, and the phones were all equipped to cope with those, so there were spare wires there.

P.W.: That was handy.

Ogg: That was very handy.

P.W.: What were some of the hotels the Japanese used?

Ogg: They were in Chinatown. I don't remember the names. I would say they were on Stockton Street, or near Stockton in a passage through there.

P.W.: Were there very many of them?

Ogg: Not that were really important ones. I am sure there were ones that we didn't bug, didn't get to, probably quite a number of those. But the ones we did get to, I know it was very valuable. I would say they were mostly valuable in protecting critical information from leaving the country.

"A Telephone Company Employee"

P.W.: Were people arrested with this stuff?

Ogg: No. Arresting or anything of that nature would have tripped the work, really. No, never. And my own work basically appeared--most of my work was as a telephone employee..

I had arranged through a vice-president of AT&T who was a non-active member of naval intelligence--can't think of his name right now--who was in San Francisco and head of everything that AT&T had here, and that included all long lines that go out to the Pacific, one way or another. He arranged to give me a pass which was a special services pass with AT&T which was above anything that PT&T [Pacific Telephone and Telegraph] had. So whenever I went into an office all I

Ogg: had to do was to show my AT&T pass and they would just say, "Welcome, the place is yours."

The special services were things like working at that time for places like NBC or CBS, making circuits available to them for their broadcast services. There was no television; the wire services were it. They took top priority of anything, to get the news stories out. So I had free access to the "tubs."

The tubs are--I don't know if they still exist today, but they are the records of every wire that exists. That I knew how to use very well, so I could just go to the tubs and find out what pairs of wires carried anything anywhere. It made it possible for me to do recording, let's say in Oakland, or from maybe San Jose or maybe Eureka, by going into the offices and cross-connecting my lines right on through back to a central recording location that I set up in San Francisco.

Devising Equipment

Ogg: The wiretaps that I did, they were not done in the field. And actually prior to my wiretapping as far as I know at that time all wiretapping had been done by somebody climbing a pole and finding a connection there. In fact actually my first wiretapping was that method of having to climb up a pole maybe two blocks from the individual's home and finding a multiple outlet that would have been used for a party line connection or something like that and having to sit there and make the recording, either at the bottom of the pole, or having a car right near there and having the recorder in the car.

I didn't like that, and that's why I decided to use the other. So in ways that I personally invented or devised, the wiretap could be made in the central office at 717 Market Street in San Francisco without anybody ever knowing it or being able to detect it.

My taps were all made in the central office by using some almost invisible microwatt resistors behind panels and tapping in there. Anything that shorted beyond there would have no effect that anybody could detect. (Some people think they hear noises and they say, "I think somebody's tapping my wire." Well, that's ridiculous, certainly today, and I believe mine was probably the first that anybody ever did so that nobody could detect it.)

Then I had a bank maybe twenty feet long of recorders set up, all of them on Dictaphone cylinders. We used them because as soon as any desired data was drawn the record was erased, leaving no trace, no record.

Ogg: I enjoyed the devising, probably the reason that in Berkeley High my last year they called my family in and told them that I'd better leave trying to be an engineer, that I just didn't understand math, and it was beyond me. [laughs] Because then I was into making radios, and couldn't be bothered with studying.

But anyway, I invented many things there. I invented a capacitive-type burglar alarm that they put in for the whole intelligence system. Electronic, capacitive-type, where I used the venetian blinds. By just running a little wire down and a little box above them you could adjust the blind by the angle of it to be able to pick up a person coming in the door or anybody outside the window. And it really was a great system. That was only one of my inventions, of all kinds of things. I think I've invented something to fit whatever was needed.

I got challenged with lots of things in intelligence, and Hosmer, who had started me, differed with the intelligence officer and some other things over December 7, so he left and went off into other naval communications. From then on I was the only one in intelligence that knew anything about what was doing, so I had my own crew to do what I needed. It was a first, I think, shift of responsibility to me of anything major.

The way I got in and tapped the Jap Consulate was by putting all their lines out of order. The only avenue they had was to call up the phone company and say, "We're in trouble." I had my own AT&T access-- it was a PT&T truck made available to AT&T for special services. I just went with my regular telephone-equipped truck. Everything I might want was in the truck. It looked legitimate.

I would go in and while I bugged the phone I would correct the circuit, or at least simultaneously have an associate of mine release the crossed circuit that had put it in trouble. Simultaneously. It took a lot of effort really to have that work just properly. And then I would send back the signal that I had completed my work and so I could report to the hotel desk when leaving that everything was back in order, and "Sorry." [laughs]

P.W.: And they never suspected anything?

Ogg: No. I'm sure they were cautious in their phone calls. They certainly, I don't believe, ever suspected the bug. That was only in one conference room. I'm sure there were lots of things going on in other areas. But I know it was valuable for that purpose.

P.W.: How did you learn all this stuff that enabled you to do this work?

Ogg: I would say my curiosity in electronics started when I was six in 1924 when I was living in Belvedere. I just became very interested in radio. I started building my first radios through trying to make better crystal sets. One of the recollections in my early radio days

Ogg: was the year before that, when I was five. I wasn't building things but I remember very well hearing over one of the old horn type speakers in our home of the fire that burned Berkeley [September 17, 1923] and being able from our window there to watch remotely the fire.

P.W.: It was an extensive fire?

Ogg: It leveled Berkeley. It leveled everything north of the campus. Oh, I won't say everything, some houses survived, but basically it swept Berkeley. Like the San Francisco fire, except Berkeley was not that big.

Locked In

P.W.: Could you tell us about the time when you were locked in the basement for the weekend?

Ogg: Well, that was in Chinatown, I believe in one of the hotels on Stockton, probably a block north of the tunnel. It was south of Broadway, somewhere right in that area of Chinatown.

We were doing our recording in the basement where all the terminals, the wires to the rooms and all come out--in fact the wiring today of any building is similar, all the terminals, even if it's one of these thirty-story buildings or whatever, that all comes down to a panel. But this I would say was probably a four-story, very small hotel.

Unfortunately, the access door was locked with a bolt which had a key from both sides, and we didn't have access to get out, so we spent the weekend there.

P.W.: Somebody locked you in accidentally?

Ogg: Well, they didn't know we were there.

P.W.: Was this before you hooked it up so you could record in the central office?

Ogg: Yes.

P.W.: Who was with you?

Ogg: I'm not sure whether it was Bill Thompson who was with me. Bill Thompson was with me on another occasion. Bill Thompson later went on to the Naval Academy. He's one of the top vice-presidents of I believe a company called Tracor.

P.W.: When you were in that basement, how did you ever get out?

Ogg: Oh, on Monday when garbage people came or something like that. We were dressed in telephone company uniforms. It looked like we were just telephone people on duty.

Trans-Pacific Communications, 1941

P.W.: Do you remember any other stories connected with your bugging?

Ogg: Another interesting area that we got into was when it was decided to set up monitoring of all trans-Pacific communications. I was involved at that time with AT&T in setting up the recording station which was set up to become the censorship station. And this, again, was in May or June of '41. It was set up at that time with all the censorship positions, all the cuts that could all be properly monitored that way. I did not engineer that part of it, as far as the way they could sit, and how they got in that they could cut out and carry the calls.

This station went into operation under me at that time, either in May or June, and from that point on we recorded every conversation that took place in the Pacific, whether it was by cable, or radio, and that included everything to Tokyo, to Southeast Asia, to New Zealand, to Australia, any communications. Probably 90 percent of it was by radio, and it differed from the frequencies that were good at different times of the day.

AT&T at that time controlled anything except local PT&T calls, and their building for doing this was 333 Grant Avenue in San Francisco. All communications. They had the transmitting and receiving stations: one at Bolinas, and that was transmitting I believe; and the other was at Dixon, California which was the receiving end of it, with the wires from both coming back into 333 Grant to control the communications. I moved in there and had a crew probably of four people that monitored around the clock. Bill Thompson was one of the people. He was then only seventeen I believe, a seaman first class, but was ordered to me for what he did.

We were advised from May on through October, when we released that activity and left it ourselves, of every oil embargo and every cut that the administration was making so that we could look for the Japanese responses. And again it was Bill Magistretti, a Commander Lawrence, who is now long dead, who--Magistretti was a civilian; Lawrence I believe at that time was a Lieutenant Commander, still a fairly high rank in the navy before the war. They would monitor where we had conversations, but we were alerted what to look for in reaction.

History does not yet tell all of this, but oil embargoes were imposed--not all at once, step by step--which were meant to create a

Ogg: situation where Japan would have to strike for oil to continue her war in China. The effort to get her mad enough that she would step out and help us get into the war was well underway in May and June. And from then on the timing to get in to save Britain became very important. In December it was down to just a week or two that the British command would have been transferred to New York with Hitler moving into England.

One can argue from the other avenue that maybe we shouldn't have bothered to force Japan into this issue and not gotten into the war, but the only way this country could be united was to have a "Lusitania," and the "Lusitania" was being set up by forcing Japan to do something. If the Axis had known what Japan was going to do they never possibly would have permitted her to do it. That is, striking us.

To go into Southeast Asia to get the oil, that would be different. It might not have involved us. And you can say, "Well, now, if we hadn't gotten in, and Hitler moved into England, the world would be different today." Maybe he would have become strong enough to battle with Russia. A whole different story.

Tracking the Japanese Fleet

Ogg: Anyway, the thing we were looking for was being alerted to every single thing that was going to force Japan into attacking us, and the sooner the better. I would say those of us involved knew that that was what we were looking for and watching for. I know the morning of December 7th all I did was call up my boss who I had seen Saturday afternoon and say, "It happened." We had been tracking the Jap fleet from the 2nd of December on.

P.W.: Could you describe the tracking of the fleet?

Ogg: The information for plotting the position of the Japanese fleet-- there's a lot being written on that. I've been interviewed by the navy for a week on that. I've spent much time with two authors who are writing books today. One is Ed Oxford who is from the Baltimore area. The other is Bob Stinnet who lives here in Oakland. He was a reporter with the Oakland Tribune and he has uncovered all kinds of data confirming what was done.

The actual tracking that we did, the information provided to me by the fellow that I reported to, Al Hosmer, came to him from both the navy's 12th Naval District communications monitoring station, which was separate from an operation run by Op 20G, a division of the navy which is today called communications security. And they had perhaps eight or ten listening stations that reported in direction-finder information throughout the Pacific. The directions that we got were

Ogg: totally separate from that that went to Op 20G, and they came from globe wireless, press wireless, and those operators who worked very closely with giving Hosmer information. And he gave me the information to do the plotting from what they picked up.

We knew from the monitoring that Op 20G did that the Japanese had gone under some kind of operation on November 28th. Their regular stations that we could detect left the air and they put substitute stations on the same frequencies. But they were detected to be different transmitters and different operating personnel.

Stinnet today is very active in digging out prior information. To the public, the 1981 Congress put out a forty-year rule that everything would be released. At least the public believes that everything is released at the end of forty years. And that's not so. It has an exception: anything to do with coding and communications. Actually if Stinnet goes back specifically looking for a particular document in that period he can get that released. It takes about six months after asking to get anything, but it's coming.

It might be worth your talking to him sometime. He's well aware of why the navy took certain angles in my communication, trying to put down that nothing existed. Talk to him. [Ogg gives Interviewer Paul Williams the telephone number.]

IV BOATS, RICHARD STEVENS DANFORTH, AND THE ANCHOR BUSINESS

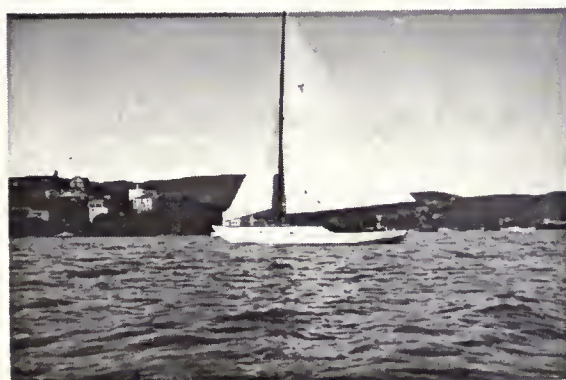
A Skiff

- P.W.: Your experience in boating and yachting started when you were six?
- Ogg: Basically when I was six. When I was in Maine I used to have a skiff to row in, and then when I was the same age in Belvedere I had a skiff there. Both places. I added a sail to the boat, which was never intended to be, by drilling a hole in the foreseat and sticking a mast in it. And sometimes I put a sideboard on the thing so it wouldn't sideslip. But yes, I started sailing at that time.
- P.W.: When did you begin to get serious about it?
- Ogg: What do you mean serious?
- P.W.: Well, really fascinated.
- Ogg: I was always fascinated with it before that time, but that's the first time, I guess, that my mother permitted me to have a skiff and to be on my own in the water.
- P.W.: Were you swimming at that time?
- Ogg: No. I could swim, but I didn't make any practice of it because we were never anywhere where it was, to me, what you call swimmable water. The waters in Maine were cold, the waters in San Francisco were cold.

A Prau Boat

- P.W.: What was your next boat?
- Ogg: Well, that was 1924, I would say. And the next three or four years I don't recall having another boat until my father bought me a prau boat from the Philippines, one that had won all the races out in the Philippines, and that was I would say in 1929 or 1930. That, if you

Bob Ogg, the United States Navy's Youngest Warrant Officer, 1942. Below, left; the Bird boat that Bob Ogg raced in when he was six years old, in 1924, with Belvedere in the background. Below, right, the prau boat, in 1936.



Ogg: got it going the right way, would make about thirty miles an hour, 28 knots, which is a fairly fast boat, probably faster than any other sailboat in San Francisco Bay. I had it in San Francisco Bay first, and then took it up to Lake Tahoe for summer, to Fallen Leaf Lake, where I sailed it as well. It was just a super, super fast prau.

It was a dugout-type canoe, very narrow, maybe fourteen, fifteen inches. The sides were woven reed, and it had two outriggers. I sailed it a good bit. It was basically a one-man boat, and the only way you could get in it was lying flat. You couldn't sit down in it, it was too narrow.

P.W.: What kind of a sail did it have?

Ogg: Well, it had a typical prau sail, which I would say is unique to that type of boat. It's not any type of sail you would have on an American, or let's say on a regular boat. It's sort of a Y-shaped sail. It came down the mast about one-third of the way back. It's an unusual rig, a Philippine-type rig.

P.W.: What happened to that?

Ogg: I wanted to take it to Maine and had a problem having it shipped from California to Maine. The shippers at Fallen Leaf Lake ostensibly shipped it by rail, but somehow it got mislaid or mishandled and was shipped back by truck and arrived in Boothbay Harbor somewhere about 1950. Because it had been mishandled it had a freight bill on it of about \$800! Which I refused to pay. Then I just forgot about it.

Six or seven years ago, around 1980, the trucker who had had it thirty years was going to retire. He told me if I would pay him \$100 to deliver it to me, I could have it. So I got it and brought it west and gave it to the California Academy of Science where it is now.

P.W.: Did you race that boat?

Ogg: Well, there wouldn't be any kind of a boat like that to race it against. It's so fast, but it takes a very long radius to turn it or to change it. If you're going to sail one direction without having a course to go around it's fast, because most sailboats don't exceed ten miles an hour. But if you spent the time at a buoy trying to coax it to turn around and take another course, everybody'd sail by you.

A Bird Boat--Racing on the Bay

P.W.: When did you get into racing?

Ogg: I guess I raced when I was six against other boats that people would rig up with a sail. I've always been interested in racing. The family

Ogg: always raced. When I was four or five years old I used to go along on races here on the bay.

P.W.: Would that have been with your uncle?

Ogg: Yes, the one who was a dad to me.

P.W.: And his name is Robert Danforth?

Ogg: Richard Stevens Danforth, and he was a very prominent racer; he always, almost always won his races. About 1924 or somewhere in there he acquired a Bird boat, so we raced Bird boats for probably twelve or thirteen years. He then moved to a larger size in 1937 which was designed to his own modifications, and for a number of years, beginning in 1937, we won almost every race we entered at cruising club ratings.

At the same time I bought myself a PC [Pacific Class] and used to race that. It was a Kettenberg design that has long disappeared. They had a lot of them in the Hawaiian Islands and I used to sail them during the war out there. A Kettenburg is about a 5.5-meter type, very slim, not adequate for cruising and comfort--a racing machine.

P.W.: And what is a Bird boat?

Ogg: It was a common class on the bay, and still is a common class on the bay today. It's a 30-foot boat.

P.W.: Who sponsored the races? The St. Francis?

Ogg: No, there were about thirty-some yacht clubs on the bay and they have a joint racing association--at one time I was co-chairman with Jim Michaels of the racing committee of it--which plan all the races on the bay. Some races will be sponsored by perhaps the Berkeley Yacht Club, perhaps the Richmond Yacht Club. It's scheduled out through the year.

The St. Francis Yacht Club usually will have a race week of five races, but the others usually will have weekends with two races. There will be a Farallones Island race, a race to the Lightship Buoy, a Pt. Reyes race, a race I believe down to Monterey--I'm not sure that these still exist. There were at least six offshore races here. I ultimately put up a cup that the winner of the most points for races would win and it's still a cup that's offered, the Danforth Cup. I would guess I put it up around 1970.

P.W.: How long did it take you to race to the Farallones and back?

Ogg: I don't recall. We used to take off in the afternoon and race all night and come in in the morning.

P.W.: Sailing at night? Was that hard?

Ogg: [laughs] If you sail, there's no difference really in day and night sailing. If you sail to Honolulu or wherever else you sail, you sail nights as well as days. Some of the races here, the Vallejo race, used to be two days, one day up, one day back.

P.W.: You must have had a crew on those longer races, like the race to Monterey.

Ogg: Yes, and for a 30-foot boat the crew would usually be four. Sometimes you'd get up to a 40-foot, and then you might have six for a crew. Depends on how many you want to put on board.

But if you want details on racing on the bay, and how long the races are and so on, you ought to talk to someone who's racing currently because I haven't raced since 1950. Racing wasn't something that prominent on the East Coast, so when I moved my business back there in 1954 I virtually became disassociated with sailboat racing.

P.W.: You sailed to Honolulu with your uncle once?

Ogg: Yes, back in 1948.

P.W.: Could you describe that?

Ogg: [laughs] No, no more than I could describe sailing to the Farallones. It was the Honolulu race, it's run every year, and I think still is. And I have not been related to it for forty years.

The Birth of the Danforth Anchor

Ogg: Paul, you ask these questions about sailing, but I really became disassociated with anything to do with sailing near 1950. Before that I was very active, but I got into business, and as it was I had to disassociate myself with that area, and went into power boats, basically for testing anchors.

P.W.: Were your anchors used on sailboats?

Ogg: The anchors were used on every type of boat and are today, and they were first used with landing craft in World War II. They became the anchor in World War II for landing; they were the anchor that you could drop before you hit the beach so that you could winch yourself off after you'd run up on the beach and unloaded tanks or personnel or whatever you did.

P.W.: That meant a large anchor? A large version of the anchor?

Ogg: No. Landing craft are basically small, and these were little anchors, maybe 30-lb. They were also used on amphibious vehicles to help the

Ogg: vehicles get a footing on the beach; whether they be amphibious tanks or tracked vehicles, or what, they have a problem when they're in the waves at the shoreline of trying to get hold of the shore. There needed to be a way that you could throw up the front of the vehicle on the beach and with a winch on the front of it be able to winch itself onto firm ground on the beach. That's still a common use of the anchor.

P.W.: How did you come to originally design the anchor?

Ogg: We used an anchor called Northhill on Dad's boat--I refer to my uncle as that because he was a dad for me. We used to anchor overnight in the bay here and we used a Northhill anchor which had a fluke that stuck up in the air, and one fluke that stuck in the bottom. With rapid currents and frequently changing tides here in the bay you'd always have a tide change somewhere during the night and the rope of the anchor would swing around as the tide changed and tangle the anchor and break it out, and we'd be merrily sailing down the bay at three in the morning.

I devised the anchor solely out of my own personal selfishness that I did not like to get up in the middle of the night to reset the anchor. I wanted to have an anchor that would stay down all night and cope with the change of tide and reset itself.

I made a lot of models. I had all kinds of ideas about how to make them. My uncle got a welding shop to fabricate the anchors, and then we would go test them. He was very stubborn sometimes about making the anchors the way I wanted to have a model made, and would make changes, and it took a couple of years to really make anchors the way I'd wanted to initially.

That's basically how the anchor arrived. It came to be of exceptionally high holding power for its weight and worked super-efficiently, and worked into both the British and American navies as a landing craft anchor, not for use as a regular mooring anchor in a ship because the shape of the anchor did not permit it to be housed in a regular hawsepipe, so even today the anchor is not used for a regular ship. Where high holding power is required it is used, and it's the common anchor today for mooring all of the offshore drilling operations. The patent on the anchor ran out perhaps 1958, so since that time, and probably a couple of years before that, worldwide copies have been made of the basic anchor, and still are today, and of course that was thirty years ago. You've got similar anchors made all over the world.

P.W.: Remember the photograph of an anchor I showed you, with the shaft at least six feet in length? And you said that it was a US Navy version of your anchor?

Ogg: The anchors are made in all sizes. Anchors of this type are made commonly up to 50-ton in size. There have been and are probably maybe

Ogg: as many as ten very common modifications of the anchor, just because they are made by a different outfit. The navy made some of its own version with some curvatures here and there. (It wasn't as efficient an anchor.) It would be difficult to tell you just which one it was that you saw.

The Anchor Business: Richard Stevens Danforth

P.W.: Then how did you get into the anchor business?

Ogg: I didn't. I was in school and in the navy.

My uncle started to make these models, giving them to a friend or something like that. Then he decided to sell some. He put his name on them and he went out and sold them to the British navy and the American navy. He'd find some yachtsman that wanted some, and then his wife got somebody in England interested and got the British navy to start using them for their Royal Navy flying boats, to tie them down then they landed. The back door way, that interested the American navy. When he started manufacturing them he put his name, R.S. Danforth, on the anchor, and it soon got known as the Danforth anchor.

P.W.: Did he start manufacturing the anchor out here, in the Bay Area?

Ogg: He started manufacturing it everywhere, including England. He would get shops to produce it for him, and he would sell them. He had probably fifty different companies manufacturing them for him during World War II here in the United States, and a company in England and in Australia. He never manufactured them himself, except legally he was the manufacturer because he would buy some parts from one place and some parts from another and get them to a final point that would assemble them.

P.W.: What was his background?

Ogg: He was a contractor. He basically built oil refineries. The business was Alco Products, Inc. and his area was everything west of the Mississippi River, so if there was a refinery that Alco built he was the one that sold the refinery and oversaw its production. He built the one at Richmond for Chevron. He built the one at Martinez. He built Shell. He built all the ones I guess in the Bay Area.

P.W.: Did you get involved with any of that?

Ogg: Yes, well, I was quite familiar with what he was doing.

My uncle graduated from Dartmouth. That was a tradition in my family, I might say, for a couple of generations. My grandfather,

Ogg: Frederick Danforth, was an engineer from Dartmouth's Thayer School. He was a railroad engineer and he designed some of the railroads that are there today in Maine. He was a railroad commissioner of the State of Maine. He was much involved that way.

My uncle Richard Stevens Danforth was also a graduate of Dartmouth's Thayer School of Engineering. He went to work for the Oregon Power and Light Company in 1908, putting power lines in up there, and shortly after became the representative to shipping for-- I'm trying to think of the name, they were the one and only vacuum pump manufacturer for ships and he represented them for everything on the West Coast.

Alco Division of American Locomotive Company

Ogg: Then he went in 1930 to building oil refineries, or representing Alco, which was a division of American Locomotive Company. The Depression diverted their efforts to building oil refineries because they had run out of a demand for locomotives. Oil refineries used substantially the same type of boilers and stills for cracking towers, as you might call them, which is taking the boiler that we're very familiar with on locomotives as being horizontal, and setting it vertically in the air and using a similar system for cracking oils to different grades of viscosity, or whatever you have there, getting anything from kerosene to gasoline, different levels.

So he was doing extremely well building these refineries until 1938 came along. At that point Alco was very much tied up not only in this country but in building refineries in Czechoslovakia, and when Hitler moved into Czechoslovakia that really hit Alco deeply because its work in Czechoslovakia was terminated by Hitler.

But at the same time Roosevelt had started a program of building Mallet Mogul engines, so the American Locomotive Company could divert its efforts into that. (These engines were built by both Baldwin and American Locomotive.) The program begun back in 1938 was to build up engines that would be powerful enough, should there be a war, to handle the freight, the mandatory freight, from the east to the West Coast. Those Mallets were all in use by 1940-41. They were invaluable during the war to carry freight to the West Coast for the war in the Pacific.

P.W.: What was special about the Mallet Mogul engines?

Ogg: The Mallet Mogul engines are two sets of drivers, one forward of the other, sort of combining two engines to one boiler. They were particularly useful for crossing the mountains. Today you have one, two, three, four diesel engines hooked one to the other. At this time

Ogg: it meant that one engineer was running two engines from one cab, rather than having two cabs, two engines apart.

With Alco folding up, my uncle's need to build refineries folded up, simultaneous to his deciding to start to market the anchor. He had made, I might say, a substantial amount of money in the electronic industry, particularly in the early days of television, by going in deeply with an inventor named Philo Farnsworth in 1930 or 1931. By that period, 1938 or 1939, Farnsworth really came into gold.

My uncle also had a couple of patents in the electronics business and other areas. In other words, he was well-to-do at that point and decided to make anchors.

The Anchor Business in 1948

P.W.: You took over that business in 1948?

Ogg: I made a financial deal with him--I don't remember the details in any way--but in my first year of business I lost \$25,000 because the sales weren't there. The problem was that the navy had dumped really tens of thousands of anchors on the surplus market. The 30-lb anchor that was the mainstay of the business, I think Chris Craft bought something like 50,000 of them at about fifty cents an anchor. These were there to be competed with.

So it meant improving the anchor, making a better model, and from my standpoint I decided to spend a lot of money on advertising. I was criticized at the time for doing that, but it paid off. I sold the new anchor through the advertising that I did, and I built the business back up to a real going business.

P.W.: Did you start making them yourself?

Ogg: No. Let me explain to you that very few people ever manufacture the product that they sell. That is not in the normal avenue of American business. And as I mentioned earlier, my uncle probably had fifty foundries producing these anchors. The anchors, being steel, were expensive to ship, and it became desirable to make some in the East and some in the West.

The anchors require special alloys. That required scheduling of getting some parts from Bethlehem Steel. It required an 18-month lead time. It would get complex. You'd need to find a certain kind of foundry to make one part, and another assembly shop that can put them together. So it's not something that would adapt itself to being built under any one roof. It required galvanizing, or plating, and these plants are separate.

Ogg: In the industry that it's related to it would not be common to be built under one roof. So some of the anchors were made in Georgia, some were made in California, here, some were made in Syracuse, New York, some were made up in Gloucester. Depends on the size anchor. Some in Pittsburg, Pennsylvania. We're now thinking of producing some in Peru. They're produced in Australia. And lookalike anchors are made in every country in the world.

Redesigns

P.W.: You recently redesigned the anchor, I know.

Ogg: Yes. I retired at the end of 1978, but in 1980 some of the industry besought me to go back and redesign a lighter anchor because the anchors of my type and style that they were using were getting up into 50-ton and larger and the equipment could not readily handle lifting these weights. So they wanted a lighter-size anchor and said, "Come on, go back and come up with one for us." So I did that.

By 1981 I had pretty much come up with a design that is just beginning to get in the market today. It is a new slant on anchoring because it uses a flexible, knife-blade shank, whereas no anchors have ever been made but with a rigid shank before. The knife-blade shank enables it to dig much deeper and get into a firmer holding ground. In this case a 1000-lb anchor can readily be made superior to the old style 10,000-lb anchor. So it made a remarkable change, and that same shank will improve other types of anchors. Another type is going to be hitting the marketplace this September with the same innovative shank.

P.W.: Where do you use the largest anchors, the 50-ton?

Ogg: The anchors are used commonly for all of the offshore drilling operations where they have semi-submersible drilling rigs, and these are for drilling in over 600 ft. of water normally. Any one of those rigs will use 10-20-ton anchors, and it will use probably eight of them for any one location to position it, for automatic positioning for the drilling operations. So that's the big use of those.

P.W.: You got into making other marine products, didn't you?

Ogg: I merged my business with a company now called the Eastern Company-- used to be called Eastern Malleable Iron. I made a merger such that I could expand the business widely. I acquired seventeen other businesses after my merger, molding them into the Danforth name, which included compasses and a lot of other instruments--depth sounders, auto-pilots--plus marine hardware, all generally of a proprietary nature.

- Ogg: The business was very successful. I left it after twenty-five years in the merger and retired. Subsequent to that the company liquidated its marine operations and Rule Industries, Gloucester, Massachusetts, picked up the anchor, and that is the company that I am related to today as consultant.
- P.W.: You wrote a little book on anchors and anchoring. How did you happen to do that?
- Ogg: Over the years I wrote articles for a lot of magazines and wrote sections of a couple of books that related to anchors, and so I sort of combined my articles and nomenclature into the booklet, "Anchors and Anchoring." Then I did similarly with a booklet which relates to compasses, called "Compasses and Compassing." In each of them I told briefly the history of the anchor, and how it came about, what the prior anchors were. And similarly with compasses. And basically how to use them properly and so they could be understood. Have you either of those? Perhaps you should read them.

V SUMMERS: CAMPS, MAINE GUIDES, AND THE SIERRA NEVADA

Camp Merryweather

P.W.: Today I'd like to talk about your various camp experiences as a child, and the relationship of the Richards family to your family.

Ogg: The Richardses had been very close family friends for many years. They lived two houses away from the family in Gardiner, Maine. Laura Richards--she wrote Captain January--was the daughter of Julia Ward Howe. Both Laura and Julia Ward Howe were close friends of my grandmother, and of my great-grandmother. The Richardses ran a boys camp at Belgrade Lakes which was perhaps twelve miles north of Augusta, Maine and twenty-some miles away from Gardiner.

Somewhere near 1929, when I was about twelve, arrangements were made for me to spend the summer at the Richards camp, called Merryweather, on the Belgrade Lakes. I spent one summer there. My memories of it being my first time away from home were that I was somewhat homesick. From time to time I remember even considering walking home. Perhaps it was that the camp didn't have enough activity to keep me occupied. I will say that that's the only camp I ever went to that I didn't totally enjoy all the time.

My only memories of details of the camp are of things that I did enjoy, such as having made a special type of sailboat which seemed the proprietary of that area. I'd never seen the same type boat or anything similar to it anywhere else, and I did enjoy making my own boat and having it the fastest that ran there. I think I made some minor innovations at that time in the way of applying the sail to the hull. So I did enjoy the challenge of that.

Otherwise I recall swimming, and a lot of sports, a lot of canoeing. However there were no trips other than short hiking trips that I recall. I will say I never was a great hiker.

P.W.: Would you describe the boat? This is a model boat, isn't it?

Ogg: This is a model boat and a very, very unusual design. It did not sail anything but downwind, and was made to go as fast as the wind, or nearly so. It was a square hull made out of a piece of one-inch wood,

Ogg: the hull being approximately 12" by 12." On the forward section it was totally hollowed out, so it had a very thin hull. It had two vertical masts that were perhaps 12" high, one on each of the aft corners, and a sail that was abeam--perhaps you might liken it to one sail of a square-rigger. It was about four feet long and twelve inches high. A very unusual shape. And how it was applied to the hull made the variance in speed. These were made to be racing boats. It was exciting doing that.

Camp Megunticook

P.W.: You also went to Camp Megunticook?

Ogg: The next two or three years I went to Camp Megunticook, run by a group headed by a Walter S. Cowing of the Philadelphia area. The camp was located on Green Lake near Ellsworth, Maine. It was a hardly-populated area at all at that time, and after moderate training in that two-month camp period we spent about three weeks making a wilderness trip through the wilderness lake areas of Maine. These would be guided by a Registered Maine Guide and we had to undertake everything involved in planning to go off for these long periods. I would say those were some of the most enjoyable periods of my life. I don't think I've ever done anything more exciting or perhaps equal to it.

P.W.: These were canoe trips?

Ogg: Yes. There would be a group, all about the same age, perhaps fifteen campers with two or three counsellors, and more particularly, a Registered Maine Guide.

The places we went--and they are probably populated today--a couple of the major areas were near Grand Lake, Maine, particularly Brandy Pond, on up to Lake Niatous. Those were the initial camping areas. Other than that, some of our camping in my latter years we went onto the Allagash and did some white-water canoeing.

I could spend months detailing all we did--we did a great deal of fishing then, too, and the ones I remember enjoying the most were the pickerel--they were fighters. Not all that wonderful for eating. The varieties of fish were wide, and on our camping we basically ate fish we caught. That became a substantial part of the diet.

P.W.: You mentioned meeting a bull moose.

Ogg: Yes, and it was a day that I was as frightened as I've ever been in my life! I knew at the time we were camping that the moose was a dangerous animal, particularly the bull moose. A camping associate of mine and I were off on Brandy Pond, which I remember being a very

June 9, 1930
Wednesday

~~2nd~~ ~~notice~~

I am very homesick.

Please come immediately, I am
so homesick I ~~can~~ ^{can} not unpack
the box you sent me. Please
come without delay it is
~~very~~ important. Come
this very second

Bustle up

The under lined words
are important

~~2nd~~ ~~notice~~

THE MEGUNTICOOK CAMPS

IN THE MAINE WOODS

CAMP MEGUNTICOOK
Camden, Maine
THE NEW CAMP PALO-MINE
Ellsworth Falls, Maine



Wilderness Canoe Trips in
Maine and Canada

WALTER S. COWING • Director • 188 Tenafly Road, Englewood, N. J.
P. A. WALES • Business Manager

Tuesday July 12, 1932

Dear mother I am leaving for Camp Megunticook on the
Thursday the 14th for a trip of 5 day untill July 19, 1932.
Will you please write to me on the 17th 1. That the
letter will arrive on the 19th the day I get back
telling me how grandmother is and when you
expect to come home. I have ordered a gun
by the advise of Mr. Cowing it costs only \$4.35
Will write to you as soon as I come back. We
had a hail storm yesterday afternoon.
Yesterday I swam 50 yards. I have caught
3 fish since I have been here one was a small
sunfish another was a medium size striped sunfish
and the other was a 9 inch bass. Today is quite
windy with the sun shining. I received the
package from Filene's.

Don't forget to write me on the
July 17, 1932 telling how
Grandmother is and when you
are coming home

With love

P. T.

Ogg: shallow pond, perhaps four or five feet deep in the middle. We had gone ashore from our canoe, we were right along the shore, and we heard the roar of a bull moose only to look up and see this gigantic animal--it appeared like an elephant--five feet away. I'm sure the bull moose was probably a hundred feet away at the time.

We made a quick dash to get in the canoe and depart and the bull moose challenged the speed of our departure by racing out into the lake, and he probably followed us for between a quarter and a half mile--because of the shallow lake. We paddled as fast as we ever could possibly have put any paddling together!

P.W.: Did you ever see bears there?

Ogg: Yes, but small, and never anything that created any fear.

P.W.: How many summers did you go to Megunticook?

Ogg: Two, and maybe a third. The second summer was the one that I was more qualified and took more challenging camping trips, and white-water and that, and I can only say that I feel well-trained by those experiences.

Treasure Island

P.W.: Did you go to some camps in the West?

Ogg: Yes. I went to Treasure Island. I don't remember who ran Treasure Island. It perhaps had more kids from the Sacramento area, as well as some from the Bay Area. I think this was around 1937. Treasure Island is on Silver Lake, the lake that I believe is a popular resort now, some thirty miles south of Tahoe. At the time we went there it seemed to have been populated only by the boys camp that was on an island and therefore called Treasure Island, and the girls camp that was on the shore. I don't recall that there were any inter-camp relations at that point.

Treasure Island was divided into different groups, and perhaps that's why the family selected it for me, because the group I was in was totally sailing. We each had a sailboat allotted to us. We lived in a boathouse--that was my group's "tent," so to speak--and we just plain sailed every day.

Across from our boathouse was a tremendous mountain with a big peak with two tremendously high and impressive walls to it, and my memory was that that was called Thunder Mountain. And while I don't particularly look for hiking [opportunities] I remember we made a couple of hiking tours of the mountain country around there that were exceptional experiences, particularly climbing Thunder Mountain.

Ogg: I know today that Silver Lake is a sort of luxury resort area. My friend Herb Funk has what I presume is a very fancy camp there today, or resort.

P.W.: What kind of boats did you sail in there?

Ogg: I don't think they were any class; they were just small sloops, an average of 18-foot. Generally we would sail two to a boat and the senior individual in sailing would be the skipper of that boat. I know I was the skipper of my boat. I think I won the daily races most of the time.

I believe I ended up being a good bit of a teacher in sailing to the camp itself because of my own sailing experiences in racing on San Francisco Bay and having grown up doing that. I enjoyed the ability to teach some of the racing tactics that I had learned earlier. You might say it was one of my earliest experiences in being able to teach anybody. It was very enjoyable.

Rancho Carmelo

Ogg: Then I believe it was in 1933 I went to a camp called Rancho Carmelo. The individual who ran this tremendous area ranch--I have no idea of the acreage, it certainly must have three or four thousand acres--the fellow who had it was named K.D. Mathias. There were six of us that went to it, on the basis that we earned our way because we tended cattle. We did a lot of roping, a lot of all kinds of those things. We were able to tent, or camp, at the Salinas rodeo grounds the week of the Salinas Rodeo. We each had our own cow ponies during the summer and rode them from Carmel over to Salinas.

Today I don't think you could possibly dare ride those roads we rode our horses over! [laughter] Salinas Valley, which today is very well-inhabited, at that time had maybe two or three ranches at the very most, and was cattle ranch country.

It's interesting that when we went off to the Salinas Rodeo we all were able to participate in the rodeo. I don't say that the other five did what I did, but I very actively participated in riding broncos coming out of the chutes; I enjoyed that challenge very much.

We used to get up from our tents and walk around the grounds at perhaps six in the morning, and I remember very well every morning we were there meeting Will Rogers. Will Rogers would always be sitting there on a fence or something and we'd go by and I particularly got to know and to like Will Rogers very, very much. He was a super-friendly individual, particularly to somebody in chaps and a cowboy hat and a few other things like that, and being young kids as we were--I would have been sixteen at that time.

Ogg: I would say every morning I figured I spent some fifteen or twenty minutes with Will--I can picture him today where he'd be each morning, sitting up on a fence bar there--stopping by and chatting with him. There weren't any others that chatted with him on the mornings and it was very enjoyable.

Returning to the camp after the Salinas Rodeo I was very shocked-- I guess that would be the term for it--to learn that K.D. Mathias had been arrested and was in jail in Salinas for cattle rustling, and that a lot of the work that we had been doing as cowpokes was in rustling cattle! I don't know any of the details about what we rustled. I know probably all of the pipe we moved from one place to another, which was a moderate amount, we were stealing pipe! [laughter] We apparently did the same with cattle.

P.W.: Did you have to testify in court?

Ogg: No, never had to get involved in that. Whether the pipe and cattle were stolen or not, I never knew the results of the case in court.

Another thing, we did take an extended trip on horses into what is called the Upper Carmel Valley and back into the foothills behind there which was all wilderness country. And that was a great, great experience. We met rattlers en route, and learned to eat rattlers, that they were a wonderful food. Their flavor was just like that of chicken, except that it was chewy like gum, and hard to bite through the strong fibers.

P.W.: Where had you learned to rope cattle?

Ogg: I learned that summer. I became very good at it. In fact Will Rogers used to enjoy watching me practice roping.

P.W.: Did you do well in bronc riding?

Ogg: Well, I got thrown--I was probably one of the youngest that was riding--I got thrown, and I won't say I won any prizes, but it was a great experience for me, having my own horse for that period of time and taking the riding trips. I learned steeplechase-type jumping. It was a very valuable experience in my life.

P.W.: What type of man was K.D. Mathias? Did you have a lot to do with him?

Ogg: Yes, I think he taught me a great deal. He had a couple of hands who also were there. He had a very nice daughter named Peggy. I've often wondered what happened to Peggy. [laughs] She was quite a tomboy, very skilled in handling cattle. No, I owe a great deal to him for the things I learned. I think there are things you learn working on a ranch like that where you are handling pipe or cattle--something that you don't learn out of a book.

Fallen Leaf Lake

Ogg: My next recollection of particularly interesting summer activities would have been in the summer of 1936, the summer I took on my first fulltime job, hiring onto the housekeeping staff of Fallen Leaf camp as a houseboy. I think my pay was \$30 a month plus room and board, and board consisted of I wouldn't say very elaborate meals, and the room was a very mediocre bunk in a screened-in area. It wasn't something you wrote home to mother about--or perhaps you did if you weren't very comfortable.

At that time Fallen Leaf Lodge was one of the better resorts around. It had an adjunct called Fallen Leaf Housekeeping Camps which were very popular in the Depression. People could rent these camps for a week or two weeks or a month or whatever, and they were camps that they cleaned themselves while they were there, but when they moved out there was a cleaning crew run by a Mary Pritchard of which I was one of the erstwhile members. She was a rough lady to work for; she wouldn't have things any way but perfect. It was good training.

My first day of work I was assigned to clean the public toilets, which was my first paid job! I wasn't very excited about it. I might say the women's restrooms were the worst messes I'd ever seen in my life--perhaps that isn't something to put in here, but that's the way it was. It was putting your nose to the grindstone, and after starting that way I think I was well-equipped to take on any job anywhere in the world. I couldn't have had a better director to push me than Mary Pritchard. And the challenges of the job I know I met more than well, and I soon became sort of a second assistant director to her for how stuff was done there. I enjoyed it.

That Fallen Leaf area--a lot of my girlfriends as well as boyfriends at the time who were from Berkeley, from Cal, inhabited that area. There was another area near there that was called Stanford Camp. Basically the area was populated by, or the summer customers were, either Cal professors or at Cal.

One of my friends at that time was Tom Putnam. His dad was dean of men at Cal and they had a very attractive place at Fallen Leaf that he rented for one month and shared the other month with Robert Gordon Sproul, Sr., who was then president of the University of California at Berkeley. The Putnams had lived across the street from the Sprouls in Berkeley on Elmwood Street--that was before the Sprouls moved into University House on campus--and through that relationship we became very close friends, Bob Sproul, Jr., the Sprouls, the Putnams and myself, and it tied me together with many University-type people.

Another professor from Cal was Ben Kurtz. He lived at Glen Alpine, which was a little place up the Glen Alpine stream, perhaps two miles up from Fallen Leaf. You couldn't drive there; it was a

Ogg: matter of riding there by horse or getting there by foot.

I would say there were quite a number of my school friends that were University or closely allied who were in the area of Fallen Leaf. Some were at other resorts at Tahoe that were nearer the south end of Tahoe. There was a lot of young life around the area. I remember Eddie Duchin's band was at Bijou, which was right near where we were, and we used to spend many of our evenings dancing to Eddie Duchin.

Prohibition had just ended, but I don't think anybody had drugs or any drinks. I'm sure we lived on cokes and things of that nature. I don't recall that anybody in the group smoked or anything. It was a way of life you don't know today. I certainly can only look at those years as being very vital in my youth.

A Registered Maine Guide

P.W.: You are still a Registered Maine Guide, aren't you?

Ogg: Right. That's a profession that I don't believe is known here in the West, something that's a very highly-respected status in the East. I wouldn't say it goes along with wealth or in that way; it goes with camping and traveling in the Maine woods.

I think people here think of woods as something you go out and camp and tent in, but the Maine woods are considered wilderness. There are these wide areas where there are no towns, there are no roads, there's nothing. And there are lots of groups that like to go and make two or three-week fishing trips, or camping trips, in the Maine wilderness woods. And to permit such groups, whether it be three or four people or ten or fifteen, to go into the ranges of Maine, the laws of Maine require a Maine Guide be included.

A Maine Guide has many privileges: he is the only one who can have fires in the woods, and he needs to be there that people don't get lost, that they don't litter the Maine woods, that they don't have fires that create hazards. When you figure these trips are three weeks and away from any area, the Guide has the responsibility of seeing that they go with adequate food. He's there as a doctor. He needs to be trained in lifesaving. He needs to be trained in being able to cook. He is like the skipper of a ship at sea. He has a lot of responsibility, and it is a generally respected position and a lot of privileges are allocated to him for carrying on the trips.

P.W.: How long have you been a Guide?

Ogg: That goes back many, many years. I don't remember the year that I got it. I believe the minimum age you are probably required to be before you can become a Guide is thirty or forty years old. You certainly

Ogg: have to be well-qualified to handle the responsibilities. My memory is that the tests that I took were before five or six commissioners and they took all week--if not, they took four days--and there you have to prove your abilities at handling canoes, white water. You have to demonstrate your abilities to save people from drowning and to handle any unexpected medical problem that may occur.

I could probably create a book here just listing the responsibilities and the abilities that a Guide has to be well-qualified with, such as being able to drop a goodsized tree so that the tip falls within a foot or two of the point that the committee designates you to fell it to! You're given the third degree in proof of actual physical experiences.

P.W.: Where did you pick up your knowledge?

Ogg: I would say that I basically credit my training in that area to the Guides on the trips that I took at Camp Megunticook. I became very close to some of the Guides. I maintained my contacts with those Guides for many, many years through my life, probably for thirty years after having gone with them. I probably saw them every year. I had experiences with them. I spent time with them.

Those people weren't noted in any other way; they were simple people that lived in the Maine woods. I respected what they knew very highly and became close friends with them. I enjoyed while they lived--they are all deceased today--on my times in Maine having been able to go and find them and visit with them. Very, very valuable people in my life.

P.W.: And you just used your own license for your own trips then?

Ogg: I went along with people on trips to make it possible for them to do it. I never did it on a paid basis, although a Guide is highly paid for his being along and making these trips possible for a group.

P.W.: You maintain the license today?

Ogg: Right. I would say that of the many things that I have achieved I would consider one of the highest and most respected in the East was being a Registered Maine Guide.

P.W.: Was that ever of any value to you in your business?

Ogg: Well, it's another epaulet. It certainly carries respect, particularly in the East, if you're dealing with anybody, that you have that higher qualification. It's like being qualified as a ship's captain. It's another thing that somebody can say, "Jesus, Bob's a Registered Maine Guide!" Because there aren't that many.

Boy Scouts

P.W.: Were you in Boy Scouts?

Ogg: Yes, I was a Boy Scout in Marin. And unfortunately about the time I moved from Marin to Berkeley the troop had disbanded in Marin County, and I wasn't related to it at that time and I never picked it up again. I certainly had high respect for it, and my kids took up scouting as Cub Scouts.

P.W.: Did you camp with the Boy Scouts?

Ogg: In Marin? Yes, we did. We made some summer camping trips, and we also made some winter camping trips. We used to go up to Mt. Lassen in the winter to ski. This would be when I was twelve years old, and we went to Lassen in Model A's--and they weren't very well put together--and we had an [Willys] Overland station wagon, and it was cold riding.

P.W.: Did you camp there?

Ogg: Yes. And it was cold! I remember that well. That's when I went to Tamalpais Boys School in San Rafael. There was a group of kids from the school that were in the Scout group. I guess that was my first experience at housebuilding. We built our own camp up in the area of Mt. Lassen. We learned to build everything from the foundation up. We had a scoutmaster named Bill Wyman and I feel very indebted to Bill Wyman. He ran the woodcraft shop at the school, and he ran the scout troop and ran trips and ran building the scout cabin.

Sierra Club--Clair Tappan Lodge

P.W.: You also worked for the Sierra Club?

Ogg: I might just say first that the family in prior years, when I was young, and along the way I guess, and perhaps when I went to camp, went off and joined the high trips of the Sierra Club for which the Sierra Club really was built. And in 1933 Bestor Robinson, Lewis Clark, others that later went on to climb Everest, took a group of perhaps twenty people up tenting, including my mother, to the area of Donner Summit, and practiced a lot of skiing and things in the area and decided where they wanted to have a lodge. So in the summer of 1934 these people started to build the lodge that is now the Sierra Club's lodge at Norden.

The lodge was built by everybody's cooperation. Principally I would say it was the physical stamina of the youths in the families that wished to initiate it that was utilized to provide the directed

Ogg: physical labor to build the lodge. I worked on the lodge in both the summers of 1934 and 1935, contributing a great deal of labor for both years to that. I certainly got again to be tied together and related with the University families and with the families that were the Sierra Club. Many very active climbers were there to help build this. I certainly got to know these people more than well, and used to spend practically every weekend of my winters at Norden, skiing, or working on the lodge there at Norden.

P.W.: Doing carpentry?

Ogg: Carpentry, plumbing, housebuilding, wiring, anything that had to be done. I learned a lot of skills there.

It's worth mentioning the under-snow--in winter--town of Norden. Not really a town, it's purely the four or five homes that belong to the railroad families that live there year-round. The snow where they are is so deep that their homes are buried and there are covered passageways between the homes and the station. That is the maintenance station for maintaining the snow sheds over the summit.

The first year of the lodge we didn't even have a tow. The second year, in the summer, we developed and built a single rope tow. At that time we were the only snow facility in the mountains of northern California of any nature whatsoever. I believe it is Sugar Bowl in the Soda Springs area which is right next to Norden that became the first commercial ski organization of any nature.

P.W.: Is this where you learned to ski?

Ogg: I learned to ski in the East. When I went to Governor Dummer I was on Governor Dummer's ski team in the one and only winter of 1936-37 that the school's area received no snow! And as much as I hated particularly at that time in my life to go out and run--I just didn't enjoy running--my having picked skiing for the school activity, the school assigned the ski team to run when there was no snow. So every day my athletic activity was usually a three or four-mile run, instead of skiing. [laughs] But I had grown up with some skiing knowledge. Later, as you know, I was captain of the San Francisco Junior College ski team. In those younger years I used to jump, and I used to win the downhill. I don't think I ever won the jumping. I was foolish, fast--not very good at swinging the slalom.

Later when I was living in Maine I would take my children skiing in Maine. There were several places in central Maine. The principal area that I started with before any of the commercial runs were developed was Farmington.

P.W.: Was the Sierra Club the activist organization that they are now?

Ogg: No, they were basically involved in hiking and pack trips in the Sierras. That was their basic commodity.

P.W.: Did you run into Ansel Adams when you were doing Sierra Club stuff?

Ogg: Yes, I knew a lot of those people in those early days.

P.W.: What was Ansel Adams like?

Ogg: I would say he was not outgoing, he was a quieter individual than others. Others were more active, like Dick Leonard, or Lewis Clark.

P.W.: David Brower?

Ogg: He was just a young kid then. He's only a couple of years older than I am. I knew him then, but he was not an active participant in building the lodge at Norden. He was too young.

Bob Ogg in the Mountains of California

Skiing the Pacific Crest Trail, and climbing Pyramid Peak, 1935-1936.



VI THE COAST TO COAST COMMUTE, AND WENDELL WILLKIE

Trains

- P.W.: To go back to something earlier, you said that when you were a child you used to shuttle between the coasts. You said you did that on the train and it used to take ten days or so? Was it boring? What did you do?
- Ogg: No, I loved it, I loved the trips, I found them very exciting, I enjoyed them. I enjoyed the things one would see as the trains would stop. The train would stop for maybe an hour or two and you could take a bus or a carriage out to see some sights in the area. It might be down in New Mexico: the train would stop for service and you could take a ride out and look at the Petrified Forest, things like that. It was interesting.
- P.W.: What railroads would be involved in your trips?
- Ogg: Oh, from the eastern end, the Boston & Maine, the Maine Central, New York Central, Pennsylvania, Chicago Northwestern, Union Pacific, Denver Rio Grande, Southern Pacific, Canadian Pacific, Canadian National--.
- P.W.: You must have come different ways then.
- Ogg: I've gone all ways, from going through Canada to Quebec, to going down through the south and coming by Matson Line, which was owned by Southern Pacific and ran from New York to New Orleans, and then you'd get the Sunset Limited from New Orleans west, and that used to cross the Mississippi on a barge. And the Canadian Pacific, the Canadian National, used to go via Lake Louise, and I remember stopping and taking a trip in there. And another one went via Colorado Springs.
- P.W.: You got a good geographic education.
- Ogg: Yes, I would think it was very good that way. Of course the trains got better just prior to our getting into the war, and then they went to hell. The "City of San Francisco" used to make it from Chicago to San Francisco in I think thirty-nine hours, and it used to reach speeds of 110 or maybe 120 in the middle of the country. By the time

- Ogg: the war evolved in 1942 they no longer made those special trains and they went down to what was like the "Challenger" which took forty-nine hours or more than that to make the same run.
- P.W.: You essentially spent maybe twenty days a year travelling back and forth.
- Ogg: Probably fifteen days.

Boats, Cars, and DC-3s

- Ogg: Sometimes we took the boat to New Orleans and the train from there. Sometimes we took the Panama Pacific, which had a liner named Manchuria, and we used to take that from New York to San Francisco, via Havana, and get out for a day in Havana on the way, and the same thing, Panama City, and going through the canal. I would say those trips were in the middle-1920s. I think I went through the canal in 1924.

I evolved by 1934 to driving across the country, and by 1935 to flying--my first flight trip across the country. In those days it took usually about twenty-seven hours, if my memory is correct, to get from San Francisco to Boston, and that was by one of two routes in the early days. One was United Airlines which went in DC-3s which held twenty-some passengers, and you'd fly from San Francisco to Elko to Reno. They'd stop at every little station. The central route was United, and the southern route we took was American. On that we'd make little hops to the middle of California, to Los Angeles, and then start east from there.

In 1934, driving myself across country, my initial trips took longer, but by the time I got it down I used to drive through in about seventy-two hours. There would be two of us or so and we'd just keep driving. I found it much more restful than spending nights all the way across country.

- P.W.: Did the DC-3s have bunks at that time?
- Ogg: No. They had stewardesses, who were usually an attractive addition to the flight. People got airsick all the time, because they flew under 10,000 feet. It was rough, particularly when you got into the East with thunderstorms, and you'd fly in between all the clouds. In the West it wasn't so bad. In the East it was rough and it was quite common to have airsick passengers. And when one got sick it would feed onto the next one!
- P.W.: Were those planes pressurized?
- Ogg: No. We didn't have pressurized planes really until after the war.

P.W.: What did you do over the Rockies?

Ogg: Stay under 10,000 feet. Go through passes. They couldn't legitimately take you over 10,000 without pressurization. Of course there wasn't any pressurization, so that was no problem. The DC-4 which became the big plane of volume in 1941 through the war was unpressurized. And then we came along with the DC-6 which was basically the first mass-produced pressurized plane, and it was essentially a DC-4, pressurized.

Discovering Willkie

P.W.: Bob, would you tell me about your work for the Wendell Willkie campaign?

Ogg: In the summer of 1940 I was headed west across the country, after having stopped in Philadelphia and to talk to the navy and to the great uncle that was commander of the 4th Naval District in Philadelphia. (That was Adolphus E. Watson, "Dolly" Watson. I told you that in my younger days I spent a week aboard his flagship, the cruiser Raleigh, out of Newport, Rhode Island. She was involved at that time with the America's Cup races.)

After visiting there and talking about possibilities of getting in the navy, I went west with my friend Stan Ward. We drove day and night across country. We stopped in Bryan, Ohio, western Ohio, around five or six or seven o'clock in the morning for a cup of coffee, which was breakfast, and the waitresses at that place said that they supposed we were going to the Willkie acceptance address.

Well, not only had I really not paid any attention to who Willkie was, but I was not interested in politics at that point in my life. But Stan and I decided we might just as well go to Elwood, Indiana, which was Willkie's home town, and just across the border a few miles from Ohio, and see the festivities of the day.

The temperatures ran 115 degrees. There were some three or four or five deaths from heat that day. There were, I don't know, I think 115,000 people there--though maybe it was just the temperature that was 115. But we sat in a front row seat to watch whatever was going to happen and got some photos when Willkie arrived. And we listened to Willkie accept the Republican nomination and give his thesis on "One World," and a few other things that he was running under.

After the acceptance was over we left and went through the town of Elwood in what you might call gridlock traffic, hardly moving, and behind a snowplow that was used to plow the beer cans out of the middle of the main street of Elwood [laughing], and we headed west.

Ogg, Thorogood Give Opinions On Republican, Democrat Candidates

Since the subject of the next President of the United States is a highly controversial one, and since the feeling for both candidates is very high, we felt it advisable to present both sides of the campaign as seen through the eyes of two prominent student leaders of the college. We make no attempt to side with one or the other. Here are two opposite views. Read them both, then decide for yourselves the better candidate.

Willkie

Today the liberties of the American people are in danger! In this crisis our American Democracy is periled from abroad, but even greater is our danger from international disruption. Talk of the European crisis is a mere camouflage for the attack on our democracy from within. We do not realize this danger, but now is the time for the real America to wake up if she is ever to do so.

Our democracy was created over 150 years ago. Since that time we have never wanted any division of colony against colony, North against South, race against race, labor against capital, or brother against brother. We have always wanted freedom, toleration, and equality. In ragged clothes, on empty stomachs, and on bare feet our forefathers fought to found a united democracy.

Now we are Americans and proud of it; a united people, we have fought for a democracy which will preserve our liberty, equality, and toleration.

Once again we are being divided: labor against capital, section against section, North against South, party against party, race against race, and labor union against labor union. We are threatened with dictatorship from within: it threatens all for which we have fought and lived. This perilous situation threatens our freedom, our equality, and our very existence.

The American people must no longer follow a course predicated upon social division. We can no longer follow a man who maintains his power through the feverish fears caused by the irritations of internal dissension. No longer can we permit the ideas of hatred of one's neighbor, of one's employer or employee, as the case may be, and one's own family to be the battle-cry of our government. What causes social division? Mistrust, lack of faith, and suspicion.

I believe that the present administration has muttered these very un-American qualities for the purpose of its own growth. It has lost faith in its people. The present administration no longer believes the people capable of ruling themselves. It has given these powers to its own self-appointed "superman." Can America not see through the pitiful experiences of Europe, that a superman can soon become an

The present Administration has said under oath that it would protect our constitution. It promised that it would establish an adequate defense. It said that it would create a system of sound currency. It also promised to relieve the unemployment problem. It pledged its word to reduce our national debt. It has not kept its word in any of these. What reason have we to believe that, as it now says, it hates war and that it is not trying to drive us prematurely into a struggle for which we are unprepared.

Consequently I am going to vote for a man for President who has faith in me as a citizen, and in whom I can have faith. For the President of the United States I am going to vote for a man who has risen to the top in American leadership on ladders that were not placed there for him by an influential parentage and which he did not try to kick away after he had climbed them. I am not going to vote for any self-seeking candidate who is trying to break the great tradition of both national parties that no President should hold office beyond two terms. I am going to vote for a man who believes in the sanctity of his word. Wendell Willkie's background is not strewn with broken promises and his campaign is not built up on intimidation of voters now on relief.

I am of conscription age. If it becomes necessary for us to fight, I want a real gun, and not a wooden one. But it is not merely the problem of a foreign war which concerns me in choosing a leader; I want to progress at home under the leadership of a man who can and will solve our outstanding national problems of unemployment, social security, the national debt, and labor relationships.

Therefore, for the protection of my country, for the rights of posterity, and for the safeguarding of myself I choose Wendell L. Willkie as President of the United States of America.

Robert D. Ogg

Ogg: Then back in school, in San Francisco Junior College where I was very active in student body affairs, I actively spoke for Willkie, and a friend of mine, a very close friend who used to commute with me, spoke for Roosevelt. And we wrote articles in the college paper, each of us for Willkie or Roosevelt.

Subsequent to that, or along with that, I joined a Berkeley group of Willkie volunteers, supposedly non-party-oriented, and I very strongly supported the promotion of Willkie in whatever ways I could. I think one of the better ways was being a protection to the pretty girls that rode around in front of an exhibit that we had that was on the back of a truck which was [gotten up like] an old store-front, with a man called "Mr. Republican" and one called "Mr. Democrat" arguing sort of like the old store attitude there. The girls came I believe from Anna Head School, and the backup protection for them was football players such as myself who were proponents for Willkie. You'll find my photograph in a couple of pictures in Life, in the election issue. I'm shown in the background protecting the girls.

When Willkie came to San Francisco at an earlier date prior to the election I had the opportunity to escort him to Berkeley, to the Berkeley High grounds where he gave a talk. I also was invited separately to visit him personally in his hotel, the Plaza Hotel, which I enjoyed very much.

Willkie didn't quite make the election, but it was exciting being involved in it. And I would say that that's my memory of anything relative to the Willkie campaign.

P.W.: Stan Ward, the fellow you went west with, he became a navy flier?

Ogg: Yes, and was in the Pacific on the carrier Bennington, of which I was on board for the commissioning at Brooklyn Navy Yard, in New York, in the summer of 1944. The commissioning song was "Lights Out," which was the theme song of Cal. His air group stayed with the Bennington through its training and the transfer of the Bennington from the Atlantic Ocean to the Pacific. I went out with Stan a couple of times when the Bennington was in for trials at Pearl Harbor.

Stan went on to be involved with the attack on Tokyo where he relates having lost all but two, I believe, of his squadron. He was hit and injured in a minor way on one of his attack flights over Tokyo which later led to half of his brain having to be removed. He subsequently has died.

VII NAVAL INTELLIGENCE WORK, WORLD WAR II, AND UNITED STATES NAVY,
RETIRED

Navy Physical

P.W.: You mentioned earlier trying to get into the navy and having some problem because of your teeth?

Ogg: I had two opportunities to get into the navy, one into the naval air reserve in Oakland, at the Alameda Naval Air Station--Oakland Naval Air Station I guess it was--where I took the physical and was ruled N.G. because my front teeth didn't touch properly and wouldn't work in the Monson Lung. I also had another opportunity to get a commission in the regular naval reserve and ran into tests in San Francisco which rejected me again, solely for my front teeth not touching.

And relative to my front teeth not touching, having enlisted as a seaman first class, naval intelligence, nobody seemed to care about my front teeth. Later as I had gone up, being promoted through seaman first class to acting chief to bosun I was given a waiver so I could pass the physical for warrant bosun.

Meantime in the interim period before the papers came through and I had to take the test, I met a navy doctor who said, "Oh, Hell, come on in. I'll fix those for you." And he had me come into the office there in San Francisco and sit down for ten or fifteen minutes and he put carborundum paste on my back teeth, had me chew for a very few minutes, and my front teeth came together and touched! [laughter]

When I went to take the warrant exam I did not need to utilize the physical waiver that I had been given, and for the next fifteen years that I took physicals regularly for the navy nobody ever questioned my teeth!

P.W.: What is the Monson Lung?

Ogg: Something probably long forgotten, but it was the type of emergency device used if you were going to try to escape from a submarine that had had an underwater disaster and was sinking or was on the bottom. You could put it [Monson Lung] in your mouth and be able to squeeze your teeth against it in a certain way that you could breathe. At the

Ogg: time that was considered critical for an officer of the navy, and not considered of interest if you were enlisted!

Naval Intelligence Work. 1942. 1943

P.W.: We discussed your work bugging Japanese interchanges before Pearl Harbor. Would you now go into what you did in intelligence in the navy after Pearl Harbor?

Ogg: After the Japanese were bottled up, my work in intelligence was diverted basically to surveillance, wiretapping, other factors relating to homosexual officers who were in naval communications or in vital intelligence positions and who would be subject to German espionage activities. The Germans at that time felt it highly desirable to find anyone who was in a classified area who was homosexual, because by threatening to expose the homosexuals at that time, the homosexuals would break down and yield and give vital information.

Our job was to protectively cover those homosexuals who were in the service and reasonably could not be removed from the service. I would say they probably were not known to be homosexuals at the time they entered the service or they wouldn't have been put into such secure positions, particularly being communications officers.

P.W.: This would involve coding?

Ogg: Yes.

P.W.: Where did you conduct that work?

Ogg: Principally in the Twelfth Naval District. That might have been anywhere in that district. But this was to protect officers that were involved in naval intelligence, and even enlisted personnel that were in similarly classified positions in the Twelfth Naval District, which was northern California primarily.

P.W.: Who were these German spies?

Ogg: Well, they were German espionage agents. And quite often they might be Spanish, Mexican, other races. But they would be effectively a German intelligence agent--a CIA type of operation.

P.W.: You arrested some of them?

Ogg: Oh, you never arrested anybody. That was a no-no. The minute you arrest somebody that's involved in counter-intelligence work or intelligence work you immediately have it diverted to some other source. I would say the number one red flag is you never reveal when

- Ogg: you know who they are and what they're doing. You just watch them. But the minute you say, "Joe, we know you did these things, we're going to put you behind bars," the country has lost fantastically.
- P.W.: So were any of the people you were watching compromised, or were you able to protect them?
- Ogg: I think we amply protected them. There were many, many that I'm aware of where we knew, but our operation was never to expose to the Germans that we knew who their agents were.
- P.W.: Can you remember any particularly interesting stories that were involved in that work?
- Ogg: One I might relate was the case of a fellow who owned a paint business in southern California and had a salesman who was a retired navy captain. At the time of Pearl Harbor he was called back to active duty, set up as the officer--well, it was the head of the naval procurement office in San Francisco for procuring commissioned officers in the navy. He hired his old boss as an executive officer.

This man was Jewish and took up a program of bringing in Jewish people. Many homosexuals, although I will not reveal their names because of liability. Some Hollywood people were included in those who paid \$1000 or more in essence for getting a commission in the navy. They used to furnish this fellow with a set of cufflinks that could be sold for more than \$1000. And in one case he was given a new 1942 Chrysler sedan which had a value then I believe of \$1600.

Our operation for a period of time was in a room on the top floor of the Sir Francis Drake Hotel in San Francisco with one-way glass to the next room of his suite there, and we used to film his nightly activities. Sometimes they were with the just plain whores off the street, and sometimes they were homosexual activities. I did the sound recording of that and a friend did the photo-filming of that. That case actually went to court, the man was sentenced to jail, and the details that I've referenced here are all public. But it is similar to many other things which I would not choose to publicize.

- P.W.: But your work essentially was taping, wiretapping, bugging.
- Ogg: Yes, wiretapping, or bugging, or whatever the situation might require, or just to observe what kind of activities these homosexual individuals were in. We'd find each of their phone numbers and put every single one of them under monitor, to see whether they might get involved with somebody that would appear suspicious, and if so we would alert them to bail out and get off it, but not to trigger the foreign agent.

I didn't like the work, but it was important. They were prime targets for German espionage. So we did it as a protective shield.

Counterespionage Observer

P.W.: As an intelligence officer you also were an observer on board ships, weren't you?

Ogg: I regularly would go out on ships that had come in for overhaul repair when they would be going out for a knockdown, shakedown run out of San Francisco--quite often a trip out to the Farallones and back--and my job was to observe any suspicious technical things occurring on the ship. I went along as a counterespionage observer.

P.W.: And did you ever discover anything?

Ogg: No. I would say that most of the things that ever appeared suspicious--often brought to attention by officers on the ship, where they felt somebody who was in a key position to do something had put acid in the terminals on board, for instance--all turned out to be that they were something that had not been sufficiently insulated in the installation and it was saltwater leakage that had caused electrolysis to occur, to cause a breakdown, to have some odor, and caused the officers of the ship to be very suspicious of people. My job often was to go out and prove that there was no reason for the suspicion and that the ships were safe.

P.W.: Do you recall any of the ships you went out on?

Ogg: Well, there were quite a number of them, anything from battleships to cruisers to submarines. Various categories. I would say all combat vessels, even including minesweepers, from the smallest to the largest.

P.W.: And in 1944 you got out of intelligence duty?

Ogg: I got tired of trying to monitor homosexual activities. It may have been a valuable service, but I felt the others that were with me could continue that work without my being there. I felt that I had much more ability to offer the country in using my electronic or engineering skills for furthering the war in the Pacific. I requested a transfer.

A Flag Tower for Guam

Ogg: Through some Cal friends that were in the bureau of personnel I got transferred to Nimitz's staff as the radio engineer and communications engineer. The very day I arrived the commander that I reported to said, "Ogg, we've been trying to get you or somebody to do this job for three months, and you finally showed up! Here's your job. We're going to turn Building 6 in Pearl Harbor Navy Yard over to do whatever

Ogg: you tell them to do. You are to go down and see the chief who runs the Nimitz flag tower, down at the yard, and tell him that you are going to build them a new tower for the Pearl Harbor location." (His tower was the old tower off the battleship West Virginia.)

"And what would he like in it?"

"This tower you're going to do is not going to be for there, but you tell them it is; it's going to be for Guam. It has to withstand 120-knot winds. It has to have a platform at 75 feet, two 36-inch searchlights, and on top of that, a mast that's up to 150 feet, with yardarms that go out twelve feet on either side that will support a man at 150 feet. And when you've got it done let us know. The tower is to be built fully assembled here at Building 6 and then taken down and reassembled at Guam."

And I said, "Yes, sir!" [laughter]

"You can have whatever craftsmen you want. Whatever you want you will have. Just ask."

I've always admired that assignment! "Here's Building 6. What do you want? We'll do it."

Nathan: You were very young for that.

Ogg: Yes. I would have been twenty-five or twenty-six then.

Well, I could see their problem. I thought, "I've got to learn a little about wind loads." I went looking, as I would today, to find an expert, and somebody said, "Well, why don't you talk to the Seabees? They have some pretty capable people."

I went to Red Hill, which is on Oahu, and started to ask around. "Does anybody know anything about wind loads?" Well, I found a commander there, I don't remember his name now, who had designed the upper section of the Empire State Building. He gave me the formulas and such, and then I had people draw it.

Basically I had to compute the loads and things, which was laborious without computers. But I got it done, packaged, and sent on to Guam, and I guess I got many compliments on having done that.

That was the first challenge, in a way. It was at Agana and it was on a hilltop. When Nimitz got there here was the tower all built. See, they didn't use radio communications to communicate with the ships in harbor. They would use signal flashing, basically; although they also had flag signals, the communications were mostly by flashing searchlight.

P.W.: Did you go to Guam to supervise the installation of the tower?

Joint harbor entrance control post and airport tower
shown assembled in two forms for the two different functions.



Ogg: No, the Seabees built it. I did have an argument with Nimitz's staff over building the tower to be assembled at Guam or to be preassembled with bolts and taken apart at Pearl, to which I objected because I said the Seabees would never bother with the bolts or anything else. But nonetheless my desires were overridden and I was told to make it so it could be disassembled and reassembled. That I did. However by the time it got to Guam and was assembled the Seabees threw away all my nuts and bolts and welded it together! I still have pictures of the tower as it was built.

The Joint Harbor Entrance Control Post and Airport Tower

Ogg: I might say subsequent to that, and prior to Iwo [Jima], they gave me another assignment, to build a combination tower I devised that could be used as a joint harbor entrance control post [HACP] and airport control tower. I may have a picture of one of those. I made fifty of them, my design. I had the idea even then of using plexiglass in windows, and they were packaged just like you would expect from Sears Roebuck. They were wooden, rather than steel, all prefabricated.

The tower was built in Building 6, assembled, disassembled, packaged. Everything fitted together. The first two went to Iwo Jima. One was a harbor entrance control post, and one was an airport signal control [landing strip] tower. It was assembled so you could have it just a low structure, or by putting on a second structure make it very high. When the actual occupation of Japan came I think we used maybe twenty or thirty of them along the coast there for that.

Maybe my job was somewhat like [Colonel Oliver] North; I was given a job to do and, "Don't bother anybody. Just get it done." Nobody questioned me about the details. I didn't have to go through those things. It was a great privilege and pleasure.

Frequency Shift Keyers

Ogg: That's just one of maybe a hundred things like that, Paul, that I did. I had the responsibility of setting up a production line and building frequency shift keyers for teletype. Because we couldn't line them up at Okinawa, or more particularly for the Kyushu operation, there was no way to get them into the country, and frequency shift keying for operating teletypes and things like that was the sole method of communication that we had.

So I set up all on my own a production line in a Quonset hut in the crater back of Makalapa and got about five or six enlisted men and

Ogg: instructed them on how to build these relays. We built these frequency shift relays there at that time.

P.W.: Did you spend the rest of the war in the Pearl Harbor area?

Ogg: Yes. I stayed at the Makalapa area because that was in the Nimitz command and was not in the navy yard. But I did have the navy yard Building 6 at my command to build whatever was needed for whatever operation setup we had. Makalapa was Nimitz's headquarters. It was an aerial oasis that nobody could fly over or near, and that was very nice because you could sleep at night. It was right back of Pearl Harbor up in the hills, an area called Alea Heights.

D-Day Plans and the Great Circle Map

Ogg: We got the first word on Okinawa, to build the equipment that would be required for Okinawa, in July of 1944, and we got the final D-Day for Iwo and Okinawa in early September of '44. The D-Day for Iwo was Valentine's Day, in '45; the D-Day for Okinawa was April Fool's Day. Those dates were set nine months ahead, and they were never changed for anything.

It was so different from sitting back here and watching operations and saying, "Where are they going to happen?" We knew where they were going to happen, but it took all of those months to order equipment from the United States, to get it to the Pacific, and to Okinawa. Almost everything for the landing was at sea thirty days prior to D-Day. The last operation we had was Labor Day of '45, and that was the lower end of Kyushu, and that was called off by the A-bombs. Our casualties were expected to be in excess of 500,000.

The only reason I mention these things is that it gave me at a young age a lot of responsibility. They gave me the job and said, "Don't talk to us, just do it."

I also designed months ahead of time a great circle map, which won't mean much to you, but it became top secret because it centered on Okinawa and then showed an outline of all the rest of the world. It showed that if you want to transmit from Okinawa to Moscow or to London you just look there, and you know that that's the direction and the distance and all that. That map took me over a month at night when I could do that kind of work. Today you could do it in just a half an hour with a computer!

Teaching Celestial Navigation

Ogg: And then also I saw a need for teaching celestial navigation at the Pearl Harbor Navy Yard. I saw this sign at the BOQ that they needed somebody to teach this. I said, "Well, I'd enjoy doing that," so I ran a course in celestial navigation every Wednesday night, maybe three or four hours. My students were basically the elder senior officers of the navy who had been called back to active duty after retirement and had commands. They wanted to refresh themselves so that they could look over their junior officers' shoulders and know whether they were doing things right.

Naval Reserve

P.W.: You stayed in the navy until '46?

Ogg: I stayed active in the navy through '46. Then I went into the naval reserve and stayed active in it until 1958 or '59, at which time I transferred myself to the naval reserve, retired, which I am still a member of today as a lieutenant commander.

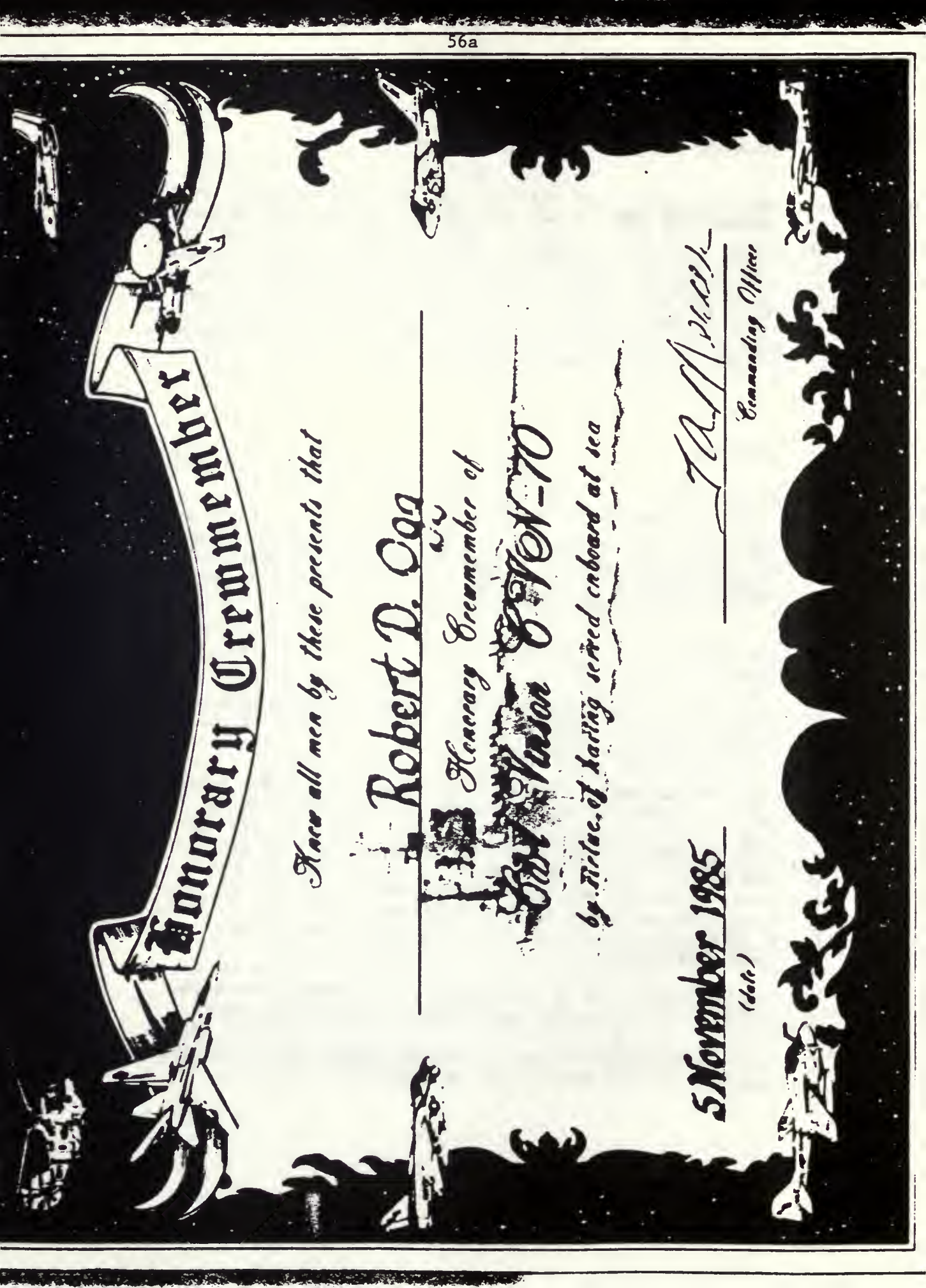
P.W.: And as a reserve officer did you take your two weeks summer training every year?

Ogg: Never. And that's why I got out, or put myself on the retired list, because I at that point didn't wish to take two weeks. I took through the year regular weekly meetings.

I was the executive officer of the special electronic warfare unit that was at Richmond, California and we had the destroyer Shields assigned to us, and as such I became the executive officer also of the Shields. We used to be able to take weekend trips with our group, and when the Korean War came along our unit, because of its special electronic knowledge, was exempted from being called up. I would say all other electronic communication units were called up for Korea. But we were exempted. We had specially skilled people there who were electronic specialists.

P.W.: You have remained close to the navy even up to now, haven't you? Didn't you visit the carrier Carl Vinson sometime last year?

Ogg: I've had several trips at sea on the Carl Vinson, on the Kittiwake, on a submarine; I've had several military visits.



Honorary Crewmember

Know all men by these presents that

Robert D. Cag

Honorary Crewmember of

USS Vinson SFV-70

by virtue of having served onboard at sea

5 November 1985

(date)

L.A. M. M. M.

Commanding Officer

Joint Civilian Orientation Conference--Esprit deCorps

P.W.: And you've gone to Washington, too. What was that occasion?

Ogg: In 1986 I was selected by Cap [Weinberger] to go on a JCOC, Joint Civilian Orientation Conference, which for eight or nine days went to Washington with a group of about forty people, most of whom were mayors of cities or priests of churches or some prominent civilian position around the country, heads of companies. We spent a day at the Defense Department, a half-day with the Joint Chiefs of Staff, being shown what they were up to and where headed. We then went to SAC [Strategic Air Command] and Andrews Air Force Base and had a briefing by SAC in what they were doing. We flew in a brand-new KC-10, which is a DC-10 converted into a fueling plane, and went west to Texas and en route we were refueled by a KC-135. And after that we refueled a B-52! That gave us an experience of SAC's operations.

We then went to Kilene, Texas, where Fort Hood is, the tank base, where they have storage of some 1500 tanks. The tank operational grounds are about forty square miles of territory there, and the first morning we were there we were each given an M-1 60-ton tank to drive and we learned how to drive tanks. In the afternoon we were driving the "Omar Bradley," the highspeed controversial tank. And we were given the privilege of watching mock battles between tanks in the field and laser guns, showing what would have been blown up had the ammunition been real. I think we were quite impressed, both by the esprit de corps of the service as well as the ability of the tank forces to move in areas that were amazing to me.

The next day we went to Las Vegas, to Nellis Air Force Base where they had international plane war games. All of our allies had sent in air teams, from Australia, from Belgium, from everywhere. So we were able to witness some of that, and to see our own, the best that we had in performance.

Then we were flown out to the carrier Kittiwake off of San Diego, made a hook landing, so to speak, on the carrier, which was interesting and fun, as well as spending a half day on the carrier out at sea and seeing all the performances of a plane going through Mach 1 right beside the carrier. It was a very exciting trip.

In each of the cases we met with the enlisted personnel to get their feelings of how they liked being in the service. In each of the services I would say there wasn't one case that these kids didn't just want to belong. After the Kittiwake we went to the Marine Corps Boot School, which is the first twelve weeks of being in the Marine Corps. We went from being with the graduating class and their families there to having lunch with the enlisted men of the eleventh week, and we also watched the new inductees come in on their bus and step into the buildings and learn to say "Yessir" and have their head shaved in about half a minute. I was very impressed, it's great.

Ogg: Then we next went to the highspeed attack submarines and got a chance to spend a half day in that area. Then we returned to San Francisco. It was a very exciting, very interesting trip.

I would say that the thing that meant most to me was the complete turnaround of the esprit de corps of being in the service, that personnel in the service today want to be there, sincerely want to be there. They are there only because they want to be; if they want out, all they have to do is say, "I don't like it, I want out." If they are on a ship, a carrier, if they say, "I don't like this ship, I wish to be off," there is no restraint to keep them on board, it's "off." Too many people that want to be on board are waiting for that job.

And further, a chief, or somebody in that position, can decide that Joe is not really putting his effort out in his group, and he will immediately point it out. And say, "Joe?" And Joe is off the ship, like that. With no qualms, no questions. It's just to build a team that work together and want to be together. And it's a total new service, all the way through. And I can't say enough good about that.

P.W.: You say you were chosen by Cap. You mean Caspar Weinberger?

Ogg: Yes. I got a letter through his selection or however it was--I think the navy may have suggested it to Cap, although I met Cap here--but I felt very honored to have been selected for the trip.

P.W.: Can you add anything more about your service to the navy?

Ogg: I certainly have been in very constant communication. I certainly have made suggestions. I've had close friends--one of the undersecretaries of defense, Dick Godwin, an old friend of Nancy's, I took him on a carrier trip as my guest before he got selected to be the Undersecretary of Defense. The Undersecretary of the Navy Jim Goodrich is a long-time friend of mine who used to be my next-door neighbor in Maine. He used to be chairman of the board of Bath Iron Works, and he and his wife and Nancy and I are all great friends. When I first knew him he was top guy in National Steel and Shipbuilding in San Diego.

Another one of my life-long friends is Bob Conn who used to be a navy flier and then got picked by [Robert] McNamara to go back to school, and got his master's and Ph.D. in business economics, and he today is the Undersecretary of the Navy for finance. One of McNamara's "whiz kids."

Until this last July a year ago, for the prior four years, the chief of naval operations was also a close friend of mine, named Jim Watkins.

VII CALIFORNIA STATE DIVISION OF COMMUNICATIONS, 1947, AND TELEPHONE
EQUIPMENT APPRAISAL

A Call from Earl Warren

P.W.: When you got out of the navy you went to work for the State of California as an engineer?

Ogg: When I actively got out of the navy, right after the end of the war, yes. Well, I went back to college to finish up and get a degree. I was very pleased about that. With my wife then, Phyllis Aasgaard, I bought some islands back in Maine and I planned my summer vacations in Maine, and finishing college, for which I had five years of free credits from the government for my time in service with no leave--I don't think in six years I had even a day of leave.

But in 1947, in May I believe, Earl Warren, whom I had known quite well in World War II, in my counterespionage days because I used his facilities to have radios built for communicating with our undercover agents--.

P.W.: What facilities were they?

Ogg: Radio facilities.

P.W.: In Alameda was that?

Ogg: Yes. Actually they went beyond Alameda County. We could use them for the whole Bay Region for our intelligence agents.

P.W.: What was Warren's position then?

Ogg: He was district attorney for Alameda County. And he made his radio facilities available to us, and even further, that we could build our own equipment there. I had some enlisted men that worked for me who built the radio sets because you couldn't buy them on the market then. We built the sets to work with his equipment in his facilities. We copied a set that he had and worked with his radios. It just a matter of putting into production an item he had there, copy it, produce it.

Ogg: But in 1947 Governor Warren had the idea of setting the state up with a division of communications which he interested me in working on, with the potential of being chief of communications for the state. (That originally was created within the State Department of Finance. Now it is separate and it is the State Department of Communications.)

I liked the challenge, but he wanted me to go to work in May or June of 1947 and I said, "No way." The salary that I was offered at that time as a utilities engineer for the State of California was \$17,500, which was one of the highest in the state. It was tempting. However, so was continuing my schooling and the summer in Maine.

So I told Warren that I would like the job, I'd be excited with it, I was coming back Labor Day, and if he wanted me I'd be here. He extended the deadline that I could accept the offer 'til after the weekend of July 4th. And I again rejected that and said if he wanted me I'd be glad to take the job when I came back after Labor Day. And when I came back after Labor Day the job was available and so I took it. And it helped my ego to where I probably made super-decisions for the State of California that if I hadn't had the feeling I could quickly go back to Cal if they didn't like what I did, it made it very easy to do the right thing.

The State of State Communications in California, 1947

Ogg: It should be of some interest that it was twenty-five years before any other state was able to copy and do that, although the setup that I engineered and did is the ideal of the country today. Prior to that time the communications of the state, which is a large and big state, were primarily divided into nine different divisions of the state, each handling their own communications as they saw fit. Generally speaking a second-class technician would be in charge of the total communications for something like the Highway Patrol, the Division of Highways, State Forestry.

I might say State Forestry at that time was spending \$3 million a year on radio equipment, to give you the size of the budget. This was all under the guidance of a fellow who had brought this thing sort of to a head because he was specifying equipment that only one company could match. The other communication companies, the competitors, raised hell about something like this occurring.

Regardless of that little bit, whatever brought it to a head, combining it was a very worthwhile and needed project. Here was the Division of Highways buying its own equipment which would be quite different from another division, all to serve the same purpose. With its let's say five technicians based at the San Francisco Bay Bridge, these technicians covered everything from San Luis Obispo to Eureka.



Birthday dinner, Ogg family home, Creston Road, Berkeley, 1946.

Ogg: So if a station or a set or something went out in Eureka, they sent the maintenance man from the Bay Bridge to Eureka.

In the case of forestry, forestry was better dispersed. Their technicians were all over the state. But to point the matter out a little more notably, even if the forestry technician lived within a block or so of the state highway station in Eureka he could not touch the state highway stuff to maintain it.

What it did was pool all of the state's communications into one division called the Division of Communications and put it under a fellow named James Dean as head of the Department of Finance. He had the financial strings and could tell anybody what they would have and wouldn't have. And I came up with the plan of merging all the technicians into one unit working for the division, taking over the telephone, away from Pacific Tel & Tel being the overlord, and to the state putting in its own microwave system.

I went to all of the mountaintops in California and laid out the microwave system. I would say 98 percent of what it is right now is that that I laid out. The basis of that was to take communications out of being subject to the telephone company, except for local communications, so that nothing, a strike at the telephone company or anything else, could enter into or interfere with emergency communications control in the state. Basically this was the concept in doing it. Today the state has gone further. They now use satellite communications on top of that. But the microwave system that I outlined and climbed to the mountaintops and laid out is still it.

We took control of the mobile operations away from the cities. What that meant was, for example, that while at that time forestry had its own stations, and the Division of Highways had its own stations, the California Highway Patrol covered virtually none of its own communications; its communications at that time were limited primarily to going through the cities. They could call up San Francisco and say, "We want to put a message out to Highway Patrol number so-and-so."

But if there was something doing in San Francisco the San Francisco police would defer the Highway Patrol communication until they got through with their own communications--a very dangerous situation. The situation was so bad that California was paying the City and County of Los Angeles something in the neighborhood of \$1 million a year for processing their communications but they had no privileges, no priorities!

Also, instead of one of the agencies, forestry, picking one mountaintop, saying, "We'll take this one for our equipment," and state highways saying, "We're going to use this one, it's a better one," we were consolidating and saying, "You're going to have one mountaintop that's going to be the best overall for the state. You're

Ogg: not going to be a bunch of different agencies of the state having this mountain and that." So Mt. St. Helena was picked as both a microwave terminal and as the mountaintop that would serve all state agencies.

I put the powerline into the top of Mt. St. Helena and set up the first station on Mt. St. Helena under that joint program.

P.W.: Did you put one on Mt. Diablo?

Ogg: Yes. Mt. Diablo was the first station in the system. In fact it was the first microwave link in the state. And that I ran from the capitol in Sacramento to Mt. Diablo to the Ferry Building as an experimental link and that was very early in 1948, prior to the telephone company having microwave.

P.W.: Had you used microwave links in the navy?

Ogg: Yes.

P.W.: How long did it take you to get that job all set up?

Ogg: By the end of 1948 I had the opportunity to buy out my uncle and take over the marine anchor business, which was something that interested me very much. The state begged and offered to pay me super-well to stay and be chief of communications for the state and live in Sacramento. Prior to that the state had paid my commuting to Sacramento and given me a state car and no question about my expenses. But I didn't wish to stay in Sacramento and I didn't wish to stay in that work. I had set up the division, people had all been hired, so I said, "Thanks, but no thanks." I kept an advisory linkage with them for period of time, but no active role.

P.W.: This was the end of 1948?

Ogg: Yes.

Consultant for Bank of America on Telephone Companies in California

P.W.: You told me once briefly that you also worked as a consultant for the Bank of America on telephone companies? That was in 1948 to 1951?

Ogg: Yes, with Al Hosmer, the fellow that I had been with in naval intelligence before the war. We had been related on a lot of the work and I had known him in the Pacific too. Hosmer had a business name of his own besides other things. He did the financial consulting in this. I joined him as an equal partner in making appraisals of the telephone companies. Hosmer was, in the '20s and '30s, one of the top

Ogg: individuals at AT&T, very highly acquainted with the communications financing methods of toll traffic and other things which are very critical in operating a phone company. That's not an area that I was familiar with at all, I was familiar with equipment.

Hosmer would take on studying the toll levies possible in a company, whether the financial end of it was being run right. My job was to survey all equipment, whether it was the in-house dial or any of the in-house equipment, as well--and probably with the private phone companies this was more important than what was done with them financially--as what was the condition or status of all of their outlying equipment.

At that time I believe there were fifty-five independent telephone companies in the State of California. I remember one of the bigger ones that we did, and more than once, was Taft, which was down toward Bakersfield. That covered a tremendous area down there, and it was one of the largest private telephone companies. Then I compare it with one of the smaller ones which was one up in this area, just outside of Sonoma, called Kenwood.

Kenwood was probably in the worst condition of any of the companies that we looked at. It had a very low value. Their switchboard was in the living room of a rundown house, as I would describe it, and the house must have had a total square-footage of seven or eight hundred feet. It was a very small house in Kenwood. The switchboard, which looked like it was left over from World War I, was as poor a piece of equipment as could have existed. And the telephone poles around Kenwood were hardly able to stand up, as rotten as they were. It was in horrible shape.

But Hosmer was very astute and acquainted with the telephone rights-of-ways and other things, and he noted that the AT&T lines all went through Kenwood--this is the long lines that go from San Francisco to Seattle or Portland or up the coast--so that all traffic went through Kenwood. Kenwood had no knowledge of this and didn't realize that they had some rights. Hosmer made a deal and bought the Kenwood company at that time and moved to Kenwood.

I went off into the anchor business in the East and stopped doing anything with that area because I wasn't here, really never heard much more from Hosmer, but I can only assume he made out well because he went to AT&T and said, "I want royalties--percentages, on every call you pass through here." Perhaps you could equate it to finding a sunken ship full of gold. He knew the AT&T areas, he knew where they went, he knew all of that. The Kenwood people were totally unaware of that. What kind of a deal he made with Kenwood and all of that, I have no idea.

Hosmer made an enemy of himself out of AT&T, although he had been probably one of their higher-paid people in the middle-'30s. He found ways, through the tariffs and his knowledge of them, to set up, at

Ogg: very substantially reduced rates, communications for Sutro & Co. in San Francisco with the stock market in New York. I do not know the details in any way. I know he achieved a step forward for the investment world with whatever he did in their ability to transmit the market data in New York to be available immediately in San Francisco. This would have been in the mid-'30s, and the steps that he took were very detrimental to AT&T's tariffs. In other words, he found ways around their tariffs to cut their income more than moderately to where the parent company I think would have lynched him if lynching were possible. Similarly he took AT&T on in the Kenwood deal twenty years later.

P.W.: What happened to the fifty-five or so private telephone companies? Were they all bought up by Pacific Bell?

Ogg: The answer is no. Pacific Bell would probably have liked to have bought all of them. They have been I believe today all acquired by larger corporations. I don't believe that there are any small ones. The largest at that time was the one I mentioned, Taft, and Taft covered a large area of oilfield towns there.

Aircraft Navigation

P.W.: You also did some work in aircraft communications? You said you used to fly up in the cabin with the crew on certain flights because of work you had down. For example, down towards St. Croix.

Ogg: I wouldn't say I was related to the aircraft communications.

I think one of my best friends has been my next-door neighbor in Berkeley who was the first navigator with United Airlines. That's O Dana Peck. He's living today. He had been with United back in the late '20s, somewhere in there, and he left in 1930 or '32 to set up a camera store in Oakland. In 1939 he left that and went back with United and became their first navigator.

Navigators were not used in the United States; they were only used for overseas flights.

P.W.: On domestic flights they had no navigators?

Ogg: Domestically there was no need for a navigator, never has been. You were flying by beams and beacons. Even if you go way back into the early twenties, we built beacons over the Rockies, across the Plains, everywhere, because planes were flying under 10,000 feet and flew basically by ground contact. If they were on VFR, visual flight regulations, they didn't have long to go between visual contact, and there never was a navigator to my knowledge on any domestic flights.

Ogg: The requirement for navigators started in 1934 or '35 when they started to fly overseas with no reference points. Pilots were not trained navigators ever, so the navigators were trained to do, or had to be able to do, celestial navigation, a whole new entity. You needed to know the sun, the stars, all these things, and that's just a separate skill.

Anyway, Dana was a navigator and I got to know him and I got to know their very earliest number one flight crews because they flew the Pacific. When I would be flying to the East one of these senior skippers would be the pilot on the flight and they would invite me to fly up in the cockpit, so I made many flights across country here in the cockpit.

When I had the home in the Virgin Islands, the navy regularly ran trips from Brunswick, Maine to St. Croix, I guess for sonar test work, and as a retired naval officer I could fly as long as there was a plane going somewhere, and I quite often took their flights from Brunswick, Maine to St. Croix and back and enjoyed that very much. But they didn't require a navigator because of the navigation equipment which they have on board that pinpoints them to right where they are. No, I really had nothing to do with aircraft communications.

IX MAINE AND ST. CROIX--ISLANDS, HOUSES, AND CHURCHES

Acquiring Islands in Maine

P.W.: [starting interview as he always does] An interview of Robert Ogg by Paul Williams on--.

Ogg: It's not Robert Ogg, it's Bob Ogg!

P.W.: Okay, an interview with Bob Ogg--.

Ogg: It's either Robert Danforth Ogg, or Bob Ogg, but I do not like the name just Robert Ogg.

P.W.: Okay, Bob.

Now, off and on we've mentioned your islands in Maine. How many were there?

Ogg: There were three islands themselves as islands, and one of them was an island with about a square mile of reefs that were little bitty islands, not usable, in a square mile of ocean really. I bought that from the town of Boothbay at a town meeting late at night for something like \$150. Because everyone was tired and wanted to go home, the town accepted the offer.

The other two islands I bought in 1946. I bought the White Islands from Raymond Fosdick who was then president of Rockefeller Foundation and the twin brother of Harry Emerson Fosdick who was the well-known, famed minister of Riverside Church in New York City. I think we paid \$2,500 total for the two large islands.

P.W.: Did the islands have water on them?

Ogg: No. Water was a problem.

One of the islands had been taken over by shags, a loon type of bird, and they had killed all the trees on it. The other island, the outer one, was a much more picturesque island and had a cabin on the

Maine

Bob Ogg, Boothbay Harbor, 1950, with a new boat to "work on," and at the tiller.

Below, Treasure Island.



Ogg: top which Fosdick used, a log cabin. I later rebuilt the cabin and made it quite attractive. Water was not on the island.

It was virtually impossible to land on that outer island probably 50 percent of the time because of its position as the furthest-out island of the Boothbay region, on the threshold of the Atlantic Ocean. The top of it [the island] was a hundred feet high, and quite often you'd see waves breaking with spray far above the housetop, from seas. It was swept by waves most of the way around it. The back, the lee side, offered some shelter, and at certain tides it was possible to get in and make a landing.

We took water ashore in carboys, five-gallon jugs of water, and it was difficult. I stocked it with sufficient fresh water that nobody really was short of it, but we used to live mainly by using saltwater. We cooked in salt and used salt for everything possible.

The Metropolitan Opera Crowd

P.W.: Did you use it just for vacations?

Ogg: Yes, just for summer vacations in the Boothbay region there, and we often had guests come and stay with us that were young and camping-oriented and willing to put up with some of the discomforts of camping. It was a wonderful outpost.

We had probably in those days most of the members of the Metropolitan Opera come out to visit us--people from all over! It was a challenge.

P.W.: How did you happen to get Metropolitan Opera people there?

Ogg: Because we had gotten to know a girl named Bidu Sayao on one of our trips across country from Maine to California, probably in September, just before the San Francisco Opera season.

We had, at the same time we went East, reserved our spaces going West, and we took the German shepherd that we had with us, a grandson of Rin Tin Tin. My wife Phyllis was at that time, which would have been 1947, pregnant with Dick, who arrived in December, so she was six months or so along. So we had the dog and pregnant wife and had a drawing room on the "City of San Francisco," which was a streamlined, highspeed train at that time.

Well, we ran into a problem in Chicago. Fortunately, because of the dog and Phyllis, we had boarded the train before regular boarding. When it was opened up for the regular passengers to board in Chicago, one of the porters at the station--he wasn't a regular porter, he wasn't in uniform--came on and came down the aisle of the train and

Ogg: started to come into the room. I stopped him from coming in and told Phyllis to lock the door.

He demanded that the room was--I'm trying to remember the name of the singer [pauses]--it was Dorothy Kirsten's. He demanded that we vacate, that it was her room. I said we had had this room for three months. She [Kirsten] had had her room for just a few hours by paying something--the way things got handled in those days, you could pay somebody something, and put the other person out.

We stuck by our guns and Dorothy Kirsten ended up going to San Francisco in an upper berth and was very displeased with us.

The next-door large double drawing room ended up being held by a lady and her mother and her husband and they got to be very friendly with us along the way and she turned out to be Bidu Sayao. She was known as the top performer of Mimi in "La Boheme," besides many other roles. Her husband was Benese--I forget his last name--and he had been a singer, contemporary of Enrico Caruso, and in these days was the leading tenor trainer for the Metropolitan Opera.

Bidu was from Brazil. Her mother was a wonderful elderly, somewhat heavy, lady from Brazil. Because we talked of Maine they got interested in Maine and that winter bought a big estate in Camden, Maine and got the opera people, many of them from the Met, to come to visit them at their estate in Camden. Benese, who was probably seventy-five or more in those years, became a very close friend--fishing and other things--and they enjoyed coming the hour's drive down to Boothbay and coming out to our island and visiting us.

We kept very close contact with those opera people over the years that we had the island there in Maine, through 1963 I guess, at which time I got a divorce from Phyllis and left that area really totally. I just kept occasional contact with Bidu. Her husband and mother died. She lives in New York and still has the house that they bought in Maine.

P.W.: Meeting all of these opera people must have introduced you to going to a lot of opera when you were in New York?

Ogg: No. I've never been to an opera in New York. And all of these people came to San Francisco. All the people I knew now are deceased or no longer in the opera because this was forty years ago. They used to come out, and we used to have regular get-togethers. They'd come to our home here. It was a very enjoyable period.

The Met today all come here. The basic performers of the Met also perform in San Francisco. The seasons don't overlap at all. Ours is in the fall and theirs is in the middle of winter.

At the time I was living in Maine we used to have an annual Metropolitan Opera clambake on my other island that I haven't told you

Ogg: about yet, called Treasure Island. They used to gather whichever individuals from the Met were visiting up in the Camden Bay area to go out to our annual sort of "opera clambake." We got to know many of the opera circle.

More Islands

Ogg: In 1954 I bought the island known as Treasure Island, and it was two miles in from the White Islands which I owned, and looked right out at the White Islands. The island was one acre. It was possible to get on the island via a dilapidated wooden bridge which was hardly crossable by automobile, such that the first winter I built a fairly good bridge to the island.

P.W.: From the mainland?

Ogg: Yes. It would have been about a quarter-mile long bridge. Subsequently, perhaps five years later, I bought up seven or eight acres of the shore land that was in from the island, giving it protected privacy. There was originally laid out a road on the shore, and I traded the land with the town to have that land be part of my estate there, and I built the town a road inland around my acreage, and they were very happy to make that swap.

The log cabin that was on this one-acre island was probably twenty-five or thirty years old and had not been used very much in those years and had been let run down. It was a seven-bedroom log cabin, a beautiful layout, with a fantastic-sized living room almost forty feet up to the height of the chimney that ran up inside. A beautiful place, but it was not equipped to be a winter home. I decided to make it a winter home and did so by building sort of a log cabin outside of a log cabin, and by making many, many changes and additions. It's probably one of the more beautiful homes today on the whole coast of Maine.

P.W.: Did you eventually sell it?

Ogg: No. In my divorce from Phyllis I made a swap of property that gave her that property, with an option that I have today that if she wishes to dispose of it I have to be given an option to buy it for \$40,000. And it's probably well worth a million or more right now. But she still hangs onto it. Otherwise she has to give it to my children on her death, equally. It's an interesting option!

I bought the house, the island and the house, for \$14,000, and it was a real dilapidated rundown place. In 1963 when I got my divorce from Phyllis I would say probably just relative to property in Maine it was probably worth \$60,000, but property in Maine was almost worthless at that time. Anyway, now it's gone the other way.

P.W.: You rebuilt that house on the island. Did you build any other houses in Maine?

Ogg: No, not any new homes, though I did build a new home in Berkeley, in Kensington, in 1948.

On the island in Maine I hired my own personnel and rebuilt the bridge and rebuilt the cabin by directing the work, making my own decisions. Basically I was the contractor.

After remarrying in '63 I bought a home up in Edgecombe near Wiscasset, Maine, which was on the tidal water, and I would say I doubled the size of that home, put in a water system, did a great deal of that, doing the contracting myself.

The last home I bought in Maine was in Windham, and there I bought a 200-year-old estate. That was a 100-acre estate on a pond on the Presumpscot River which had been part of a canal that was built in the 1850s in Maine to take barges from Portland, which is on the water, all the way up through Lake Sebago. It was a very valuable means of transportation at that time. That home hadn't been lived in for more than forty years when I bought it. It had ten fireplaces, no central heat--I put central heat in it--it was a large home, and it had mostly the facilities that were put in when it was built two hundred years ago. It didn't have any notable bathrooms or other facilities, so I really ended up having to totally plumb it, and wire it. It was a major job! [laughs]

That house was eight bedrooms, three living rooms, with a winter kitchen, a summer kitchen, and it had a barn that probably was 40' by 60', very large. The house was all built out of wood with--well, it was built maybe in the 1780s, and you'd find many of the beams that it was structured with might be 12 by 12s, 14 by 14s. They were big. There were no nails used in making it. It was all wood, wood pegs fitted together. It was two high stories with a fairly large basement under everything. And it was a fun challenge to put it in A-1 shape, which I did.

An Ecumenical Church in Kensington, California

P.W.: We've talked about your Maine houses. You also built a house in Berkeley?

Ogg: Yes, in Kensington. Number 48 Arlington. It was next door but one to a community center which I helped to bring into being, and I used to be chairman of the community center which was the only entity in Kensington, so I was called at that time the "mayor" of Kensington. I did head the community center council, and the community center nursery school there. I was very much involved.

P.W.: Is that the area where you started that church?

Ogg: Yes. The Kensington Community Center was the church. It was an ecumenical church. There were probably some twenty-five ecumenical churches started in the State of California after the war, but to my knowledge this was one only one that really became successful.

P.W.: Did it have a minister?

Ogg: It hired ministers. The first minister we had was a Catholic minister, and I don't recall what the others were, but it did change the denomination, and it was a non-denominational ecumenical service.

An Episcopal Church in Maine

P.W.: And you started another church in Maine, didn't you?

Ogg: I started that in my home in Windham. A group that were Episcopal who were interested in having a church. The only church of the Episcopal variety was fifteen miles away and it was felt that something of the Episcopal nature in that area would be desirable. We started in our living room with maybe five or six families. I contributed an organ to it because I feel that an organ is very helpful in creating and backing religious activities--I still feel that the music of an organ can have a great deal to do with conveying religious feelings today.

The church grew. We started the services early. We had no dress requirements and people liked that. After a year or so of operation we were getting too many people for our living room and we spread into two living rooms. Then we felt we needed to find another location, and just across the Presumpscot River, maybe about a half-mile away there was a very, very little church, a building that had been a church at one time and which had become of very little use, and perhaps was doing nothing but collecting scrap clothes and selling them at scrap prices. So we found ways to acquire that little building, reconverted it into a church and used it as a church. But we quickly outgrew that.

So then I donated land from the acreage that I had there [Wyndham] toward building another building for the church. We built a building and it has just last year gone through its third addition. It has become I believe the largest or next-largest- attended Episcopal church in Maine, primarily because its services are at seven o'clock in the morning, and the seven o'clock service has a choir and music. There is also I believe a later service at nine or nine-thirty.

Ogg: That church became very attractive because people could attend it and still enjoy Sunday. And having music at the early hour made it appeal more than just an early service without music. And again, no dress requirements. I would say those were very important commodities in building this church and making it as successful as it is today. I would recommend that to any church that wanted to get somewhere today. There's too much to do in the day--here in California just as much as in Maine. People want to go sailing, they want to do things.

The early service, with music, was one of the key elements in building the church in Kensington. Kensington is very successful that way. I look at the Episcopal church in Ross, where I was an acolyte in 1929, lighting the candles, their early morning service is hardly attended--no music. People that do go to church I think get some of their communication with God through music. That's my feeling.

A Home in St. Croix

P.W.: I recall going to the Episcopal service on Christmas Eve with you at St. Croix. Were you active in that church too?

Ogg: I attended that. But again--the reason I don't go to church in Ross is that there's not a service I like. If they had the seven o'clock or eight o'clock service with music I'd go there. St. Croix only had a noon service. I did not wish to break up my days. I enjoyed the church in St. Croix, but in that land of sun and boating and other things I didn't want to take that time out in the middle of the day to get dressed up--because you had to get dressed up in St. Croix, that was the only way people went to church.

P.W.: Speaking of St. Croix, how did you happen to begin going down there?

Ogg: I don't think I really went down there until after I married my second wife, Kit. Her mother, Mary O'Neill, had lived there for years and years, and at that time she had an apartment in one of the homes of the royalty of the early days of St. Croix. It was a tremendous apartment, with lots of room, and when I got married to Kit I used to go down there and visit with her and stay. Then I decided I liked it so much that I would stay there much more often and have my own house.

In 1972 I bought my home--as you know, one of the more attractive locations on the island, on the west side, two miles north of Frederiksted. I made such frequent trips down there that I spent as much of my time down there as I did anywhere else, and I made that my legal residence.

P.W.: Kit is Catherine?

Ogg: Catherine O'Neill. Her mother is Mary O'Neill, and her first husband was Kit's father. She referred to him as an alcoholic. I can't remember his name right off, but he's buried in a crematorium in Kensington [Sunset Cemetery], no more than fifty or a hundred feet from my old man, Danforth. Her mother left him and married Ed O'Neill who at that time was president of American-LaFrance, and her [Kit's] name was changed to O'Neill.

P.W.: I remember you belonged to a club in St. Croix.

Ogg: St. Croix Country Club, but it is not what is normally implied by the word "country" because it was a beach club. It had one of the better beach sections of the town of Frederiksted, being just about a quarter of a mile north of the center of town there. I would say all of the old families, finer families of St. Croix belonged to it.

The swimming on St. Croix was only good on the west end because of seas that swept both the north and south sides of the island, and there was very little to the east side. And the winds were prevailing from the east, so St. Croix was in the lee, with calm waters and lovely swimming. So if you wanted to swim in the ocean in St. Croix comfortably you had to come to the west end. There were a couple of other beach clubs there that were not the desirable ones to belong to. So that that was the one that anybody I guess that was involved in the island did belong to. I went from being director of the club for many years to being its president.

Physical Aspects of St. Croix

P.W.: I know one of the fascinations for you about that area is the weather, the hurricanes for instance.

Ogg: I think the weather in St. Croix and the other Virgin Islands is a very interesting phenomenon, and is a good example of how tremendously water temperature itself affects the environment. There is, for instance, a tremendous difference in the weathers between the Virgin Islands and Puerto Rico, which is only eighty miles away. The average temperature in St. Croix year-round is 80 degrees, plus or minus perhaps a half degree. In my home in Puerto Rico, just eighty miles or so from St. Croix, the cold temperatures there can go down into the forties, and the temperatures in the summer get up to 110, 115 degrees, very uncomfortably hot. An example of how the sea can control the weather. Another example is the islands and bays and inlets of the coast of Maine which keep the coast generally speaking fairly warm, while northern Maine is a very frigid area in winter.

Eighty percent of the world's surface is ocean, and you can realize the tremendous effect that water bears on the climates of the earth. If one diverted the Gulf Stream, as people have talked about,

Ogg: up into Labrador, you could convert quite a bit of country into livable areas.

P.W.: Do you think that is seriously possible?

Ogg: People are always dreaming of ways to anchor tremendous sheets of perhaps canvas or other materials down on the bottom and just divert the Gulf Stream up that way. Seems like science fiction.

P.W.: You used to commute from Maine to St. Croix.

Ogg: Yes, as I got older and found that I did not enjoy the cold of Maine as much. I think when I was younger and my kids were growing up and skiing, and I skied too, I really did enjoy being in Maine. There were a lot of winter activities. As I got older I began to understand why the old folks went to Florida in winter! But I found St. Croix readily commutable from Maine. I could leave my home at seven in the morning in Portland and I'd be at my home in St. Croix by twelve or one o'clock that day, and the cost ran probably about \$250 round trip. I regularly would leave Portland Thursday or Friday morning and then return Monday afternoon from St. Croix. When I moved out here it became an impossible two-day trip, and expensive, so I sold my home in St. Croix.

Social Aspects of St. Croix

P.W.: You had indicated to me that there were some social problems, some problems with labor with the natives there.

Ogg: My mother-in-law Mary O'Neill had lived in St. Croix for many years, conducted a business in Frederiksted, and was almost considered a native there--her friends were all Crusian people who had been governors of the islands or very much involved. She was sort of known, and that let me get accepted.

Generally speaking the Crusians resented the influx of whites to live there. Perhaps I shouldn't say whites. They resented just as much the Puerto Ricans coming there, or the Latins who weren't Crusian people. They also resented the influx up from Trinidad. Probably most of the labor that would work for white families down there were from Trinidad. Generally speaking, the Crusian people would work for Crusian business or Crusian individuals. But I had no problems with that.

P.W.: During the time you lived there there was the famous Fountain Valley massacre.

Ogg: I think that was in 1972. I started going to St. Croix in 1963 or '64. During that period St. Croix became a very, very valuable place

Ogg: to go. Real estate rose rapidly and the building of real estate escalated--it was something to see, like something exploding. In 1972 Fountain Valley was a Rockefeller property I believe, a tremendous golf course, probably one of the more beautiful in the world.

I believe this massacre occurred in the summer period when St. Croix didn't have too many visitors on the island. Three or four blacks--I don't remember the details--popped in on the clubhouse, which had a number of shops, restaurants, other facilities, and as you referenced earlier, massacred the eight individuals who were there. This sent grave chills to the growth of St. Croix and I would say put a stop until just the last two or three years, just a twelve-year stop on everything, any building project. Property values went totally to hell.

Unfortunately it was written up strongly in all the East Coast papers, and from then on, perhaps like the automobile problems here right now in California [freeway shootings in southern California, summer of 1987] the papers played it up, and they played up every single holdup in urban St. Croix. Anything that was wrong was publicized in headlines on the East Coast, from Washington to New York, so that just like people don't want to ride the freeways right now, nobody wanted to go to St. Croix. It didn't bother me; I didn't feel concerned about it at all. No different from Boston or New York as far as crime went. It just got blown into the public eye.

X PATENTS, AND CURRENT WORK

Patent Policy

P.W.: What patents do you hold on marine equipment?

Ogg: I guess most of my life I have made inventions, some of them patented, probably most of them never patented. In my earlier days I didn't concern myself with patents. Later I did start patenting my inventions. I have patents in the electronic, mechanical, hydraulic and in the marine anchor. I guess I am probably best known for my anchors. And compasses. I consider my patents basic, a-b-c of simplicity.

I have been invited five times to participate in an exhibit given every five years by the Patent Office in which they invite sixteen to eighteen companies that have benefited from the use of patents to bring and show their wares. The patent commissioner during a major part of that period was a Robert Watson, whom I got to know very well. The general manager of it was a fellow named Isaac Fleischmann, who was probably considered the executive officer of the Patent Office. He ran all the non-political operations. The first time I went was in 1958; then every five years.

The exhibits usually ran over a long weekend, and the companies that were invited when I went were companies like General Motors, General Electric, Eastman Kodak--which is one that has prospered more from patents than any other. There may have been one or two other smaller companies, but basically they were the companies that had prospered the most with patents. And companies that had benefited and helped society by the products they had created.

I was asked on two occasions to talk to the Patent Law Association which would have an annual conference during this exhibit, in Washington. I spoke to them on the American patent system. My talks were limited to five or ten minutes, but I would say I had a moderate effect on changing the American corporate policy toward inventors--I would say I very definitely had, and that's why I was invited to speak.

Ogg: Up until the time I went to the first exhibit and was invited to speak--and I was invited to speak because the Patent Office knew of my feelings in this area--generally speaking a corporate employee, an engineer, inventor, whatever he was, maybe just a regular non-inventive executive, signed an employment contract that any inventions or devices that he created during his employment would be the property of that company on their payment of one dollar to them. This was standard American corporate policy, and this was to me the error of the American patent system. In the old days when people worked more than the eight-hour job they were employed for, and were not just disconnected from the company at five o'clock, it was a different story. You got the work of these people, and their thinking twenty-four hours a day--sleeping, dreaming, or otherwise.

An inventor, an innovative person like that, that's the charge of his life. It is to me. But as it went along and they only got a dollar for it, what was the sense in inventing for the company? So you'd do your eight hours of work and go home. West Germany, wanting to proceed differently, had a federal law that made half of the development of a patent the employee's ownership--not that I felt that was the right answer.

I felt that if these corporations wanted to move forward they had to find a way to share with employees the product of their inventions, and make them want to go home and work at night in order to get more time out of them. And it created, the first time I talked about this, a lot of interest from the corporations, and I'm talking about GE and Kodak and General Motors, which at that time were one-dollar. All kinds of changes were made. And I don't think the companies until that time recognized that they weren't spurring this guy to go home and keep thinking. Anyway, I think I stimulated a change in the American inventive process.

I put it on the basis of wanting to put this country ahead. We wanted to put it ahead of Japan, ahead of Germany, ahead of these others, and we wanted these guys to go home and develop ideas and put us ahead. We felt it was not just a corporate gain, it was a gain that was necessary for the country.

P.W.: Did you have any employees who invented things?

Ogg: Yes, I would say a number. And whether they were patented or not, if they developed something that helped the company forward I felt that they should be rewarded for it, and that I did, and it spurred them to work.

P.W.: How many patents do you hold?

Ogg: Perhaps forty, maybe fifty, I really don't know. Ninety percent of my inventions were never patented, maybe 99 percent. I would say lots of the inventions were not reasonably patentable or were not worth the expense of patenting or trying to fight the patent through. Being

- Ogg: first in the marketplace, making changes in the product, puts you way ahead.
- P.W.: Did you ever have a problem with having someone else patent your thing? Infringement of patent.
- Ogg: No, never. I never ran into that. I never infringed anybody's patent with any intent, and nobody's ever made a claim against me. In all my years of business, including the products that I would presume carried the highest liabilities for risk, I lived in an area mostly of caveat emptor, although toward my latter days I think that phrase got forgotten.

Considering my involvement in the business from 1939 on really through 1979, forty years of producing anchors that are holding the liability of a ship, I only had one liability claim ever. Ever. Never a claim of any nature of liability, and that includes making compasses, auto-pilots, anchors, depth sounders. I feel very, very fortunate, particularly today, with all of these suits for anything that happens.

A Claim Against Danforth Anchor

- Ogg: The one claim that I had was by a twenty-five-year-old playboy claimant from Los Angeles for an accident that destroyed his boat in Baja, California, La Paz. He had a Danforth anchor on his 35 or 40-foot power boat.

It had been calm, windless in the morning. They had been out fishing or something and they came in, anchored--this was the very interesting part--the Mexican coast guard had a detailed report that they had dropped their anchor in 38 feet of water and put out 42 feet of line very carefully. The anchor was assuredly on the bottom, but straight down, and an anchor has to have five times the depth of the water for its scope to work well. Where they had dropped the anchor, no way could it have worked at all.

The anchor came apart after high winds came up and seas in the afternoon. Their report is they were up in their inn or motel or whatever it was, sitting up there having afternoon drinks, and they watched the winds come up and blow their boat ashore, and as it hit shore the anchor hung in a rock right at the shore, and as the heavy 10 to 12-foot seas crashed over the boat it did pull apart on the rocks. The claim was for defective anchor. There was no defect of any nature of the anchor: all welds, every part of it was perfect. It was evident from examining the anchor that there was nothing wrong.

In the suit in the Los Angeles federal court my attorney asked the fellow that was suing what kind of anchor he was using on his boat

Ogg: today, and his answer was Danforth. [laughs] The judge said, "I think we better have a session in my office." [laughter] The ultimate answer was that there was nothing defective in the anchor and the judge threw the case out.

P.W.: You mentioned having had some patents having to do with compasses?

Ogg: Yes, I have a number of patents for compasses. The compasses I manufactured were the only ones the navy bought during my period of manufacturing compasses, which was from 1961 when I bought the Wilfred White and Kelvin White compass business in Boston and moved it to Maine. I had made some fairly major compass improvement developments which I didn't patent during the fifteen or twenty years before that, so I was quite familiar with the compasses, and I incorporated my developments immediately upon acquiring the company. There were lots of them I didn't patent, and I wouldn't have explained them in a patent.

The Hazards of Patenting--Compasses

Ogg: There are hazards of patenting something. If you have a chemical solution, such as Coca-Cola, you wouldn't patent Coca-Cola because you only get the maximum seventeen years protection on that combination of "chemicals." Presumably once you've told all about how to make Coca-Cola in your patent, then after about fourteen years people are going to start to infringe it because you are not going to feel it worth suing for those last three or four years of patent. So Coca-Cola has never been revealed in a patent. I use that only as an example to say you don't want to tell how you make some things.

I didn't want to tell how I arrived at making a compass as good as I did, the methods that I used in making magnets more equal, making the compass card system so that it would be level under many degrees of latitude and would perform well. If I had revealed these it would tell another company: these are the things you need to look at in building the compass, this is where the balance has to be. Well, I never revealed these points.

Somebody could take my compass and say, "Here's an Ogg compass," or Kelvin White Constellation--"Constellation" was the trademark that I used. The Constellation compass gave the performance, but to take it apart and find out the intricacies of how I had magnetized it--. Particularly I put slant magnetizing in the magnets so that the magnet wouldn't be pulled down as much on the north end.

I should say right here that the magnetic force that drives the compass is normally about 67 degrees down from the horizontal, and it is only a very small factor that you take off to drive the compass in

Ogg: the horizontal field. If you tip that card a little bit, then that card is going to drastically deviate from the direction.

A Problem in Compassing

Ogg: Northerly turning error--and I'm still working in this area in compasses--is a very serious and not understood error of the compass. If you are perhaps going northwesterly and you swing your boat toward the north the compass card will tend by your rotating to swing out from being level with gravity; the rotational energy will swing it out and then the compass will tend to bear down toward the earth. Effectively if you turn from northwest to north the compass will continue to read northwest even though you've made the turn right around through north. It will just stay pointed the same way. That's a simplified description of northerly turning error.

Relative to the northerly turning error, generally speaking planes are flown by gyrocompasses, and that's particularly because the northerly turning error is tremendous in an airplane with all its turns and gyrations and everything else. And also because of the changes of altitude that affect it. While today the newer aircraft basically have inertial control systems that have gyroscopes with very little precession, a gyroscopic compass typical of that in an aircraft will have caused that gyroscope to have shifted in seventeen or twenty minutes. That's due to friction. If there were no friction, if you could have perpetual motion or something like that, then the gyroscope would stay on its course. Today we have gotten away from much of that friction and the gyro-compasses are much safer.

The result is that pilots to be safe when operating on gyro-compasses in the older days, and in almost all private aircraft today, have to check their gyro to make sure it hasn't gone off course every fifteen or twenty minutes. The way is to check it against a magnetic compass. In order to rely on the check against the magnetic compass at that point the plane needs to be flown flat for altitude on one steady course with no variance. Then they can compare the gyro with the regular compass and reset the gyro.

It is a major, major problem. We do have virtually perfect guidance compasses today, whether they are inertial or other methods that have come along in the space age, but to be practical it is a major concern.

I have made efforts here to separate between the gravitational force and the rotational force in my work in the compass, and deleting the rotational force from affecting the balance. This is like trying to separate the Coriolis force and the gyrational force. Right now my thinking is all in making that, and I've got some models in my shop in Kentfield that I'm experimenting with that way. And I think I'm very

Ogg: close to having a substantial gain in the magnetic compass field. I would say a major gain. And that would be patentable.

Other things that are in the compass are really in the balance and the pivot and the balance point of it, which all relate to this same area, but these things I have never revealed in the patent. I have covered some shock absorption systems for making a compass that would stand up in tugs and boats with a high degree of shaking that could damage a sensitive pivot.

Competitors in the Anchor Business

Ogg: I would also say there are some things in the anchor that I have not patented because I have not wanted to reveal some of the critical areas of why the anchor will set or won't set. Anyway, as I was saying, probably 99 percent of what I've done in these things is not patented.

P.W.: Has anyone ever figured it out and imitated it?

Ogg: I don't believe so. I keep running into people who are making them today and they say, "Gee, all I can do is get this to happen and that to happen." They don't realize where I have done something; they try to copy it exactly.

That's exemplified by Rule Industries, a company that's making anchors with my latest patent now. They came out with an ad, a two-page spread in the marine magazines in January that announces "The Danforth Challenge," and they offer in that a \$25,000 round-the-world tour for two people if they can come up with any commercially available anchor that will hold half as much as those they're making under my design.

P.W.: Wow!

Auto-pilots

P.W.: What would be one of your patents in the hydraulic field?

Ogg: I would say whatever I have there is related to controls, just controls of auto-pilots. In electronics again it's very similar; they're all like a-b-c. You'd say, "I want to do this or that." It's putting things together electronically to achieve something that can't be done some other way, and I patented it if it was something obvious that I wanted to protect.

P.W.: You made auto-pilots. What was the brand name of those?

Ogg: Part of the auto-pilot system that I made at one time was under the name of Danforth, just auto-pilots. Then I bought a company named Ware in Florida from a fellow named Paul Ware who is seventy-five years old or so. I think it is still one of the better auto-pilot designs that was ever put together. I made a number of improvements on it and marketed it under the name of Ware, the trade name which I kept, and it was well-respected.

XI CHILDREN

P.W.: Could you tell me more about your children?

Ogg: Well, my recollections are that I had a wife back in 1946 and somehow during that summer, or spring of 1947, she became pregnant and delivered a son Dick, Richard Aasgaard Ogg. Named Aasgaard for her family, a Norwegian name, and Richard for my so-to-speak dad, or uncle. It wasn't very long after Richard that we had Dan--that's Robert Danforth, Jr.--and then two years later James Erling. Dan obviously was named for me. James Erling was named for my dad, James Ogg, and for Erling Aasgaard which was Phyllis's dad's name.

It was a privilege to be given those children and to have the opportunity to raise them. I made them active in all ways possible, both in education which I believe they would have preferred not to have had, and I sent them to camps so that they could be trained well at camping and other related activities.

The first boy, Dick, took after me in wanting to be able to make things, devise things, and do them. He was caught when he was about eleven years old in a Scout troop by wanting to make a better rocket than the Scout troop was then making. They were making them using CO2 cartridges and putting matchheads in them and then igniting them. Dick wanted to do it a little more powerfully by taking cap-pistol caps and collecting the powder therefrom and putting it into the capsule, rather than matchheads. Unfortunately, as he had filled one and was pushing in one of the caps he ignited the cap and the thing exploded in his hand and deleted all but two of his fingers. So in many places today he is known as Captain Hook. He very dexterously uses his hands and has adjusted to it and it is not a problem.

Dick has always been a devil, he's always been into making things. I'd say that he went through those years of life and has smoothed out, probably now is the sanest of them all. [laughs] Along the way he took up racing cars, drag racing. He became world champion drag racer in Fuel Class 2 and he's working on a new engine and a new body shape to try and compete with Shirley Muldownie and others for Unlimited Fuel Class.

Dick has developed his own hydraulics business, has put his expertise in it, is being sought to make trips, sometimes to Mexico

Ogg: City, to Oklahoma, to Ottawa, to various places that they come up with particular hydraulics problems that need a solution.

Dan has gone on through schools and camp and graduated from the University of California, Berkeley, after being very successful with helping their soccer team along the way. He graduated in the midst of the liberal era of Cal--he ran a commune while at Cal. After his graduation he took a tour around the world, took the Trans-Siberian Railroad, says he would not go back to Russia again, got quite an experience out of it, and decided he liked Kodiak, went there to live, became mayor of Kodiak Island and Territories, and then went back and got a law degree from the University of Idaho, and he builds about one quarter-million-dollar home a year in Kodiak as well as starting to practice his law.

P.W.: I've visited his little house there on Kodiak. You have too, haven't you? Could you describe it?

Ogg: I don't think it's easy to describe. It doesn't have any facilities. It does have a kitchen. It has an out-house out in the woods that doesn't have a roof on it. His answer to that is he doesn't want you to stay too long. [laughter] He has no telephone and wishes to remain that way.

The houses he builds are built by four times the strength that might be needed. He claims that is because he is copying some of the older work that I taught him in Maine.

Son James is married and teaching school in a prep school in Maine.

I'd say that in each of the cases they are happy. I'm very pleased with where they are today. And without going into details, the four children that I acquired as stepchildren when I married Kit, two of whom I adopted, again they each with their own separate directions are being very successful with life.

P.W.: Dick is married?

Ogg: Dick is married and he has two daughters. One is five and the other is two, I believe. His wife's name is Sophie, and the children--the older is Jennifer, and the younger is Tiffany. They live in San Lorenzo, over near the Oakland Airport.

P.W.: What does one do in the hydraulics business?

Ogg: Hydraulics gets into many areas. He has made a specialty of industrial hydraulics. He does controls for the Ames wind-tunnel. He does controls for Lawrence Livermore Lab. Dick has always been very resourceful in devising and inventing, and I think that's one of the principal assets of his hydraulics business. He's in a specialty

Ogg: business and almost every installation requires an invention of some type. He's very capable of devising and making up these things.

Dick worked with me from the day he was first able to handle a screw-driver or a wrench, and enjoyed taking apart motors in his young days and putting them back--very mechanically-oriented.

P.W.: Where did Dan learn to build houses?

Ogg: Dan learned to build houses in Maine because he liked the building aspect.

In my homes, particularly Treasure Island in Boothbay Harbor, as they grew up, Dick was diverted by working on the motors of my boats and the mechanical work on the boats, while Dan was interested in joining in the carpentry work and painting and that area which he's always loved. And I would say that doing the things that he did with me he probably covered anything that a contractor would possibly run into in building a home.

I'm really not sure that this is where I ought to be saying it, but neither Dick nor Dan were affected in any way to my knowledge, certainly not visibly, by drugs. Regretfully I must say that James succumbed to drugs.

James and his wife Karen are both teachers and they both have taught for two or three years. Jogg very definitely is the product of the heavy use of drugs during his time in prep school. It was such that when he stopped drugs for periods of time the school thought something was wrong, and that he was on drugs. The after-effect of drugs is very definitely there in his way of thinking and in his speech. He is very competent in his teaching. He is an astrologist, and believes strongly in astrology.

P.W.: Did they grow up in Maine mostly?

Ogg: They were each born in Alta Bates Hospital in Berkeley. Most of their life was in the West, until I moved the business east, and that would have been a gradual transition between 1954 and a final complete transition in 1957-58. From that time on their education was in the East.

P.W.: Did any of the boys take up your interest in things nautical?

Ogg: The one that did take it up for a period of time was Dick, and Dick became very active in sailboat racing while he was still in Maine. After he left Maine the opportunities weren't there, and then he got into speedboat racing and highspeed cars.

Oh, you know, there's so much you could relate about each of them. Dan we sent to Menlo College, a two-year college. At that time he played soccer. He's always played soccer. And he played well

- Ogg: enough that the Cal sports department decided to make him some attractive offers--I've never known just what they were--to come over to Berkeley to play. He became captain of the Berkeley soccer team, did very well there.
- P.W.: Do you think he was affected by the mood of the sixties when he was at Berkeley?
- Ogg: I'm sure he was affected definitely by that. That's when he got a Pass or No-pass grade.
- P.W.: Did that have anything to do with his going to Kodiak, do you think?
- Ogg: Yes, I'm sure that the attitude at Berkeley is what got him to go take a trip around the world. And I think in coming back to Kodiak he just wanted to stay out of the world. [laughs]

I think that I feel very proud or satisfied as a parent in having been equal in treatment to all of mine, and having them involved in an unspoiled way of facing life, having made them participate in repairing cars, painting the house, working at very young ages. They each went to Berkeley Women's City Club at age four to learn to swim, for example. I think it's made them self-reliant in life.

Each of the six boys and the one girl that I've raised has said things like, "Dad, we used to think you were an awful bastard some of those days when you made us walk a mile through the snow to the school bus, but we each talked together and feel so grateful that you put us through those things to make us equipped for life." I feel very happy for that, and I feel that each one of them is self-reliant, totally prepared to face life.

XII DISCOVERING THE UNIVERSITY OF CALIFORNIA AT BERKELEY

An Introduction

Nathan: We're going to talk today about your long and interesting connection with the University of California, and I think I'd like to ask you how you first began to think that you would like to take part in something that would benefit the University. *

Ogg: Well, you know, perhaps it might be easier for me to just briefly tell you how I got related to Cal, because it's been here, there, in lots of places. I feel like Cal's the greatest thing in the world to me. Beyond the other schools, wherever I went, Cal is sort of home to me, even though I was away from here for twenty-five years.

I went to Tamalpais Boy's School in San Rafael, which went defunct in the Depression. I feel very privileged having gone there because the individuals were the sons of the top families of early California. Among them I mention Gene Shurtleff. He was a year ahead of me and I used to have to come in in the morning and say, "Good morning, Sir." He denies that [laughs]. But I enjoyed the privilege of having gone to school with them.

Then we moved to Berkeley, lived on Euclid, just above Buena Vista and right next to Vine Walk, and I started in Berkeley High School in the tenth grade. Through friends of ours that I think coerced us in a way to move from San Rafael to Berkeley, I almost immediately got related to Cal in selling programs at football games. Initially I sold them outside the stadium, and you [the program sellers] could come in at halftime to watch the last half of the game. And then as you qualified by more time in selling you could finally come in and sell them inside the stadium and see the entire game.

*Interviews conducted by Harriet S. Nathan, Project Head, University History Series of the Regional Oral History Office.

Early Friends at Cal

Ogg: We were very close to the family of Dean Putnam. He was dean of men and at that time he lived across the street on Elmwood from the Sprouls. Bob Sproul, Jr. became one of my best friends, and so did Tom Putnam. The Putnams' daughter Madeline was married to a fellow named Kappy Koser. Madeline worked for Harry Davis in the ticket department. So I also got a chance during my high school days to come and work after school in the athletic ticket department with Harry Davis. I never really got to know him, but I got to know the people there and it gave me a closeness to Cal.

In ways I felt very privileged. They used to give me the day's receipts sometimes, cash and everything, and my job was to tote it on over to the treasurer's office or something like that, and I used to look at this pile of cash--[laughs]. But it was a privilege, and I got to know people very well, through the family and otherwise, that were part of Cal.

One I think of is Bud [Bertrand Harris] Bronson. He was in the Department of English. His dad, who had been headmaster of one of the prominent eastern schools for many years, had a place in North Edgecomb, Maine, which was very near my family's summer home. The Bronsons would be back there. We became very close to them through that.

Professor Ben Kurtz--his wife's still living, though he's been long deceased--was another very great close friend. There are lots of other ties there. I'm trying to think of the name of the dean of engineering--

Nathan: It wasn't Murrough O'Brien, was it?

Ogg: Yes. His first wife was one of my mother's best friends.

In 1933 we went up and camped in tents next to Norden, next to what at that time I believe was a university professor's club for skiing up there.

I was tied together through the navy in many ways because Mrs. Nimitz also was one of my mother's very best friends. When I went to the Pacific I joined Nimitz's staff, and I used to meet him every morning about 7:30, he going one way and I the other.

I could go on and on in so many different directions of closeness within the University. It all just sort of knit together.

Review of Ogg's Education

Ogg:

I didn't graduate from Berkeley High School, but my class would have been '36. The family thought that they wanted me to continue in the family tradition of three other generations in Dartmouth, so they sent me back to the Governor Dummer Academy in Newburyport, Massachusetts, which was the first boarding school in the United States. It started in 1763. It had a very wonderful selection of families, and it was sort of the number two school in the country to Deerfield Academy. Frank Boyden was the headmaster. I was given the opportunity to go to Deerfield, but Governor Dummer was building a new dining hall and was not going to open that year until the end of October. So I voted for Governor Dummer, and I loved it.

I explained in an earlier interview why I didn't go on to Dartmouth. Instead I came out here and went to the first summer session at Cal in 1937. That summer I took a course in electrical physics from Leonard Loeb, Physics 1C, and I got to know him quite well. He was a captain in the navy, which in that early part of the war was one of the top ranks. We became quite close friends because of my interest in electrical phenomena. He specialized in lightning storms, and other things like that, and that excited me too. I think I helped them [the navy] with their thinking sometimes. He was at Mare Island in the Bay Area when I was around, so we used to get together.

The family had the summer home in Maine and I decided, after that summer session out here, that I wanted to go back there for some of the summer and see my old friends that I grew up with back there. So in the late fall when I came back I went to San Francisco State, purely because San Francisco State started the latter part of September, and Cal started in the middle of August.

Then I had the opportunity to change and go to San Francisco Junior College, which was in its third year. I became very active there; I played football for Lee Eisen, who had been on the Wonder Team. Again, my closeness was related to Cal through all of these areas. The teachers that started San Francisco Junior College were all Cal professors. It was all Cal, except we had classes of six or seven in engineering, instead of a hundred, and in all of this time my social relationships and everything else were with the Berkeley campus.

But also I was very active over at--now it's City College, then it was SFJC in its initial years. I became head of the student body and other things over there, very much involved. I stayed an extra year. I ran out of all the engineering courses that I could take but I wanted to stay with my involvement in the campus. It moved to the new campus and I wanted to be there. I had student body card #1, and a few other things. Archibald Cloud, who was the president then, became quite a personal friend. Dutch Conlan, who later ran

Ogg: it, he had been at St. Mary's, and then he was head of all the referees and became a close friend.

That extra year I took the courses that I think were most valuable for me in life. I took sociology, psychology, music appreciation, public speaking, business investments, and some other courses--naval history, navigation, some things that I found were very valuable for me. An engineer doesn't get these. But most all all, public speaking. Sociology and psychology help you understand people and life--not that I do that, I never will --but I found the public speaking most important because I learned to speak extemporaneously, not like Harry Truman. I always think of him--.

Nathan: With those short-sighted eyes, yes.

Ogg: And I do feel that the key to talking to people is to be able to look at their eyes.

Music appreciation and football--I was selected because of my size to become the lead spear carrier in "Aida." I was painted all black, and I'd never been to an opera before! This had Elisabeth Rethberg and Ezio Pinza. Ezio had all his dirty, sexy pictures from Italy, and he took pleasure in showing these to us boys. [laughter] But it was such a way to see my first opera, carrying the lead spear in "Aida." And I learned to know, to recognize music and all that, which I'd never known before. Again, I consider that so related to Cal, just through the professors, the teachers, because that's the way that school [SFJC] started.

Nathan: And the standards started pretty high that way?

Ogg: Yes. It couldn't have been finer. So I feel that's Cal, too.

Nathan: Certainly, I see the connection. Did you ever actually get to this campus, then?

Ogg: I took a couple of courses. My class would have been '41 if I'd ever continued that.

One of my very best friends over there was Alden Smith. He had been the student body president before Stan McCaffrey, and through him I got to know Stan very closely.

That's the picture of my initial relationship, and I've always stayed close with the people that have been Cal. When I went into naval intelligence I would say nine out of ten--maybe it's eight out of ten--of those people who were of any nature in naval intelligence were UC, all because Stan McCaffrey was the personnel officer and recruited everybody from Cal.

And here today, forty-five years after that, we had a reunion dinner about a month ago. With wives of some of them, we had 150

Ogg: there. The navy in Washington told me that in this country they have seen no organization that has the fraternal relationship that the Office of Naval Intelligence has that Stan built. They're all Cal people. Any Cal function, they're all scattered amongst them.

I'm just trying to give you a quick picture of why I feel I'm part of Cal.

Nathan: You certainly are very closely knit into the whole Cal structure.

Ogg: I could go through lots more people here. We had a group called TNT, like dynamite, run by a Mrs. Adolph deFremery. She ran it I think to get her two daughters acquainted in the area here. The group met maybe every other month; maybe it was every month or something, I don't remember that. But we'd meet in somebody's home and have dances and all. They were all UC sons or daughters. So again, it was all sort of wrapped up that way.

Those people have all gone on to be the presidents or the heads of this or that. Cal has that kind of a depth in the world. I can remember when I was in the navy showing up in a bar in Manhattan maybe at one or two in the morning and somebody started singing "Our Sturdy Golden Bear" and people just came out of the woodwork. With an alumni of 300,000 you could sing that anywhere! The same in the Pacific. I believe that every single Cal football game--because I was on Nimitz's staff--was always broadcast to us in the Pacific, wherever we were.

"Discover Cal" and the UC Berkeley Foundation

Ogg: I started a program called "Discover Cal."

Nathan: Yes, do tell me about that. When did you start it?

Ogg: I'm going to say two years ago.

Nathan: So that would be around 1985?

Ogg: Yes. I did that because I felt that nobody knew what Cal was. Even I. And that this university has such great depth. People can say Harvard is great, or Yale, but Cal surpasses all of those. In the "Discover Cal" programs--have you been to any of them?

Nathan: I've read about them, but I haven't yet.

Ogg: They're wonderful. My idea was we ought to learn more about what's on campus; the trustees at least ought to know. I guess one reason that I thought of this was just after we acquired the deaf, dumb, blind school--.

Nathan: Oh, yes, it's now the [Clark] Kerr Campus.

Ogg: Right. I set up the Krutch Theater, and I made the donation to that for my adopted mother, Marcelle Krutch, who's now ninety-three.

Nathan: Really? That was a wonderful thing to do.

Ogg: I went over to the Krutch Theater with Rod Park. He's an old sailing friend of mine. Rod used to sail the world; he sailed twice singlehanded to Honolulu. He keeps his sailing totally separate from the University. I went to a christening of his boat a couple of years ago and I was the only Cal person there. All the rest were sailing people. He didn't invite many campus people. He lives that way.

Anyway, I had lunch with Rod, as I do occasionally, at the Faculty Club, and he was telling me all about the new Kerr Campus, that they had acquired this, didn't know just what they were going to do with it. He was very enthusiastic because it was just by nip and tuck--they bought it on the one day they could buy it. A week earlier, no chance; a week later, never a chance.

"Bob," he said, "let's go over after lunch. I want to show you around." One of the first things he showed me was this crumbled-up theater. And that's where I got the inspiration to do something about that. But I was amazed at what the 52-acre plot had. It had swimming pools, double gymnasium, a full football field with an oval around it.

Have you seen it?

Nathan: No, I haven't.

Ogg: It's way up there in the hills and it's beautiful. And they have a couple of soccer fields, baseball fields, tennis courts, everything.

I started to tell some of the trustees of the UC Berkeley Foundation about this and none of them, even the president of the foundation--and I don't remember who it was then--knew anything about it. So that's why I felt "Discover Cal" was a needed entity. We ought to know at least what's on the campus.

They set up the first program to be anthropology and I thought, "What a dull place to take anybody." I went and I was amazed to find that we had underground here the number one, two, at the worst number three collection in the world. It's all underground, all the bodies and all the things from the Egyptian tombs. I was amazed to realize that we had this collection [in the Lowie Museum].

The next one I believe was paleontology, or something like that, and here again, to learn that we were number one, two, or

Ogg: three in the world! We went to the Music Library to learn that this is number one, not number one, two, or three, but number one in the world. We saw handwritten Bach, pencil-written, and all kinds of things. We work fifty-fifty with Stanford in that library; one of them keeps tapes and one keeps discs.

On and on it went, and to me it really served a wonderful purpose.

Nathan: To whom do you address this? Who do you want to reach through this program?

Ogg: I feel that basically we started out to go to the people who would be donors, essentially, the trustees who were organizing the backbone of donations, so that they would know what they've got here. Because they're the salesmen for trying to say, "This is what the University is and has."

I think perhaps it's like if I look at building a marine product, as I did. It is not necessarily making the sale to an individual; I don't look at the individual, I think I look at the forest. And the overall reputation of what Cal has is important to somebody that isn't going to even consider giving. They can have that esprit de corps of what Cal is.

It isn't important that they give the dollars. It's that that feeling is there and then the other people who can give are going to feel that great warmth of feeling toward Cal and they're going to donate.

I criticize some of the foundation's ads rather severely. They had one that showed the Titanic sinking. I don't know whether you saw that, but it was in the Cal Monthly magazine maybe three years ago. It said, "We're going down, we need you, we need you." I said, "Turn it around. Talk about what we're doing."

I just looked yesterday or the day before at the Business School's alumni publication, their "Annual Report" I guess they call it. If you get it, take a look at it. It's a beautiful publication. It shows that this fellow is now the president of this, and this is what he had to say. And that fellow is the president of that. And that's fine. They tell about the new professors that they have gained, and that's fine.

But I criticize it because they also point out who they've lost in the professorships. They say, "We've lost this one and we've lost that one. We need your money." That isn't the way to get it, at least in my opinion. My opinion is that you have to look at all the positives and make people realize that they're coming on board the winning ship, not the Titanic.

Nathan: Do you believe the "Discover Cal" program will continue?

Ogg: It will, yes, I know it will.

I think one of the errors initially was my error in starting it at 7:30 in the morning. My thought in that was of getting people where it wouldn't interfere with lunches and business engagements and other things that they had. But it turns out that that's too early to bring people other than those right here in Berkeley, and those people already know a lot about it. It's to try and get some of those from a little farther out. So the programs will move to a little bit later, either 8:30 or 9:00 or something like that, but still get in before the lunch hour.

Nathan: Does the UC Berkeley Foundation operate that program?

Ogg: Yes.

The foundation has come a long way in the last five or six years. Initially it was under Dick Erickson.

Nathan: Right. It was called the Alumni Group?

Ogg: No.

Nathan: It was always separate from the Alumni Group?

Ogg: No, it wasn't always separate, and I wasn't here for the transition period.

Initially we had just the Alumni Association. After the war Stan was the head of the Alumni Association, I believe right after the war, and then he went with Kaiser to run the Kaiser operations. But he did a good bit in getting the Alumni Association going. I think it had been kind of a dead issue until Stan got on it initially.

The Years Back East

Ogg: I took my business which I had here in Berkeley east in maybe 1957, 1958.

Nathan: Was that the Danforth Anchor?

Ogg: Yes.

For economic reasons I took it east. Labor then in the west was three times labor in the east, and it pretty much is today. I'm not quite sure how it has evened out, but ten years ago when I checked on buying a company on the Peninsula they were paying for

Ogg: top-grade machinists \$10, \$10.50 an hour. It's way up above that today.

In Maine at the same time the very top you could get was \$3.50. These people were quite different than here. Here they work eight hours and go home. In Maine their heart is in the work. They're not worried about going home at five o'clock on the button, or whatever it is. It's a different spirit.

I've been back here ten years now, or nine years. But I've been away from Berkeley for pretty much twenty-plus years. I was on the East Coast and had a home in St. Croix in the Virgin Islands and commuted to Maine. That was a very simple way to go. I could leave Maine at seven in the morning and be in St. Croix at noon. And I could leave St. Croix at four-thirty in the afternoon and be back in Portland, Maine at nine at night.

I set up an annual contract with American Airlines for very little just to make that a regular run. I made my home back there and spent much of the winters in the Virgin Islands. I shuttled back and forth. I became president of their St. Croix country club. I became very active in ways there. I really lost touch with the Berkeley campus for that twenty-year period.

Nathan: I noticed that when you joined the trustees of the UC Berkeley Foundation that you got onto the finance and auditing committees. What was your interest there?

Ogg: I don't know how I ended up on the Audit Committee. Then I became chairman of both the Finance and Audit Committees. I was also on the Investment Committee.

University Research Expeditions

Ogg: I think my first relationship with coming back to Cal was UREP, the University Research Expedition Program. I became head of the advisory board of that. Gene Shurtleff was the head of it before I was. And Carl Helmholtz. And I might say, back in 1946 when I came back to Cal, Carl was my physics teacher. He doesn't remember that, but now we're very great, close friends. Gene Shurtleff had been head of the UREP group, and then Carl, and then I was. I guess that brought me on campus.

Nathan: Was that related to your close ties to the maritime world?

Ogg: No. No way. I don't think any ties in the maritime world brought me back here. It was that Nancy had some kind of a relationship with the UREP. And then I began to find my friends were there, and I guess through them I got to be a trustee of the foundation.

Ogg: UREP is not a Berkeley function. It resides on the Berkeley campus but it's University-wide. It's run by a girl named Jean Colvin. Without her it wouldn't exist today; she's been a one-girl operator of it. It's very similar to some of the functions of the California Academy of Sciences. It has student trips with a professor. It may be to the Andes, it may be to the Galapagos Islands, and it may be a week, and it may be a three-week trip.

The accompanying individual can't just go because he says, "I want to go," but he has to apply and be accepted, to see that he'll fit and at the least be qualified. He pays generally ten percent more than the cost of transportation, that ten percent going to underwrite the students' or the professors' costs. But again, that gave me the linkage to the other areas here.

On campus we're very close friends with Mike and Therese [Heyman]. I started to get involved with things at the very time that Mike started to. I think it helped; I think I became close enough to help Mike in many of his decisions. I helped him through some of the student problems, the student riots, I think in calming his nerves and otherwise. He and Therese and the sons have gone boating with us on my boat.

And otherwise, I've been very close to Dave Maggard, on the other side of the fence, because that's a totally other fence.
[laughs]

Athletics

Nathan: We might just say a word about your views on intercollegiate athletics. You mentioned an interest in that.

Ogg: Well, my feeling on intercollegiate sports is that they are an absolutely vital blood to a university. To just have educational courses and research is not--there is something to the esprit de corps of belonging in your youth to sports, having the band, and just, as I mentioned earlier, to be able to go in a bar in New York and start singing "Our Sturdy Golden Bear."

If you were just doing research you'd never know anything about "Our Sturdy Golden Bear." If that's what the college were it wouldn't have those things. Just like perhaps some other songs in this country that are very much that way. I'd say "On Wisconsin," and maybe more particularly Notre Dame. These are themes, and they mean something to people, not just because of education, but because of their interest in sports.

I think going to the basketball games at Cal--have you been to them?

Nathan: Oh, yes.

Ogg: Well, then, how else can you express it? It has to be part of college. It puts it together. And I think Mike feels exactly the same way. Al Bowker did not. Roger Heyns feels it is very definitely vital. I might say, Wally Haas is one of my best friends.

I feel that lots of what I am or have been or can do is not because I am somebody, I think it's through the invaluable friendships that I have in all kinds of places. If I want to do something I can do it tomorrow--today--because I know somebody to call and say something. Whether it's the head of Southern Pacific, or this or that, it relates somewhere in my younger days to these things, and I feel very privileged.

Jim Dobie, I don't know whether you ever knew him, was chairman of the board of Wells Fargo. When I first knew him he was a clerk at American Trust here. So many people have gone those routes from here. It's just that Berkeley--Stanford too--it's great. And really, other than the spirit between the athletic areas [of the two universities] they're really so close together, working together in research and other areas.

Talking about the Kerr Campus, the initial desire by Rod was for a freshman campus for Cal. I don't know whether that's recognized, but the intent was to have a freshman campus or at least somewhat that way. The freshmen L & S [College of Letters and Sciences] students would be there and have freshman activities on that campus. Its cafeteria would be readily available, and the intent was to insist that the professors of the seventeen basic required courses for L & S students have lunch there at least once a week, to be amidst the students and permit the association with them.

These are some of the efforts that are behind that. I think the day before I had lunch with Rod I was walking across the campus here right out in front of the Campanile and thinking, "You know, it's too bad that these students don't have a way to know each other." And here I go to lunch and we are talking about this is what we're going to do with the Kerr campus!

I'd like to see whatever will put that spirit back. And again, football games, basketball games, they help that. They bring students together, not just in the class, they bring them together in the social or the spirit way.

I right now would like to see an effort--and I intend to follow it up in the next four weeks or so with [Bruce] Snyder--I want to see a way for students to get to know more of the alumni, to get a feeling into these athletic areas that Cal is something. I feel in a way that the football theme has become too big and there's no

Ogg: relationship. But the basketball theme has been small enough and has a relationship in a way.

Nathan: It was Snyder that you were talking to?

Ogg: [Lou] Campanelli has that feeling, and Snyder's a very easygoing person. But Dave Maggard, who also has become a very, very close friend of mine, when he's in trouble I usually call him up and try to help his feelings a little bit. I feel in a way it's a privilege to me to be as close to Dave Maggard as I am to Mike on the other hand.

Nathan: Yes, you are a great networking person.

The Navy and Cal

Ogg: Len Kuhi, provost and dean of L & S, and Karl Pister [dean of Engineering] are also among my friends, and through my navy connections I've flown Len and Karl and others out for a couple of days at sea on the carrier Carl Vinson, or something like that.

I've done a lot towards trying to meld the navy and Cal, and this is because the chief of naval operations, Jim Watkins, who retired a year ago, made that opportunity available to me. He said, "Bob, Admiral so-and-so will make whatever carrier you want available when you want it to put the Cal people that you would like to take to sea on board." He actually went to Cal for a year before he went to the Naval Academy. We became friends watching a football game together here, and his son went here, and I helped his son get oriented and get his degree in nuclear engineering.

I took quite a number of individuals from the campus here out. I could take maybe four people at a time, go to Alameda and be flown five hundred miles out and land on the carrier. The basic effort was to create a warmer relationship between the navy and Cal. It created a very much-needed warmth between the two.

XIII HOPES FOR CAL'S FUTURE

How To Be Helpful

Ogg: I'm very active in looking for a new Callaghan Hall. I'm involved in that.

Nathan: That's the navy installation here. Is there a new site for it, or will it be in the old site?

Ogg: It will be in the old site.

And Glenn Seaborg is one of my campus friends.

Nathan: Now that brings us to the Lawrence Hall of Science.

Ogg: Yes, and I am an advisor to that. I think my work there right now is in trying to help them know what direction to go in building a \$7 million extension that they want to add. I'm not involved in donating as much as I am in advising them how to go to get these things, how to organize and run their campaign and how to find the money, and to avoid crashing with Mike Heyman's major projects, which is a sin. But I really enjoy that involvement.

Nathan: What is the sin?

Ogg: Well, it is that you don't dare cross Mike. I do dare. But there are not many people around here that would dare think that way. But I know what he wants, I know what he needs, and I know what kind of people can be approached without running into people that could be major donors in these other areas.

Nathan: You can be selective in a different way.

Ogg: Yes. But I'm not giving money to do that, I'm just helping them go the right way. I really enjoy being that way.

Nathan: What is it that they want to put in the new wing of the Lawrence Hall of Science?

Ogg: Well, I guess they want to broaden their activities, both in what is for show and the educational activities they're running.

If you've ever looked at the ten-minute movie that they have, it's amazing the effort that they put into the schools of California. Their effort is really to train the youth to be scientifically interested. It's so valuable in those ways, but most people don't realize what it does beyond the public showplace. You have to have the tape to show them.

Again, this is like "Discover Cal." It is one of the greatest efforts in the whole state, what they're doing, and the schools that they get to. To see the little kids--it's to excite children and the use of their minds, and to create that thinking at that age. We need that for the country so badly, that they don't just go fritter it off in other places.

Nathan: You found your way up there pretty fast I think.

Ogg: Well, I must say that I've enjoyed every corner of the campus. I don't know whether I have given you a quick sketch of what I am and my ways on the campus, but I do feel that I know somebody in almost every corner of it. Jesse Choper at Boalt Hall is, again, one of my better friends of life. I can't say I've achieved anything particular, but it's having these people and knowing if something needs to be done, how to get it done.

I think my work in naval intelligence was doing things that nobody else knew what to do with, and half of it isn't even known today. About tracking the fleet to Pearl Harbor, and other things like that. But after I came back from the war I decided to get my degree in engineering because I didn't have very much to do to finish up.

I went to see Mike O'Brien, and Mike said, "Well, Bob, we're going to have a qualification test this fall to get rid of the GI's that are going to load the campus, and to protect those students that are going through. You're going to have to take the test, and you're going to get a qualification number. Then you can apply to the courses you want. The test is being oriented to protect the continuing students, and you've been out six years, and you're going to end up with a number that's way down there. Why don't you forget engineering and go over to physics. They're begging for students. You're going to get the courses you want there." So I went over to physics.

Nathan: Had you invented the anchor at this point?

Ogg: In 1937, '38.

Nathan: So you had that.

Ogg: Oh, that was way behind.

I really didn't care that much about the anchors and invention. I made it as an anchor that would keep me from having to go on deck at three in the morning, as I explained in the earlier interviews. My uncle, who was sort of a dad to me at that time, he was the one who decided to make a business out of it. My middle name is Danforth; his name was Danforth. I could have cared less. I was excited about electronics and all the things I was doing in intelligence.

He went off and peddled it to the navy and he stamped his name on the side of it, R.S. Danforth, and it pretty soon became the Danforth anchor. I honestly cared nothing about business in any way. I was just selfishly interested in my own scientific electronics, and things like that.

Earl Warren

[Ogg tells Nathan about his early interest in electronics. This part of the interview has been included in the earlier discussion with Paul Williams. The Williams interview with Ogg also covers the history of Ogg's work for Earl Warren in setting up a California State Division of Communications.]

Nathan: You had access to Earl Warren?

Ogg: Yes, and I got to know his daughter Ginny very well. She has two sons that are probably in their young twenties. She and her husband John Charles Daley--he had [the television program] "What's My Line?--wanted to get those boys into Cal, and I made it possible for them to get considered and get in, though they were both 4.0 students. I felt the University owed Earl Warren that favor. They both went into law. I don't know how they've done since then.

Ginny was a friend of mine for many years. I didn't know the rest of the Warren family. I just knew Earl and her. I used to see Earl when he was Chief Justice when I'd go through Washington, and then his very last year he was cruising the Maine coast and came into the Portland Yacht Club and had dinner with me.

I can say, Harriet, that the most wonderful things have come about through my ability to put people together, one way or another. I've enjoyed building that way, though it may not be any particular skill in this or that.

Nathan: Oh, it is skill. And particularly in a great conglomerate like the University of California, to be able to bring people together is exactly what's needed. And you must know that.

A Vision of Togetherness

Ogg: Under Mike Heyman I want to say I'm helping as much as I can to put these together, because under Al Bowker this university was as divided as it could possibly be. He didn't have the strength --. I never knew him. Well, I knew him, but he was a quiet person that sat back.

Up until Mike's time you had totally independent divisions of engineering, law, and sports--the sports is not conquered yet. That's coming. [laughter] The other two, law and engineering, really have come to join the team and work. And I think I've had a good bit to do with that, behind the scenes. And I guess I don't really wish to be put under that. These are areas that I can go and say something to somebody and--. But I think that the ability to do these things is by knowing these people personally, in other ways than business of any nature.

Nathan: Well, you've earned their trust.

Ogg: I can say it all goes to my early relationship to Berkeley. Wherever it is.

Nathan: I might ask you whether you have a goal or a vision for the University that you would like to have become real. What would you like to see happen if you had your choice?

Ogg: I think what I want to see happen is happening. It's a togetherness. It's an awareness of each other's problems. It's an understanding. And maybe my "Discover Cal" is part of that: it's intended just as much to teach Jesse Choper what's over here as it is Karl Pister. And they're learning, and they say so. Every one of them will tell you that. They just didn't understand that this was here. The purpose of "Discover Cal" is to help meld it internally as well as externally. And that's what I want to see.

I want to see it like the football team, and like I think Bruce Snyder is doing now. I give that as an example because Joe Kapp didn't have this ability. I know Joe quite well because he's a sailor; I like him very much, but he's not a coach. Bruce Snyder hasn't won the games yet, or done those things, but he's a coach. As I told him last night in talking to him he has done tremendously in building esprit de corps in that team. I think it's very evident this week, and I think you'll see it tomorrow in the new quarterback.

Here he's picked a fellow named Brad Howe, and if it were Kapp or anything else this couldn't occur. But what's occurring is that the team that's there are to a man out there to help Brad Howe.

Ogg: They're going to fight for him, they're going to tell him what to do.

Nathan: They're going to protect him?

Ogg: They're going to protect him in every way. And that's esprit de corps. That's teamwork. And that's what's needed on this campus. We have to not fight between law and engineering. We have to work together to make one. Anyway, if I could say anything, that's what I'd like to see. That's all I want to achieve is that.

And with the Lawrence Hall of Science, there're so many great things here. To pool them, as that football team--I never thought of it that way before, but that would be my objective for Cal.

Seismology

Ogg: I might say there were a couple of other areas I have been very closely related to. Seismology here, Perry Byerly was one of my best friends. My first wife was a seismologist and I took seismology so I could talk to her. Then I developed some new theories of the primary wave through the earth which are in use today through Perry. (My wife decided that this wasn't for her, so she shifted to English literature.) [laughter]

Bruce Bolt, the current seismologist, is one of my very best friends today. I just have lots of friends in lots of places, and I don't abuse my friendship with anybody by talking for a long time. If I've got something to say, I make it very brief. But they're there.

I wanted to mention particularly the man that had gone up to run the Lawrence Hall of Science, and he didn't quite like it, and it took too much time, Howard Mel.

Nathan: He would be the one before Glenn Seaborg? [Lawrence Hall of Science directors have been Harvey White, Alan Portis, Watson "Mac" Laetsch, Howard Mel, and now Marjorie Gardner, with some interim directors as well. Glenn Seaborg's title is Chairman of the Lawrence Hall of Science.]

Ogg: Mac Laetsch was a director before that, way back. Mac's another one of my very close friends. In fact we're going to the Faculty Club Christmas party with Mac and his wife and all.

Nathan: I can see how it was natural for you to move into an interest in helping the Lawrence Hall of Science, through these other professions.

Ogg: Well, I guess that's just my area of life, in invention.

Nathan: Have you maintained an interest in seismology?

Ogg: Oh, yes. In fact I've done some experimental work with Bruce Bolt regarding earthquake prediction. I'm very interested in earthquake prediction. I think I've studied everything that exists in that area. Bruce is very interested.

There's also some area in geology--and I can't think of the professor's name, but it's in the Mining Building--that has some totally different aspect of studying what's happening down in the core of the earth. They're coming up with some very remarkable discoveries of how the rocks under pressure melt, just because they're under the pressure. They give a lot of different nuclear radiation. It's an exciting area. I've always been interested in studying the movement of the different plates of the earth relative to each other, and part of my avenues of earthquake detection are of listening to the standard daily sliding-along noises.

Nathan: You hear the grinding of those plates?

Ogg: Yes, and when that makes any variation or stops, then look out because something's stuck and it isn't sliding smoothly. When the building pressure comes up, both the noise change we'd have been studying in a well up here in Strawberry Canyon with Bruce, the nuclear radiations--I'm just beginning to study that--are occurring because of the high pressure at that point. I'm interested in things like that.

Nathan: Are you involved in seismic safety at all?

Ogg: No. Other than somebody asking me, "What ought I to do?"

Nathan: It's such an interesting field, and something is new every day.

Ogg: I'm very interested in the buildings they build in San Francisco, and how perhaps they ought to be built and the kind of base that they're built on so that they're not going to be affected so much and so forth. It interests me, but it's not my profession.

Nathan: I'm almost afraid to ask you what some of your other interests are; there must be so many.

Ogg: Oh, I think scientifically I'm interested in anything that way. Howard Mel--he's a very brilliant biophysicist, that's why they got him to go up there--there were problems at the Hall of Science that related to donors and other things and Howard didn't have the time to sit with donors. Those became problems sometimes. I remember it did with one of the major backers of the Hall of Science, a little old lady from over on the peninsula.

- Nathan: Well, the human relations, you can't escape them, can you?
- Ogg: Anyway, I do feel encouraged in all avenues and all the different colleges and schools here on campus. I think it has come a long way under Mike. I give him great credit for that. He's Dartmouth.
- Nathan: He did teach law here, of course.
- Ogg: Right. Well, he got his law degree at Yale. But then he came here as professor--at least I believe that's the way it was. But he's a trustee of Dartmouth now. And of course I've got three generations behind me of Dartmouth. [laughs] I'm just the family member that bolted.
- Nathan: You were just an independent man.
- Ogg: Right. I think, Harriet, I speak what I see, and I don't do anything but what I feel is right. Not that it's right, but what I feel is right. I'm interested I think above all in the long term. I think Cal is very, very fortunate to have Mike Heyman at this period. He's had his problems and days that he's felt down. I call him when I feel he's down, and I call Dave Maggard when he's down. I'd say nothing more but a word or two, but there's a lot of communication in that.

Wheeler Oak Award

- Nathan: I was so pleased to see that you received the Wheeler Oak Meritorious Award, presented to those alumni and friends who have excelled in a leadership position over a period of years. How did you feel when you knew about that?
- Ogg: Just super-pleased that anybody would give me anything. It's a real privilege. My wife Nancy's first husband got the top award, that's Bill Slusser.
- Nathan: Oh, the Chancellor's Award.
- Ogg: Yes. Bill and I were friends. He was in one part of naval intelligence which had to do with censorship.

I knew Nancy back in 1942 because her mother worked in naval intelligence and I used to take her home and I got to know Nancy because we'd pick her up sometimes. (Nancy says I must not talk about her, so I guess we'd better not mention that.) She used to go with Bill Slusser then. Then they got upset with each other and I went with her for a little while. But then Bill came back into the picture and I got lost. [laughter] Bill and I have always been very great friends. The friendship between us is excellent today.

- Ogg: Couldn't be better. He's been helpful to me in other ways, too. It's wonderful.
- Nathan: Are you at all interested in the new plans for the Museum of Paleontology?
- Ogg: I'm not familiar with them.
- Nathan: And there is also a herbarium which is going to have a new location in the Life Sciences Building.
- Ogg: I'm familiar, but they're not things that I'm actively involved with. I'm very actively interested in engineering, and law, on the side. The Lawrence Hall of Science, seismology, geology. I certainly can admire the others from outside.

Building Campus Spirit

- Ogg: I'm very much interested in the work toward having more social relationships for the lower classmen coming in. I think it's vital to the University. As I say, I walked across campus one day recently and looked at them and said, "This wasn't the way I saw it or knew it." I want to give them some friendship and some relationship. I think that is vital, particularly in their first year.
- Nathan: You know, there used to be the Freshman Reception, and there used to be mixer dances. Do you remember those?
- Ogg: I'd forgotten until you mentioned it.
- Nathan: You're so right, that was very important. I hope you can find a way to do that.
- Ogg: I want to see that. I think that's the key to things. Of course, the fraternal--I'm not a fraternity individual because of the way that I went to school, to the other places that didn't have fraternities. Whether if I'd stayed here I'd have belonged to one, I don't think so. But that had a great deal to do with building the campus, and I think today it's only a very fractional part of the campus.
- Nathan: It's all gotten so big.
- Ogg: Yes, it's gone. So there need to be things, athletics and otherwise, to get these kids to come to and to get the campus spirit.

Nathan: There's also this business of going a couple of years here and a couple of years there. The pattern isn't necessarily to come to Berkeley for four years anymore.

Ogg: No. And I very seriously back the junior colleges. I think I've always felt that was the right avenue. There's no cost basically to go there, it's built by the state, and you are able to get what I call a finer education in that two years than you can get in a mass of a thousand students in a class where you never meet the professor. That was one of the efforts of this Kerr Campus, to have the professors where at least you could walk up and say, "Hi."

Nathan: Right. Well, there you go again. Your idea of bringing people together certainly applies.

Ogg: Well, just as much as it does for that fellow Howe who is going to play tomorrow. It's similar to the whole campus.

Unless there's something else you want to pick up on right now with these last minutes, I think I might go down this list and tell you some of the other-than-University people that have been important. Bob Bridges is one of my better friends of life today, and of course he's been key with law. And Max Thelen was one of my best friends at Berkeley High.

Steve Bechtel I know, senior and junior both. Bill Maillard was a nextdoor neighbor for seven years when we grew up on Belvedere. We went to prep school together, Tamalpais Boys School. Luis Alvarez I've known for years and years, independently.

I think what I ought to do is orient what I bring back for our next interview to what would relate to Cal. Jim Dieterich was in my high school class. We were great friends at that time. So many people that I know that are around the world, similar to those that I know on the campus here, that I know in the marine field or in those areas, the sailors that have made their names sailing around the world, I think probably all of them I know well, or have known well, partly because of my anchor business and again my navy relations. I'll try and come back to those areas next time.

Wakefield Taylor, do you know him name?

Nathan: Yes.

Ogg: Well, he was in naval intelligence with me.

Nathan: Didn't he go into law?

Ogg: Yes, he was a judge.

Another one of my best friends, and he was in naval intelligence with me, was Folger Emerson, also now in the law.

- Ogg: I'll try and put together some of these names. Bestor Robinson. Rudolph Peterson. Oh, so many. I'll make a list and next time I'm over we'll cover some of those.
- Nathan: My assignment with you is primarily related to the University of California. I wish I could do a whole memoir with you, but--.
- Ogg: I'll limit it just as I have today.
- Nathan: Perfect.

XIV THE LIFE OF INNOVATION

Luis Alvarez, and Inventions

Ogg: I find so many parallelisms [to aspects of my life] with Luis Alvarez, for instance his having given so many things for a dollar or for nothing to society. To me probably one of the most important of all inventions he made was GCA, groundcontrolled approach. I think he got a dollar for that. That is the instrument which so accurately during World War II pinpointed from the ground a plane coming in to a landing field. It was by coming up with a new kind of phase-directed modulated radar, instead of revolving spinners, and it would pin down to a fraction of a degree an incoming plane. It was an ingenious wave-type of sending something out.

I only parallel it [Alvarez's experiences] because there are so many things that I feel that I've done--and a lot of it due probably to radio and electronics--which nobody credits me with or relates to me. One that I did was to start a program of running wires through tunnels. This was in the days of AM, before FM and so forth, and people would be listening to a program as they were driving over the Bay Bridge, for example, and as they got to Yerba Buena to go through the tunnel they would speed up and race through so they didn't miss a word. You may have done that.

I started a program with the state at that time of running a wire through the tunnel, something that I learned back in the mid or late twenties could be done by putting an antenna outside and just running the wire, nothing else more than doing that. And I think I discovered it by looking at trolley wires at that time in San Francisco. I took that principle and started doing it with the state's highway system. So now as you ride through a tunnel and you can listen to the AM it's probably because of something I put in at that time.

Nathan: And did this have anything to do with your association with the University?

Ogg: No, this was just prior. I would say I learned this back in the thirties, and I never had a chance to do anything about it until I was in that command post for Earl Warren during 1947 and 1948,

Ogg: setting up the Division of Communications for the State of California.

Physics Meetings. 1946

Nathan: Well, you mentioned an interesting parallel with Luis Alvarez in which you both had such a broad range of interests. Did you meet him early on?

Ogg: No, and I never really have known him all that well. When I was back here in 1946 and went back into physics I met him a number of times, just as I had the opportunity at that time to meet Oppie [Robert Oppenheimer] because they went to the weekly physics meetings which the students and the professors went to.

Oppie was always there, Luis, Ed McMillan, Helmholtz. I can't remember the name of the director of the Department of Physics right now [Raymond T. Birge], but usually the physics staff would be there, and those that were graduate or upper-division physics students would be there. It might be twenty or thirty all together, maybe fifteen, and you could ponder the questions of the day, and anybody could bring up anything and discuss it.

Patents and Inventions

Ogg: Let me just show you the few things I have here, and then I'll put them away. I brought some of my original patents just so that you could see what areas some of them were in. Here is a compass and this compass I assigned I guess to Eastern at that time, for a dollar or something. But I had the rights that I could have licensed it and kept it myself. That kind of compass was used by practically all navy and all coast guard units, and most of the fine yachts in the world use that compass today.

Nathan: And the date it was filed is May 6, 1966, but issued December 1969. Does it take that long to go through the process?

Ogg: Yes, you fight the Patent Office. But it makes a patent good. They bring out all the things that might take it down. If they just issued patents it would be quite different.

Nathan: Did you prepare the drawings, or your staff?

Ogg: My staff would have done that.

Ogg: This is my latest anchor patent, in which I am being paid royalties today rather handsomely. I've brought along a model to show you.

Nathan: Yes, and see, this patent says "Pivoted Flute Anchor," filed September 24, 1954, and then the patent issued June 21, 1955.

Ogg: Now, this was filed in 1982 and issued in 1984. So this is my more recent anchor, and I'll explain the difference.

Nathan: You are still creating and inventing?

Ogg: Yes. I'll come back to that one. Well, all of my inventions are related to a need.

Here is a very ingenious device--filed in 1968, issued in 1970, so this would have expired last year--a device to stick in the water, a probe for measuring water speed. It reads very, very accurately by making this inner hand go around linearly with speed rather than logarithmatically, and reading to even hundredths of a knot. Prior to making it the tapered shape that it is, water speed detectors used to be a round element that stuck in the water and they would oscillate at four knots and eight knots. I studied this at MIT's water tunnel and devised this at lunch one day at MIT, went back that afternoon, tried out my thoughts, and it worked perfectly.

Here's a gas vapor detector for detecting explosive situations on a boat where gas might leak. You can see that's in the electronic area of life. The dates on that are that it was filed in 1967 and granted in December 1969.

Here's another anchor, one which I developed particularly for making an anchor half the weight--in other words, I took a ninety-pound anchor and reduced the weight to forty-five pounds, made it of aluminum, high-strength aluminum with which only Alcoa could help me. They actually made some of the parts. It would just slip together.

I made that anchor for Glenn Martin when they were making their biggest-ever seaplane, which unfortunately was a failure. It was the first and only jet seaplane. This was filed in 1985, issued in 1988, and again, that was something that was to fill a real need.

Here's another one to make an anchor set quickly and hold more, and this was filed in 1960 and issued in 1962, and that product then marketed for many years.

This was a wind direction solid-state electronic system for remotely indicating wind direction. This I filed in 1970 and was issued in 1972. This is solid-state and is still being marketed today, a very successful patent.

Ogg: Oh, and this is that recent anchor patent, and this is just a copy of the Canadian issue on it.

Nathan: Yes, fascinating. It's in English and French. Now, what is Alpha Ocean Systems?

Ogg: That's my own personal business, Alpha Ocean Systems. I set it up for a corporation, so Nancy has a major share, and I do, and my patent attorney did too.

Now, this is another electronic patent, one of many drawings here. This one is a distance recording device for boats, very, very accurate. It was filed in 1969 and issued in 1971 and it expires this fall. It is being marketed today. It's fully solid-state, very accurate for accumulating distance and it can be read either analog or digitally.

Here is a compass invention which has not been marketed yet. This was filed in 1969, issued in 1971. I have modified the principle subsequently and probably will be marketing this as part of a patent within the next year or two. Basically, this was magnetizing a card, not with straight magnets but magnetizing at what's called the dip angle down to the North Pole in the ground. A very much needed product.

Nathan: You had some very productive years in there.

Ogg: I might say all of those products have been marketed, and most of them are still being marketed well.

Here is another one on the digital type speedometer. It's a very ingenious method of coming in to something, reading it accurately, totally waterproof, and it worked very successfully. That was applied for in 1971 and issued in 1973.

One more of those that I grabbed: this is another shank, and this one was filed for--this is one I'm marketing right now. This was filed in 1984 and issued in late 1985. It is a very vital patent in the anchor that is going very successfully. It has to do again with this shank that deflects and it really just protects it further. So that anchor is protected from 1985 for seventeen years, which means it's protected until 2002.

An Innovative Family

Ogg: Then another I brought along just historically. I thought you might like to know part of what was in the family. This patent was issued to my grandfather, who devised a surveying pole, and it was filed for in 1886 and issued in 1887. This kind of surveying pole is used

Ogg: today. He was a rail commissioner of the State of Maine and a surveyor of railroads and so forth. I treasure the patent, which is the original patent of that.

Nathan: This was the maternal grandfather?

Ogg: Yes.

Nathan: Well, you've come by this somehow genetically, I suppose.

Ogg: My uncle that really raised me as a dad had inventions that went from radio tubes to being a partner with Farnsworth. I don't know whether you remember the name Philo Farnsworth?

Nathan: The TV inventor? You amaze me!

Ogg: Yes. And I also had stock in Farnsworth's original company. I bought one share at \$100 and a few years later sold it for \$1100. That investment--I wish I'd had a lot more. My uncle bought something like eighty shares for \$100 each and he sold them a few years later at \$1100 which brought him nearly \$100,000 with that investment. All thanks to Philo Farnsworth.

My uncle also had patents on infrared lamps that penetrated through tissue. He had a patent on that in the twenties and marketed it to hospitals all over the country. They have better things like that today. He had protected under patent on the copyright a book with a lot of charts on oil flow, which he perfected. It is still a viable reference today. He developed that maybe in 1920 or 1918. He was Dartmouth '08.

He also made one of the first pentobe tubes with a patent. He was pretty good at protecting himself with patents.

Nathan: What sort of tube was that?

Ogg: A pentobe tube. It has five elements in it. That he did in the late twenties. Then, as I say, he patented a fairly broad range of things, but it was always where there was a need.

My own dad didn't bother with the patent system. But if you go to the Hawaiian Islands or anywhere you'll find that there's an Ogg Unloader and there's an Ogg this and an Ogg that. He developed ideas for a new piston and rod relationship. He made them special devices for running on the pipelines in sugar mills that would clean them in the mill, would run right along the thing and keep them all clean. He made a lot of devices. So I do come from a family that was innovative.

[Discusses patent policy. See chapter on "Patents and Current Work" from earlier interview.]

XV "SCRAPBOOK"

Photographs and Other Memorabilia

Ogg: These are some pictures that I thought I'd quickly show you, because I've had so many sailboats in my life, and raced so much of my life. I used to be co-chairman of the San Francisco Bay Joint Yacht Racing Association, which programs the races on the bay for the thirty-seven yacht clubs that compose that group. I don't know how many yacht clubs there are in it today, but they were very, very active in racing.

Nathan: What is this kind of boat? [looking at pictures]

Ogg: That happens to be something along the line of a five square meter, a PC, the type of it. But I've had from little boats on up to big boats, both sail and then later, because my customers were there, power.

I spoke earlier about taking groups from Cal out to spend a few days on a naval carrier. You may recognize some of these people that are here.

Nathan: Is that program still going on?

Ogg: No, I've stopped, partly because of my back.

[looking at pictures] This fellow is head of oceanography at Santa Barbara. And this one is an engineer in oceanography. He's head of that and he goes all over the world. This is Dick Godwin who went up just a few months ago to be a special assistant to the undersecretary of defense. He was the top individual with Bechtel responsible for the initial nuclear plants in ships. And that's me. And this is the fellow that's head of engineering here, Karl Pister. And this is a fellow named Joe Berkeley who was an admiral in charge of dual carriers and a number of other ships that came under his group, and it's interesting because he was an ROTC student from Berkeley.

This is one of the programs from a dance and dinner that was given on the old battleship Pennsylvania which was the flagship of the fleet when it was anchored here off Treasure Island. I believe

Ogg: the year was 1938--I'm not sure, somewhere back in there. You might enjoy some of the people that were there that you may or may not have known. This is Ava Jean Barber. She became Fischell, and he died about a year ago. Felice Hammond, I don't know what happened to her. Adele DeFremery. Their names are on another sheet. Kay Keefer. Ava Jean again. Jean Richards--her brother's a doctor, Dexter Richards, and her dad also was a doctor. Betty Lou Kaufman, and her dad was the head of MacArthur's navy.

And here is Tom Putnam whose dad was dean of men or dean of undergraduates here. Tom worked on the A-bomb and ran cyclotrons around the country during the war. Then he went down to Los Alamos where he stayed until he retired. Now he lives in Carmel.

Ted Morino--his dad was a fairly famous professor at Stanford and he wrote a textbook on wave guides for World War II and worked very closely with the Varian brothers in developing electronics. It was a wonderful group.

Nathan: It must have been.

Ogg: That's just a picture of myself and one of our latest jets on one of the carriers.

Nathan: You look very dashing, really!

Ogg: Those are top secret to get in, and also it was kind of a privilege to do that.

Here are a couple of letters that related to my carrying things in 1941 that related to pre-Pearl Harbor. This was giving me rights with the district here to pick up recordings they were making for us to analyze. That's in July of 1941.

Then, among other things, I taught navigation as a sideline while I was running all the communications in the Pacific, and this is a commendation dated in July of '45, before the war was over. It does give me some compliments. My work out there was electronic planning and I did this on the side as a hobby, teaching navigation.

Nathan: I really should read this paragraph aloud:

"In the midst of war and destruction, officers and men like Ensign Ogg in the Educational Services Program are building for the future. Their only compensation is the joy that one receives in unselfish service to others and a job well done."

That's very, very nice. I can see why that would mean a lot to you.

A Top-secret Chart, and Other Items

Ogg: This is the chart that I made in advance of the Okinawa operation which was April 1st, April Fool's Day of '45. I made the chart in September 1944 after we had been given the D-Day and all, and it was top secret. I made it so that somebody could take the latitude and longitude of any place and know just the direction it was and how from here you would know the distance. You could pick where London was, Moscow was, and then when the invasion came if there were engineers on Okinawa they could take it and say, "Okay, here's how we will line up the antenna for London," etc.

Here is an Australian patent of my new anchor. This is another patent that was applied for in September of '85 and was issued last June 30 [1987].

These are just a couple of pictures of myself. This is when I was ensign or a junior grade lieutenant in the Pacific. This is when I was made a warrant officer; I became at twenty-four the youngest warrant officer ever made in the navy.

These are a couple of pictures that I made in the summer of 1941, and this is what later became the censorship station at 333 Grant Avenue in the American Tel and Tel building. These were a brand new type of recorder at that time. They had two drawers that pulled out. Each drawer would record one hour of recording on a big plastic disk. From that time on, July of '44, somewhere in there, we recorded every conversation that took place in the Pacific on cable, telephone, whatever it was.

Nathan: And this looks like a PBX phone system.

Ogg: Yes. It later became the censorship station. I believe the censorship crew took over in October of 1941, well before Pearl Harbor.

This is the tower as it was put in in Guam. [See chapter titled "Naval Intelligence Work, World War II, and USN, Retired."] I've got two or three more pictures of that here, just to show you quickly. There were two thirty-six inch searchlights up on top of that, up here, and this is one of the fellows signalling. You can see Guam Harbor there, and in the background here you can see part of Guam. As I say, this was at Nimitz's headquarters. I built that probably three months in advance of the invasion of Guam. It's a sizable tower.

This is a picture of my recent test vessel that I just gave to Bodega.

Nathan: Oh, named The Bounty?

Ogg: Yes, because in my younger racing days of sailing I used to be a stickler for doing things very precisely, on time, and quickly. My crew used to call me "Bligh." I promoted myself from Captain Bligh to Admiral Bligh, and I named my runabout boat "Bligh's Barge," rather than gig. (If you're a captain you have a shore boat that's called a gig, and if you're an admiral your boat is a barge.)

A Presidentially-commissioned Compass

Ogg: This is one of my compasses that I made specially. This is a silver case, gold-plated. And I made it for President Kennedy as a special item to give to the King and Queen of the Hellenes--Greece.

Nathan: Simply beautiful.

Ogg: And it had a beautiful lined box that went over this so they could take it to whatever boat or vessel they were using.

Nathan: How tall is the whole thing?

Ogg: Oh, I'm going to say probably fifteen inches.

Nathan: It is a beautiful sculpture.

Ogg: It would have been about nine inches, maybe nine-and-a-half inches in outside diameter. I had Shreve's in Boston make the case for me.

I did that through Tish Baldridge. She was at that time a social secretary to Jackie [Kennedy] and when she needed something she came and said, "Bob, I need a present for the King and Queen both. You spend what you want, just make it right for the President." So that would be one of my opportunities--part of my inventing that I don't do something with. Making something for the President of the United States.

The Danforth Anchor. Later Developments

Ogg: Here are a couple of pictures to show you the size of some of the anchors, just so you have an appreciation. These were sizes that were used in offshore oil drilling, and these were used in small boats.

Nathan: I see. Now, this girl standing on the anchor looks about a third the height of it. And then she's holding one with two fingers, so this must not be too heavy.

Ogg: That would have weighed two-and-a-half pounds. And the other anchor is 14,000 pounds. This is another picture just showing the great size; this shank probably was close to eighteen feet. These are some anchors used in offshore drilling.

Part of what made the anchor famous--these were 3,000-pound anchors used on the stern of LST's, and when LST's would get to a beach and unload their vehicles they would run in at full speed to push the bow up there. But before they would hit the beach they would drop these. And then after they had done that they could then winch themselves off the beach with this big winch system here.

Nathan: Could we talk about the anchor business as it developed?

Ogg: Well, my uncle was making them during the war. I came back and I really didn't care about the business end of it in any way. I just went my merry way and made suggestions from time to time on changes. But he had a lot to do with how it was built, so it got known as the Danforth Anchor. After the war and after I set the Division of Communications up I had an opportunity to buy his interest in the anchor business, only to find that he duped me. I lost \$25,000 in 1949, my first year of business. I complained bitterly that I'd been had.

He said, "You'll learn about business." Until then I knew nothing about business. The problem was the navy and army were disposing of thousands of surplus anchors for scrap, something like 30,000 thirty-pound anchors for like fifty cents apiece. So how do you meet this?

I went ahead and devised some new and better anchors. Then I had something to sell, and then I had a great time with it. Basically, this great anchor worked on the principle of burying itself well. These back plates here [demonstrates] would lift it up in mud so that it would start to go down in the bottom. It would go down so far, and give tremendous holding power.

In 1980 the refinery industry was greatly involved in drilling offshore wells all over the world, and particularly in the Persian Gulf, and I'm talking about wells in over 600 feet of water, deep wells. They're the well structures that you've seen so often. They're built on the bottom and stand up there, and all their drilling equipment is up above.

But getting up over 600 feet in those areas the vessel has to be moored very stably. It requires sizable anchors, in weights of fifty tons. Cranes to handle those anchors, along with the chain and all, were not available. Too much weight. So they came along in 1980, '81, and said, "Ogg, we need an anchor that's gonna eliminate that weight."

Ogg: So I went ahead and developed a new anchor, studying what was wrong and playing in my sandbox at home to come up with this other anchor over here. I'm sorry I don't have a sandbox to pull them in for you. This anchor will hold about eight or nine pounds pull in the soft sand. This will hold a pull of around seventy to eighty pounds. And you wouldn't believe it.

In studying this anchor I looked at it to see why can't we get more holding power from it? So I go along and find that it would go down so deep, perhaps down here, depending on the different types of sand, and then pull along like this without rotating or turning or coming out. Well, then I look at it and say, "These plates are thin, and they can go that way; these resist a little bit of the burial; but this long bar here is wide and flat, and it has high resistance to penetrate down through the sand." So I flattened these out so they don't resist burial.

Nathan: Right. I see the angle is different.

Ogg: This very thin shank readily permits the anchor to go deeper, reaching higher shear strength bottom materials (i.e., sand, mud, etc.), increasing logarithmically with depth. So again, as I say, it takes that from holding nine pounds to this holding seventy or eighty. In the bigger anchors, the new 1000-pound is well superior to the old 10,000. This has been on the market for about a year and a half. It's selling tremendously well right now. It's the anchor to buy. I never even looked at the yacht market [for a new anchor] because I thought my other anchors were superior and sufficient, and they didn't need something.

Prior to this all anchor shanks had been thick and particularly rigid. The knife-like thinness created a whole series of design criteria to cope with flexibility of the shank, which ultimately led to a far superior setting and performing anchor.

XVI TYING IT ALL TOGETHER: GOOD FRIENDS

Ogg: Now I'd like to continue with a list of names I put together for you.

Dad, as I called my uncle, had all of these friends, and they went sailing with us all the time. Mike [Murrough P.] O'Brien was one of those. Fred Pizell, the head of Shell; the head of Chevron; the head of Associated, they were all sailing partners. I got to know so many people that it was a privilege to know of that nature, and it certainly helped me in many ways.

I knew personally very well Gordon and Mary Haight--I don't know whether you know of them, he's deceased a year or two ago, he was a professor of English at Yale and a very noted one--and I used to go stay at their home when I'd be back there on business.

Bud Bronson I mentioned before. I've known Bud most of my life, and his wife Mildred.

Ben Williams is the son of Ben Ames Williams who is one of my best friends in the east.

Nathan: As you go down the list of names would you let me know which are connected with Cal, because of course we're interested in that too.

Ogg: Okay. Ray Davis--now, there are two Ray Davises, both of whom I knew, but Alva Raymond Davis was a dean here, and his son was one of my best friends for many, many years. He was head of the engineering labs here. His sister, I went with her as my lady friend for some time. I now see her occasionally up in the grape country.

Neil Garrison who ran the California State Automobile Association right down here on University Avenue in Berkeley, he was just a clerk at the door when I was going to school here. I've been a member of that now for fifty-some odd years, and he went on to be the chairman that ran the total Triple A.

The Baldridges I mentioned. One of them [Malcolm] got killed out here riding a horse. And Tish, I still communicate with her.

Ogg: Pierre Salinger. I got to know him through Tish. When Kennedy came to Maine, Pierre came and stayed with me, and I got to know him very well. We had a red phone put in my house so that he could talk to the President who was on another island. [laughter] I haven't talked to Pierre in many, many years.

The McGraw family, which owned Parke Davis and became famous that way, they also went to the family island in Maine.

Tom Putnam--I mentioned him earlier--he married Margaret Warnecke whose dad was Carl Warnecke.

Nathan: Warnecke was an architect?

Ogg: Yes, and the father had two children, Margaret and Jack. Jack went to Stanford and Margaret went to Cal, where she met Tom. Carl Jr., known as Jack, who was I guess an All-American football player at Stanford, he took over the family architecture business, and he designed the buildings for the Kennedy family.

Nathan: My, how these connect.

Ogg: Waldron Gregory. He was Cal, and I guess he became the number two guy at PG&E.

The head of the Maine state police, now deceased, Parker Hennessey, was in OSS and was in the Philippines, and I guess he was in Hiroshima at the time the bomb was dropped, or he was there before, he came back and became the head of the Maine state police and became one of my very closest friends. I used to live with these people, and vice versa.

The Gardiner family were very close to my family. William Tudor Gardiner was governor of Maine in maybe 1924. He was one of the special assistants that went in on the first invasions of Italy. He was a general. I grew up with him.

Another part of my family, my grand-aunt, my grandmother's sister, married Hollingsworth, which became Hollingsworth and Whitney, the paper business which later was bought up and became Scott. So I was related to that.

Then other very close friends, two of them: Ed Muskie who I met formally once in a plane somewhere, and we became very close friends and still are good friends, and Margaret Smith who was a family friend, and I got to know her very, very well. She was a senator from Maine, Margaret Chase Smith. They a couple of times wanted to run her for vice-president. She's long passe today.

My family were in what was the Boston Four Hundred--this is part of the Hollingsworth family, part of my Stevens family--so I

Ogg: . used to go to all the Boston Four Hundred dances for the young. Things in that way.

Another very close friend is Julian Bartlett. He used to be dean of Grace Cathedral and he's one of our closest friends today.

Fred Terman at Stanford, one of the early geniuses of radio, through being a very close family friend with the old man, he started helping me in the early thirties with some of my electronic ideas. I developed probably the first crystal control radio in the sixty megacycle range, which wouldn't mean much to you. It had always been some random control part of that.

Leonard Loeb became a close friend. I took a course of Physics 1C from him here in the summer of '37 and we got very close during the war. He was, I would say, the father of electromagnetism in this country. He went into the navy and he was in charge of de-Gaussing all naval ships.

Nathan: Is that so that the mines are not attracted to the ships?

Ogg: Yes.

In writers that I have known, I mentioned Richards. Robert Frost--

Nathan: Really?

Ogg: I have not known him very well.

The Van Dorens. John Toland, who has written two or three Pulitzer Prize-winners, a very close friend. He stays with us when we're here and I stay with him in Connecticut sometimes.

In the early '60s I became closely associated with Ted Kenyon, the father, in 1930, of sailing speedometers, which are, regardless of brand, today referred to as "Kenyons." Both Ted and his wife Teddy, an associate of Amelia Earhart, were Grumman test pilots during World War II on F-4s and F-6s. I often spent several days at a time at his home and lab in Old Lyme designing new sailing instruments and gyro stabilizing controls for rifles, TV cameras, and ships, and auto pilots for marine and aircraft.

I know Glenn Seaborg fairly well, and Charles Townes.

I think there are people that I know well enough that I could go talk over an invention or an idea personally, and I only relate that, Harriet, because it's a breadth of some of these things. If you read this book I'm telling you of Alvarez's, it's almost parallel that he knew all these many, many people, not just in the physics line but broadly. [Luis Alvarez, Adventures of a Physicist, Harper and Row, 1987.]

Nathan: When did you get to know Glenn Seaborg and Charles Townes?

Ogg: After the war. I did not know them at the time I was here in physics. I may have met them in meetings at that time, but I did not know them then. Today, I do.

I have so many friends that are here in different areas of the campus today. Iain Finnie, he's been very helpful.

Nathan: What is his connection?

Ogg: He's head of mechanical engineering. Bob Taylor, he's head of civil engineering. In my early days back before the war, and right after the war, I got moderately close to Ray Davis. I talked about him.

I can also say that my grandmother used to tell me of sitting in Lincoln's lap, as a little girl.

Then one of my better friends during my life is a Raymond Stanley, a bit older than I am. His dad was the Stanley of the Stanley Steamer. He was just as innovative as his dad had been.

One of the editors of Life back many years, I can't think of his name right at the moment, was also one of my very close friends. He came to the island in Maine. It's been an interesting avenue.

Another person that similarly was innovative and made probably the most ingenious steps forward with autopilots for both planes and boats was a fellow named Paul Ware in Florida. I must have spent five years developing products with Paul Ware.

Bruce Bolt, I mentioned him before. I've done some research work in predicting earthquakes with Bruce.

I can say other close friends are certainly Rod Park, and he's an old sailing buddy. Mike Heyman--Therese is one of Nancy's good friends, and we often go boating with them.

Nathan: I gather that boating is a link with many different people.

Ogg: It is. It's been a link with all of it I would say in so many, many ways. Without it, they'd never exist.

Nathan: I wondered, when you are spending time with the Heymans and with Roderic Park, do you talk ever about University affairs, or is it purely social?

Ogg: I would say probably more social than University affairs. No, I would say if I have something in University affairs it goes through the right channels to them.

Ogg: I've known very, very closely two governors of the Virgin Islands, and the governor of Guam. The governors of the Virgin Islands were John David Merwin--that wouldn't mean anything to you here--and Walter Gordon.

Nathan: How did you know Walter Gordon?

Ogg: I had a home down there, and he was a justice down there after he had been governor. And I knew him here. I used to watch football games with Walt, scouting what was wrong with Cal by sitting up in the endzone with him. So I knew him very, very well.

Another one from out here was Harry Glassman. I don't know if you know of him or not because he went east, but he was also Cal. Barney Ferguson. Jim Mitchell. Wakefield Taylor, I mentioned him. Earl Warren. Bill Donald, who was the doctor--.

Nathan: The health officer here, yes, on campus.

Ogg: What's his son's name? Not the doctor son. I should know because we used to ski together, we used to go all kinds of places together. He just married a year ago the girl that was sort of being hostess for a lot of these functions here at Cal. Although I wasn't going to school here, Bill Donald, Sr. became my doctor for my football knees when I played at San Francisco Junior College. We became great friends. Bill, Jr. is also a doctor. In fact my mother went to him. I can just say that the old doc was a great friend.

Woody Lamb, I know him from sailing days. We sailed and sailed and sailed together, Woody and I. He's come back east and stayed with me and vice-versa.

I knew well the three governors of Maine. One is Joe Brennan who is the current governor. I knew him when he was just a plain, small lawyer. I mentioned Ed Muskie before. He was both a governor and then later a senator of Maine. When I first knew him was before he became governor. He was a very failing attorney, a partner of one of my other friends in Maine, and just not making it, so they put him up for governor. And I told you about William Tudor Gardiner.

So many people in business I knew very well. I've known the editors of all the marine magazines. They've all been close friends. I would say that the boatbuilders of top boats in this country all have been close friends. They've come and stayed with me in Maine, or something like that. It hasn't been a matter of my going in to see a purchasing agent and trying to get my product to them. I have never, ever tried to go sell a product to anybody. I just maintained a relationship with the top, and I didn't worry.

Nathan: Was this a conscious strategy?

Ogg: No.

Nathan: How did this happen?

Ogg: My agents or representatives always dealt with the purchasing agents in that. But through my inventions and other things I think I have that kind of respect, and I've known all of them before they became editors, and when they were editors, and through that. As I say, I've had many, many articles written about me and my avenues that way.

There are so many that have been in different directions the top. Claude Hutchison, he's my cousin. And because old Claude, Sr. was too old--he married his second wife in 1935 or '36 when he was about fifty--I used to build trains and stuff for little Claude. The way we were related, Claude's prior wife was Brenda Bull. Her sister was Johnie Bull--Hilda Bull but she was called "Johnie." Johnie came over to visit "Billy," as Brenda was called, in '37, and that's when Johnie met my uncle and decided to stay. She has a gorgeous home down in Carmel Valley today.

At the California Academy of Sciences I'm a lifetime fellow. I feel very privileged. They only have three hundred in that category and I'm one of the few that doesn't have several degrees and a PhD. It's a fantastic group of people to be with. And it spurs my mind on to things, even areas I'm working on right now. I'm involved with them in making a new observatory. It's very similar work--how do you go? where do you go?--and I enjoy it.

I'm working partly with [UC] Davis in trying to devise an automatic instrument to tell you when to pick grapes.

Nathan: It would test ripeness or readiness or whatever? Is this sort of an optical kind of thing? You're not going to tell me! I shouldn't ask you.

Ogg: I'm doing several different ways.

I'm now involved with Bodega in tracking white shark. Tomorrow morning I will be having breakfast at Bodega with the director [of the marine research station] there and a couple of people on their research work.

It's just exciting to be involved with these things. It's just as much as I've been involved with so many corporations, and particularly boatbuilders, in what they're going to do with their new product. You know, I don't get anything for it, but I can say, "Well, why don't you move this here, or put this there, or do that?"

Nathan: One thing occurred to me when you spoke about your life on the water, your love for boats. I wondered whether you had any particular interest in the sailing club here at Berkeley.

Ogg: That's Rod Park. Rod is in that. I do contribute to it. I have tried to aid them as I can.

Rod went to Tabor Academy. My cousin Bill went to Tabor also, and many, many years later Rod went to Tabor. Tabor was thirty miles south of Boston. They have a big ship, a schooner, that they sail in the vacation periods to the Mediterranean or Caribbean, and the kids that are in the school take these trips, maybe for six weeks. On top of that they have quite a number of sailboats at the school itself. There they teach them racing and sailing and all that. But then they take them for the vacation on the boat called the "Tabor Boy," and it's probably 110, 115 feet long, and fairly large and all that. Anyway, Rod Park went that route.

Rod came to Maine and sailed during his young college years on a boat called "Blue Dolphin" which was owned by a friend of mine who used to sail--he came up and stayed with us I guess for a couple of months during the war, so I got to know him fairly well. Then later Rod, as I said, sailed with him.

Irving Johnson. I don't know whether you've read any of Irving Johnson. Irving owned a big schooner called the "Yankee," and he used to take boys for eighteen-month tours around the world. He would circle the world with the "Yankee" before the war and after the war. If you got to go with Irving on that you had to be wealthy to begin with. As I say, it took them eighteen months. Then he'd spend the other six months lecturing, showing his films.

Irving is another person that became very close that way sailing-wise, and he always stayed with us here. Even in Maine he brought his schooner into my island there, his round-the-world one. And then I designed and did some of the things that went into his new boat so it would go through canals in Europe. He's very, very well-known. He's retired now, probably eighty-ish. He lives in Springfield, Massachusetts where they have the family Johnson's Bookstore.

The fellow that owns the "Blue Dolphin" took a boat they called the "Bowditch" and went in prior to the invasions in the Pacific and charted them. They had a six-color printing press on board the "Bowditch." They went into places like Iwo in advance. They charted these islands and areas. That was the fellow that Rod went sailing with to Labrador; they took the "Blue Dolphin" from the Boothbay area in Maine up to Labrador for the summer.

Anyway, it all sort of ties together, as you said. You can see by my jacket! In one of their trustees meetings the foundation made this presentation, very formally! [laughter]

Nathan: "UC Berkeley Foundation Navy." You're an admiral in the Berkeley navy? Should I salute you?

Ogg: [laughs] The other day I got asked, in a sort of an emergency, if I would go to the Navy League of Marin County, their dinner, and if I would speak on anchors, or whatever I'd like to speak on. I said, "Well, why don't I talk a little on anchors, a little on navy?" I figured about forty minutes.

I talked on the anchors for a little bit, and I opened it up for questions, and then I went and talked on the navy and Pearl Harbor and some of these areas. And last night I got another invitation, "Would I speak to some other group?" They liked that so much. "Would I go there and talk?" I never make any notes. I read these things today while we've been talking just to remind myself, but when I talk to a group like that what I say one time could be totally different from the next.

Nathan: And all very interesting. Thank you so much, Mr. Ogg.

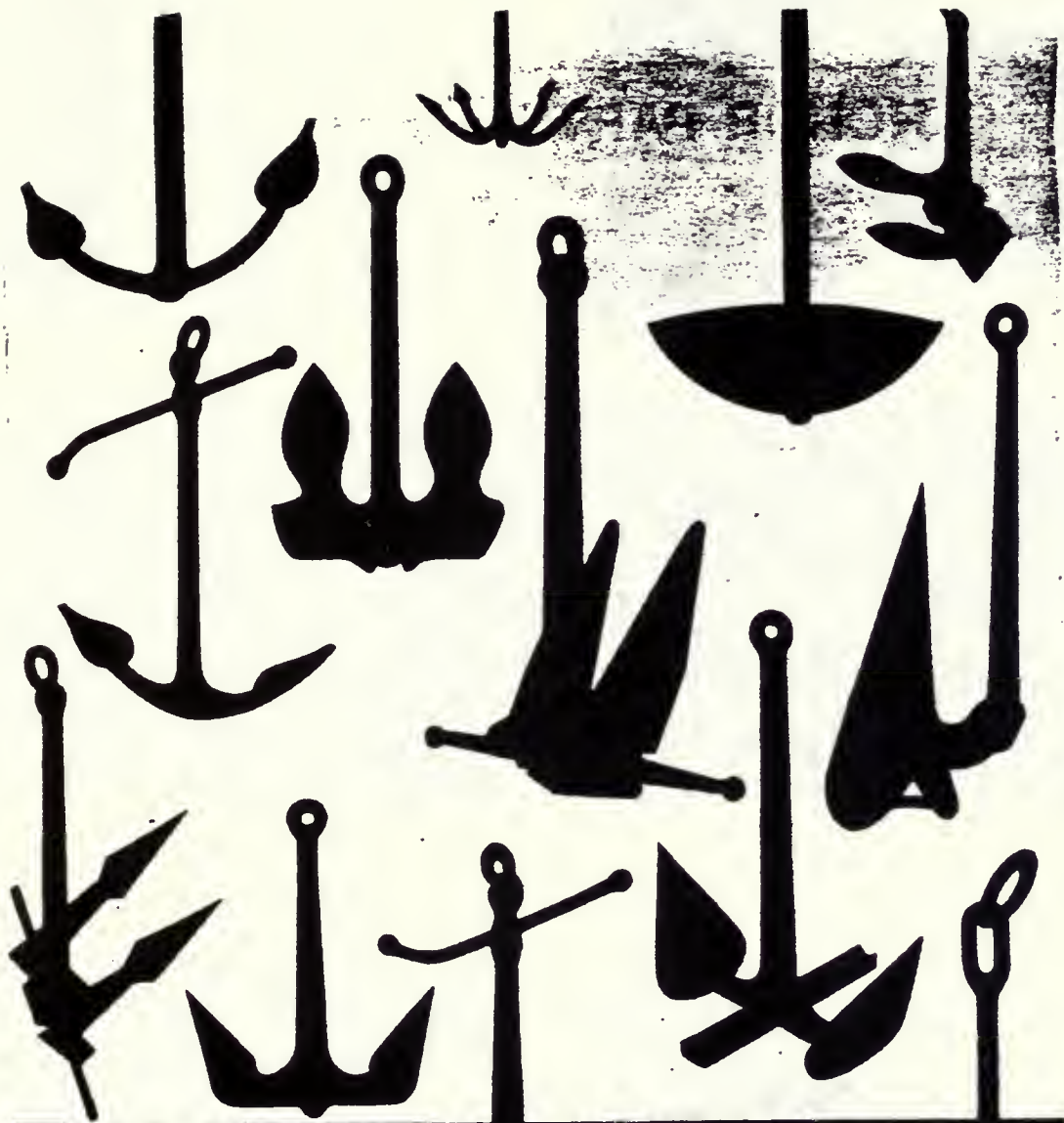
Note:

Paul O. Williams conducted interviews with Robert Danforth Ogg on June 20, July 23, August 1, August 8, August 29, and September 5, 1989. The interviews were held at Mr. Ogg's home in Knight's Valley, Sonoma County, California.

Harriet S. Nathan conducted interviews with Mr. Ogg on November 20, 1987 and January 23, 1988. Mrs. Nathan met with Mr. Ogg in The Bancroft Library of the University of California, Berkeley.

APPENDICES

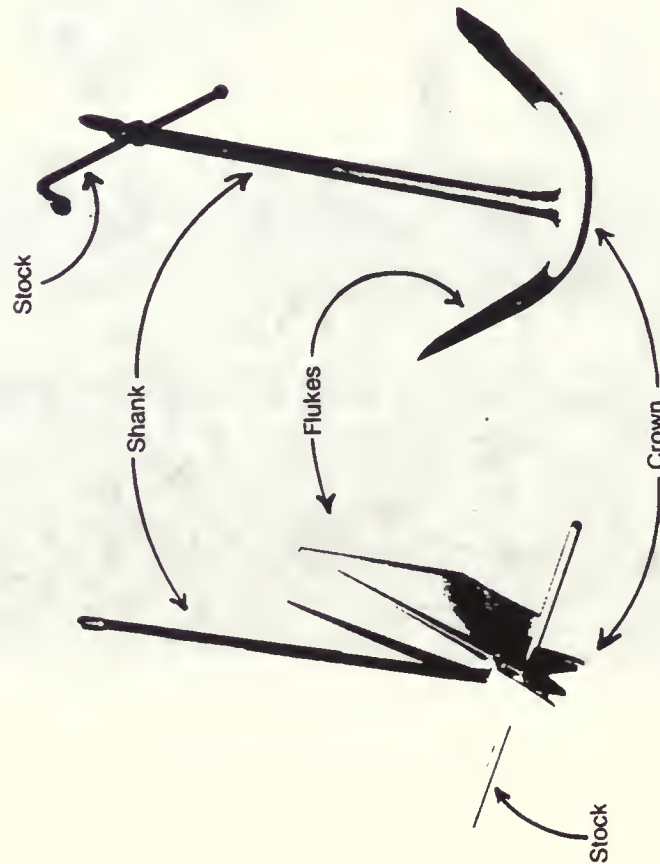
A.	"Anchors and Anchoring," Rule Industries, 1985	129
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ANCHORS and ANCHORING

Robert Danforth Ogg

ANCHOR PARTS



ABOUT THE AUTHOR

Bob Ogg has been engaged in the research and development of anchors since 1936. While studying engineering and physics at the University of California, he and his uncle, R.S. Danforth, developed the "Light Weight Type" anchor now manufactured under the "DANFORTH" trademark by Rule Industries, Inc.

During World War II, Bob served in the U.S. Navy, advancing from Seaman to Warrant Boatswain and to Lieutenant Commander. He headed the Danforth marine business from 1948 for 31 years until retirement in 1979 being the recipient of many patents in anchors, compasses and marine electronics. Bob is recognized as one of the foremost authorities on anchors and oceanographic forces.

A member of the Society of Naval Architects and Marine Engineers, the American Society of Naval Engineers and the North American Geophysical Union; he is frequently called upon for consultation and expert testimony. In addition to this booklet, he is a contributing author to the *Handbook of Ocean and Underwater Engineering*, *Chapman's Piloting, Seamanship and Small Boat Handling* and has authored numerous articles in various marine publications.



HISTORY

practically stood still from earliest times to the start of World War II

Even the Egyptians, with their expertise in engineering, still used conical stakes with papyrus cable in 2200 B.C. But anchoring was not as important as it would become, because



Fig. 3
East Indian

early boats were small and always beached when not in use.

As water travel increased, so too did the need for larger boats and better anchors.

The earliest true anchors, which held by shape rather than by weight alone, were the East Indian (Fig. 3) and similar types. In about 2000 B.C., the Chinese developed an anchor with the stock at the head which is still being used today aboard Chinese junks (Fig. 4).



Fig. 4
Chinese

The first record of an anchor design, variations of which became known as the "Old Fashioned" or "Common" anchor, was on Greek and Syrian coins of about 750 B.C. (Fig. 5). This anchor has two hooked arms and an opposing stock. This general type continued in use for a period of twenty-six centuries, and was still used by the British and U.S. Navies in the 1800's. Flukes had appeared on Roman anchors of this design before the time of Christ.

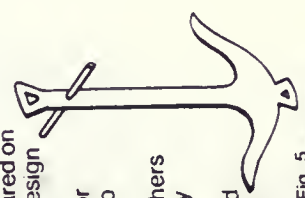


Fig. 5
Ancient Greek
(From Coins)

The "Old Fashioned" or "Common" anchor is also referred to as a "kedger" by ship chandlers and others today. The term originally meant a small anchor capable of being handled by boat crews, which was used to "kedger" or pull a ship off the bottom, or along in shallow water, by dropping anchors out ahead of it.

early anchors to put in for trade at the mouth of the Nile. Stones heavy enough to hold merchant galleys were impossible to retrieve from the deep delta mud. The more efficient iron anchors were much lighter, but even they were often sheathed in wood to keep them from settling too deeply.

Britons, sailing against Caesar's invading, had perhaps the strangest mooring tackle of all time—heavy stones secured to the world's first anchor chain. Iron links were used because the Britons had no strong rope.

These heavy links, incidentally, greatly affected the ship design of that day. The weight of the links plus the weight of the stones was so great that only short lengths of chain could be used. For this reason, the Britons anchored with their chains practically up and down, with no freedom to rise and fall; riding at anchor was one plunge into the waves after another. To survive these rides, a peculiar vessel evolved with unusually high head and gunwales. Sir Walter Raleigh in his "Discourse on the First Invention of Ships" said, "Instead of fitting their furniture to their ships they formed their ships to their furniture."

Much information on ancient anchors was obtained in 1930 when Lake Nemi, near Rome, was drained. Two huge anchors were found there near hulks of two galleys built by the Emperor Caligula in 40 A.D.

One of these was an all-iron "Common" anchor weighing 900 lbs. Its shank was 11 ft. 8 in. long, and its stock was 9 ft. 9 in. long, held in place by a cotter pin. Stowing was easily accomplished by removing the stock and laying the anchor flat.

The other anchor from Lake Nemi (Fig. 6) had an 18 ft. oak shank with two oak, iron-tipped arms and a 7 ft. 10 in. solid lead stock. The discovery of this anchor explained the presence of lead bars found about the shores of the Mediterranean which weighed up to 1380 lbs.

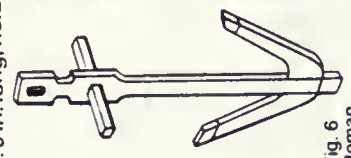


Fig. 6
Roman
Ship Anchor

was lighter than the iron anchor used in those times. This lighter anchor was used regularly by vessels stopping at the Nile Delta. A ship given to Ptolemy by Heiron of Syracuse had eight iron and four wooden anchors.

With the fall of Rome, this great knowledge of mooring ships at sea was apparently lost. Some Viking ships in 800 A.D. carried small iron anchors with flukes and rings, and an old tapestry shows Norman invaders carrying a double fluked anchor (without a stock) to England's shore.

In the fifteenth century the large Old Fashioned Anchor was seen again on the ships of the great navigators (Fig. 7). This anchor type with flukes and fixed wooden stock was still standard equipment on U.S. Navy ships as late as 1860.

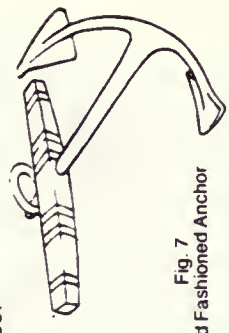


Fig. 7
Old Fashioned Anchor

Other anchoring advancements were being made. In the 16th century, Sir Walter Raleigh reported the first use of the capstan. He also commented on the value of scope, saying, "Witness our small Millbrooke men of Cornwall. They ride it out at anchor half seas over between England and Ireland all the winter quarter. And witness the Hollanders that ride before Dunkirk, with the wind at N.W. making a lee shoar in all weathers. For it is the length of cable is the life of the ship in all extremities."

"And the reason is that it takes so many bendings and waves as the ship riding at the length is not able to stretch it. And nothing breaks that is not stretched in extremity."

Later such navigators as Bougainville and Cook suggested iron chain for securing anchors instead of hemp rope. Lt. Samuel Brown, of the British Navy, fitted the "Penelope" with the first modern anchor chain in 1809.

But the first real departure in anchor design since 600 B.C. was Hawkins'

The importance of the anchor in the history of seafaring people is perhaps little understood. Yet, literally thousands of ships of war or commerce have been lost due to the failure of ground tackle, and the resultant loss of lives, vessels and cargo most probably had significant impact on the world. Despite this fact, it is incredible to note how little advancement was made in anchor design from the earliest Chinese anchors until just prior to World War II.



Fig. 1
Primitive Stone

The Greeks, the Romans, the Spanish, the English, and the other mariners would have handled their ships differently in exploration, in trade and in battle had they possessed anchors that could be trusted in bad weather. In fact, ship design itself would have been different had the concepts of modern anchor design been known.

A heavy stone tied to a crude rope was prehistoric man's first "anchor." To tie the stone more securely, grooves were cut around the oblong shapes (see Fig. 1), but they relied on weight alone for holding rather than hooking or burying as did later anchors.



Fig. 2
Killick

To overcome aimless dragging, wooden crooks, cages or iron hooks were added which resulted in a slight increase in holding power. Those "killicks" are still used in many primitive societies throughout the world (see Fig. 2). These were still not true anchors and they dragged on hard bottoms and became buried in mud.

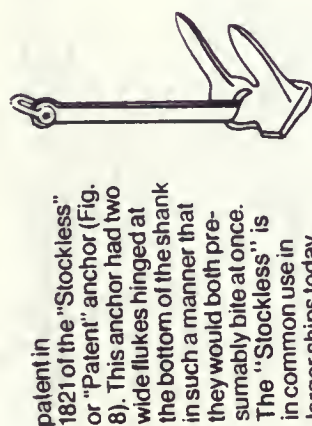


Fig. 6
Stockless or
Patent

In the 1970s three anchors, the "Steven," "Vryhof" and "Bruce" evolved in heavy sizes to support offshore drilling operations with gigantic semisubmersible rigs, with the Bruce (Fig. 15) being scaled down for use with small craft. The Bruce has holding powers similar to the Plow (Fig. 13), but the Bruce is too awkward to stow, and exhibits low holding powers per pound of anchor.

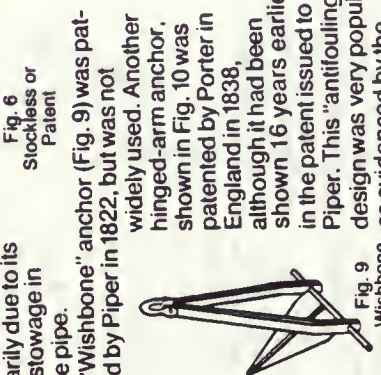


Fig. 9
Wishbone
number still being recovered from the bottoms of Europe's ports.

Fig. 13 shows the "Plow" anchor patented by G.I. Taylor in 1933. It became popular in England for small craft, because of its relative ease of setting on varied bottoms. It is a burying type of anchor and does not depend on hooking action, as is the case with the Kedge. However, its shape makes it awkward to stow, and while its holding power is respectable, the flared shape of the flukes diminishes its holding power per pound of anchor.

The "stock-stabilized, pivoting fluke" anchor, more commonly referred to as the "Light Weight Type (LWT)" (Fig. 14) was developed by R. D. Ogg and R. S. Danforth in 1939.



Fig. 10
Porter

The "Mushroom" (Fig. 11) first appeared sometime after 1850, and has been used mainly for permanent moorings. To hold at all well this anchor must be fully silted in, a process that takes many weeks. For this reason, the "Mushroom" anchor should not be used for short term anchoring.

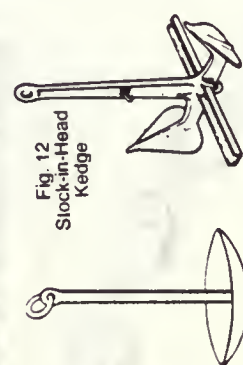


Fig. 11
Mushroom

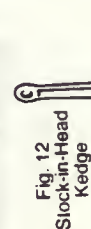


Fig. 12
Stock-in-Head
Kedge

The "Stock-in-Head Kedge" anchor (Fig. 12) is of the basic type used continuously by the Chinese since 2000 B.C.,



Fig. 13
Plow

but with short, broad, thin flukes placed at a somewhat smaller fluke angle. This anchor is used today in sizes up to 100 lbs., primarily for temporary anchoring.



Fig. 15
Bruce

In 1984, utilizing the teachings of the original Danforth invention, Robert Danforth Ogg, invented the flexible shank (Fig. 16) for use in any burial type anchor greatly increasing its holding power over that of an equivalent anchor with a rigid shank. For instance, if the improved shank is substituted in a Danforth® Standard® anchor, holding power is nearly doubled. In addition, flexible shank anchors are much more stable in that, when overloaded, they tend to pull through the bottom rather than out of the bottom. Finally, in many

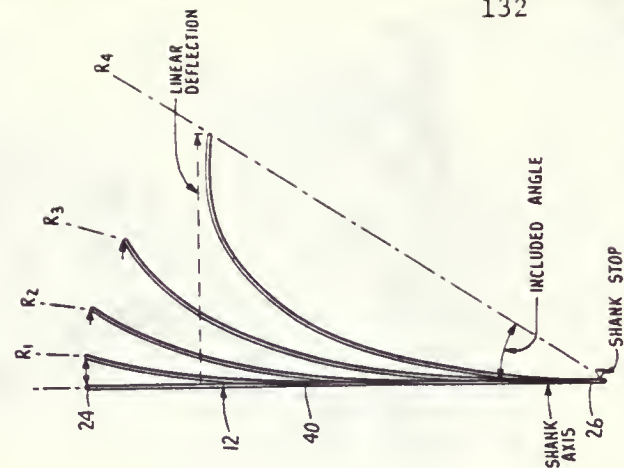


Fig. 16
Ogg Flexible Shank
used in
Deepset® Anchors



Ten to one you have never compared an anchor to a kite. There's no reason why you would: one sinks and holds you in place while the other soars and you hold on to it. Yet their design and performance are amazingly alike. Each must be perfectly proportioned and balanced, and shaped to penetrate the medium in which it operates. In fact, studying the behavior of a kite can teach one a great deal about anchors.

We have started with what you might call a way-out approach to the subject so you will stop thinking about an anchor in terms of weight. Actually weight has very little to do with its successful operation. The holding power of a modern anchor is strictly dependent upon its critical design and is proportional to the area of the flukes and the depth to which they are buried in the bottom. The weight of an anchor is increased as the anticipated loads increase only to provide more fluke area and to overcome bending stresses when the load is applied. Interestingly, a 500-lb. concrete block (unless it is completely silted in) has no more holding power than a 3.5-lb Deepset™ lightweight type anchor.

Obviously that little anchor wouldn't hold a cockleshell if the anchor rode

properly set and with the right amount of line in proportion to the depth of water, this little hook has a holding power of 560 lbs in mud and 3,000 lbs in hard sand. Those are sizable figures, but they are backed up by extensive controlled tests at sea.

In other words, the anchor line itself is a controlling factor in an anchoring system. This is not exactly news. Every seaman knows about "scope" (the ratio of the length of the line to the depth of the water) and that it keeps an anchor from dragging. You can visualize how a long rode tends to exert a horizontal pull instead of a vertical pull, and helps the anchor dig in. For optimum performance the line should lead away from the anchor at an angle of not more than 8° with the bottom, which works out to a scope of 6.8 to 1 in shallow water where there is little sag in the line.

The most important thing about scope—and the most often overlooked—is how it acts in a blow when wind and seas build up a strain on your rode. Under these conditions the catenary (sagging curve) in the line cushions the load on the anchor and absorbs shocks that would be transmitted directly to the ground tackle if there was a straight-line pull on the rode.

Three factors, wind drag, current drag and wave action, determine the load a boat places on ground tackle. The weight of the boat is less important. Each of these factors is discussed fully in later sections of this booklet. Briefly, however, wind drag can be computed by a complicated formula involving density of the air, a profile coefficient and a lot of decimal points. Without going through all the arithmetic, you should know that wind blowing against the cross-sectional area of your boat is one of the major load-producing forces. This load increases with the square of the velocity of the wind. If the velocity triples—goes from 20 to 60 knots—wind force on your boat is increased nine times. The cross sectional area is approximately equal to the distance between the waterline and the cabin top times the maximum beam plus the area of spars, rigging, flying bridges, etc. As the boat yaws at anchor, the area of the side exposed to the direct force of the wind must also be considered.

Current drag adds to the load on your

anchor line, but it is only a vital factor in extreme tidal changes which would normally be avoided.

Wave action load is set up by the pitching, yawing and heaving motions of a boat. If there is sufficient length and catenary in the rode, and the vessel can move freely and ride the seas without coming up short, the load on the line will be comparatively slight.

Wave action becomes more critical when it causes resonance. This phenomenon can develop a critical load on the anchoring system. This occurs when the boat and the sea get on the same wave length, so to speak. Every vessel has a normal rocking (fore and aft) period and when this coincides with the frequency of wave motion, the vessel will pitch violently even in moderate seas. This puts a shock load on the rode and will tend to break out the anchor.

The catenary and elasticity of the anchor rode will somewhat offset loads due to wave action. If you expect severe conditions, do not supplement the catenary effect by placing a weight halfway down the rode, as this will substantially weaken the rode if resonance occurs.

The weight of the modern anchor is unimportant in determining not only the holding power, but also the ease with which the anchor buries. Its penetrating capability depends on its design, not weight. The Danforth® Deepset™ anchors are a good example of this. Here all the components are in balance. The length of the shank is carefully calculated. A change of one inch in the length of the stock, which keeps the flukes from rotating, or a variation of one degree in fluke angle could reduce the maximum holding power by more than 50%. The use of heat-treated, alloy steel makes it possible to have thin flukes with sharpened edges without sacrificing strength. The penetrating potential and hence holding power of the gear is thereby increased.

The character of the bottom naturally affects holding power. A sand bottom offers the best ground. The hooking type anchors are at their best in this bottom (kedge, stock-in-head kedge or stockless). These designs are also good in heavy kelp. These designs are, however, unwieldy and outmoded in terms of modern anchoring techniques

for pleasure boats. Burial type anchors any bottom (except for sizes under 15 lbs in heavy grass or kelp), and even in thin mud they will penetrate to firm holding ground.

Yachtsmen who have been accustomed to evaluating anchors according to their weight also think of rodes in terms of diameters—and the bigger or stronger the better. Carry this point of view a step further and a wire rode would appear to be ideal. Theoretically this sounds fine, but it just doesn't work. An anchor rode is not a hoisting cable. It's a shock absorber. Consequently "stretch" is just as important as strength and a light rode with plenty of give to it is more efficient than an inflexible rode three times its size.

Because of its strength and elasticity, open laid nylon (not braided) makes the best anchor rode. Dacron or polypropylene does not stretch appreciably and is therefore not recommended. Nylon is also relatively light for its strength. For example, a 3/8" line has a test strength of 4,000 lbs. So a relatively light rode can handle some pretty big chores, providing, of course, it is properly rigged.

This gets back to the subject of scope. There are all sorts of formulas for this, but I think five to one should normally be the minimum. In water 20' to 30' deep you'd better use seven to one. An exception applies to Deepset™ anchors which often perform well with scopes as low as three to one.

In deeper water you can use less scope because of the catenary effect of the system. If the mooring area doesn't have swinging room to permit proper scope, better use two anchors (see Ogg system described on next page) or move to another area. Regardless of the type bottom, let out the proper amount of scope and you won't have to worry about dragging.

There are tables that indicate suggested anchor sizes according to overall length and others that are based on a boat's gross weight. In view of all the variations in hull form, displacement and superstructure, these tables become broad generalizations. The best way to select a working anchor and a storm anchor (you should have both) is to consult the boat's designer, builder or the owner of a sistership. Remember that the holding power of an anchor

HOLDING POWER

In a crowded anchorage this system allows virtually full scope on each rode and yet cuts the swinging room to less than one quarter of what it would be with one hook down. The double rig provides more security than one large anchor and eliminates the possibility of fouling the anchor, a problem that develops with a change of wind and/or current when you are swinging on a single hook. If the boat swings with the twin anchor lines, they possibly will be twisted once or twice but this is easy enough to untangle.

We call this the "carefree" system because once the anchors are set you can forget about them for the night. If the breeze stays in the same quarter as when you entered the anchorage, you swing to the bow anchor. If the wind should come abeam, you will lay to both anchors which will pivot slightly and hold the strain. Naturally, if the wind shifts 180°, you fetch up on what was set out as the after anchor.

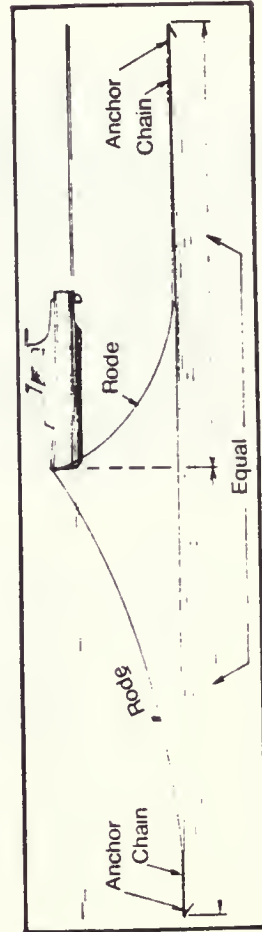
The system is not new by any means. Bob Ogg developed it many years ago for the Navy's Bureau of Aeronautics for anchoring flying boats. They were afraid a single heavy anchor might not reset after a change of wind so they went to two and three anchor systems. Bob tested this technique for years and on many occasions two 12 lb Hi-Tensile® anchors have held his 64' P-T-type power boat and a raft of nine boats in 25-30 knot breezes with four and five-foot seas. Some yachtsmen might balk at putting out two anchors, but with lightweight equipment the effort is negligible and the security is wonderful insurance against nocturnal catastrophes.

should be much greater than the breaking strength of the rode which, in turn, should be far greater than the anticipated load to which it will be subjected. As an over-simplified example—a 35' power cruiser in a 60-knot wind will exert a pull of about 2,000 lbs. A 3/8" nylon line can stand twice that and a 17.5 lb Deepset™ lightweight anchor has a typical holding power of 3,000 lbs. These factors provide extra margins of safety which should be considered in any arrangement of ground tackle components.

The Ogg System for carefree anchoring

As you probably have concluded by now, we are staunch advocates of a lightweight anchor and a light rode, and we are even more in favor of using two anchors instead of one; both from the bow—one forward and one aft.

Whether the harbor is crowded or not, you have to estimate where you want your boat to end up when she finally lays to her hook. Let's call this spot "X". Now figure how much scope you should let out allowing for depth of water and tide. Say it's 150'. When you are about 150' upwind of "X", kill your headway, lower and set the forward anchor. After dropping back to point "X", you can either drop back an additional 150' to set the after anchor, then return to point "X", or you can use a dinghy to drop the after hook. Set the after anchor and take the rode forward, allowing 20 to 30 feet of slack to prevent a direct strain on the line, and lead it through the same chock as the bow rode. Make both lines fast forward, on separate bits if available.



In Table II we present the weights of various materials in water as compared to their weights in air. From this table we can see that concrete loses 42% of its weight when submerged, which greatly reduces the effectiveness of this material for mooring purposes.

Table II

Weight of various materials in water as compared to their weight in air.

Nylon	11%
Concrete	58%
Granite	62%
Aluminum	63%
Steel	87%
Lead	91%

The holding power of the weights and anchors presented in Table III are very low indeed. For this illustration, it is assumed that the concrete block and mushroom anchor are not silted in, a process which takes many weeks. Their holding power does, of course, increase significantly, but unpredictably, when silted in.

Table III
Horizontal holding power of various anchors

Weight of Anchor in Pounds	Holding power in pounds		
	Concrete Block	Mushroom & Stockless	Yachtsman's Kedge
10	5	10	50
20	10	35	100
30	15	60	150
50	25	100	250
100	50	200	500

Table I

Recommended horizontal holding power (in lbs.), various anchors, various size boats.

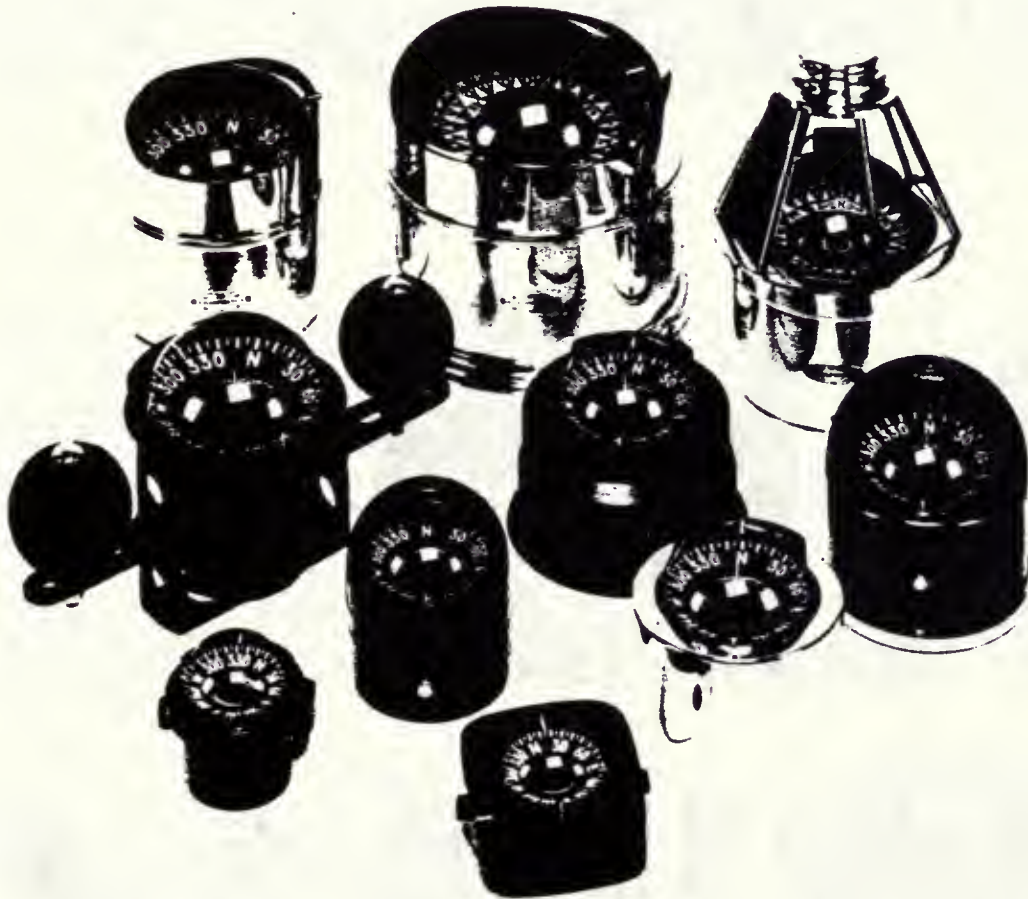
Assuming freedom to oscillate permitted and moderate shelter from seas proportionate with hull size.

L.O.A.	BEAM				Permanent Mooring	Storm Anchor	Working Anchor	Lunch Hook
	Sail	Power	Sail	Power				
10	4	4	4	4	480	320	160	40
15	5	5	5	5	750	500	250	60
20	6	7	6	7	1080	720	360	90
25	6	8	6	8	1470	980	490	125
30	7	10	7	10	2100	1600	800	175
35	8	12	8	12	2700	2400	1200	225
40	10	14	10	14	3600	3200	1600	300
50	12	16	12	16	4800	4400	2200	400
60	14	19	14	19	6000	5600	2800	500



COMPASSES AND COMPASSING

R. D. OGG



HISTORY

The actual beginnings of the magnetic compass are lost to history. Although tradition gives the credit to the Chinese, there is no real supporting evidence. Ancient travellers set their courses by the stars, the sun, or the winds... which in many parts of the world are fairly constant in direction at certain times of the year. In fact the Wind Rose (see fig. 1) is far older than

Figure 1 — The Wind Rose



the compass itself. On the earliest compass cards, the principal points were named after the eight "principal winds."

A Chinese dictionary of 121 A.D. defines lodestone as "a stone with which an attraction can be given to a needle." The magnetizing power of this natural iron ore was known in Europe at least 500 years earlier, but the language of that dictionary definition makes us wonder if the Chinese did not also know about the polarity of magnets plus the ability of a free-turning magnet to aim itself in a fixed direction. Or else, why the word "needle" which is surely a "pointing" kind of object.

The first compasses of which we have any description were in fact magnetized needles or wires of iron, floated in a bowl of water by means of a chip of wood, a splinter, or a feather quill. The end (fig. 2) pointing toward the north was marked in some distinguishing way. In time other "points" or directions on the float came to have marks and names that were carry-overs from the far earlier Wind Rose. Thus we see the beginnings of the compass card in very primitive form.

Mr. Ogg is a member of the Society of Naval Architects and Marine Engineers, the American Society of Naval Engineers, and the North American Geophysical Union. He is frequently called upon for consultation and expert testimony. In addition to this booklet, he is a contributing author to the *Handbook of Ocean and Underwater Engineering*, *Chapman's Piloting, Seamanship and Small Boat Handling* and has authored numerous articles in various marine publications. He is also author of *Anchors And Anchoring*, now enjoying its ninth edition.



ABOUT THE AUTHOR

Bob Ogg's interest in boating began during his early childhood years in Maine. In the mid-thirties, he decided to make his favorite pastime his career. While studying engineering and physics at the University of California, Bob Ogg and his uncle, R. S. Danforth, became engaged in the research and development of anchors. This led to the invention of the Light Weight Type anchor (LWT), which became the most popular anchor in use on a worldwide basis on yachts and commercial vessels alike. In 1982, Mr. Ogg invented the "flexible shank anchor," an innovation being exclusively utilized by Rule Industries, Inc. in the Danforth® Deepset™ anchor lines.

During World War II, Mr. Ogg served in the U.S. Navy, advancing from Seaman to Warrant Boatswain and to Lieutenant Commander.

In 1961, the Constellation® compass became a part of the Danforth line of quality marine products which today enjoys worldwide recognition as the finest compass line available for marine use. Mr. Ogg headed the Danforth marine business from 1948 for 31 years until retirement in 1979, becoming the recipient of many patents for anchors, compasses and marine electronics, and is recognized as one of the foremost authorities on anchors and oceanographic forces.

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Figure 2 — A floating needle compass

Starting about 1100 A.D., old writings are full of references to the use of floating needle compasses by Arabian, Italian, and Scandinavian navigators. Knowledge of the art spread rapidly along the trade routes of those days. Numerous improvements began to be made in the shape and construction of the float, the use of two or more parallel needles, and elaboration of the ways of designating points other than north and south.

Early in the 13th century we find the first mention of a pivoted compass being simply a magnetized needle placed on a pivot and left free to find its rest position. The north-pointing end of the needle was distinctively marked; but since the needle did not cause a "card" of any type to turn with it, the device was not as useful as the floating compass in quickly identifying different directions of interest. Its great advantage was sensitivity. Much ingenuity was expended in trying to make it usefully stable without losing quickness of response. The Chinese developed a form in which the needle was only about an inch long, greatly reducing the rotational moment of inertia and balanced on a fine pivot very close to the center of gravity (see fig. 3).

For many years, into the early part of the 14th century, both the floating type and the pivoted type of compass were used almost equally. Gradually however, the use of the floating compass died out as improvements in the pivoted dry compass multiplied. Bundles of needles or a set of parallel needles replaced the single needle. Semi-precious stones such as agate were



Figure 3—
Early Chinese compass

drilled and polished to serve as pivot bearings. A compass card was fixed to the bottom of the compass bowl or box, while in some instruments the card was fixed to the magnets and rode with them. This was probably invented sometime before 1300 by navigators from the Italian port of Amalfi, but it was not universally accepted as an improvement. External gimbal rings, first mentioned in about 1604, steadied the compass box on a rolling or pitching ship. In one development, the pivot itself was gimbaled and fixed to a heavy weight to keep it vertical. An example of this can be seen at the Peabody Museum in Salem, Massachusetts, along with a compass by Ralph Walker (about 1750) which is virtually a complete navigational instrument with movable sextant and bearing sights (see fig. 4).



Figure 4—Ralph Walker compass (1750)

The existence of magnetic variation had been found, and serious attempts were made to use it as a basis for deter-

the first chart of lines of equal variation (isogonic lines) compiled by Edmund Halley in 1700. Early in the 19th century the deviation of a compass due to magnetic materials in the ship itself was also recognized. It was shown to be the result of magnetism induced by the earth's field in iron or steel on board ship. This was first demonstrated by Commander Matthew Flinders of the British Navy between 1800 and 1810. The "Flinders bar," used to counteract one of the several causes of deviation, still bears his name. Other methods of correcting compasses for deviation were rapidly worked out and included in the design of the best instruments.

Until about 1800 compass development was sporadic and sometimes fanciful for the most part. Then there was a sudden spurt of improvements, much more scientifically directed than before. During this period new forms of the "liquid compass" returned to favor. These were not the early floating compass type; instead they used a liquid in which a pivoted card was entirely submerged in order to increase its stability. In 1813 an Englishman named Francis Crow invented a compass of this variety which was widely used, but his design did not include an expansion chamber to allow for changes in volume of the liquid with changes in temperature.

In the mid 1800's a compass was designed in which the pivoted card included a sealed air chamber which exactly counteracted the weight of the card and magnet assembly when submerged in the compass liquid. The pivot friction was thus greatly reduced improving the sensitivity of the instrument. This compass was comparatively stable particularly under the shocks of gunfire. For a considerable time it was widely accepted as the best available.

With the introduction of steam-driven ships, however, new problems began to appear. The heavy engine vibration made the card jiggle violently, and the compass tended to give an erratic indication even in a calm sea. To overcome this difficulty, Lord Kelvin introduced a compass of radically new design in 1876. The pivot bearing cup and the magnetic assembly were separately attached to a metal ring by fine silk threads. The card, secured to the ring, had a hole at the center for the passage of the pivot post. The silk threads provided a "spring" system supporting the

struction of a ship made its decks more rigid in a horizontal direction than in a vertical one, and that most of the vibration at the compass binnacle would be vertical. His design was aimed at isolating the card and magnets from this vibration. It succeeded so well that his compass was quickly adopted on many early steam-driven vessels.

Early in the 20th century the design of marine engines underwent a series of changes that practically eliminated the need for Kelvin's suspension. Without getting involved in detail, the key point was that the amplitude of vibrations produced in various parts of the vessel got smaller, though their frequency or pitch went up. It became relatively easy to reduce them to the vanishing point over a greater part of the ship, while at the same time the development of vibration-isolating materials such as rubber made it a simple matter to protect sensitive instruments.

The so-called "standard" liquid compass, which had never been completely dropped, consequently returned as the most desirable type for general use. Its superior stability under severe conditions of rolling, pitching, yawing and sudden shock was highly valued as it is today. Many small improvements in construction had overcome problems of sensitivity, lighting and the correction for deviation. The hemispherical bottom of the bowl containing the liquid, which is a special oil or a mixture of alcohol and water, reduced disturbance of the liquid and consequently the card movements due to motions of the boat. The fact that the top of the bowl was flat did not cause any real problem as long as the vessel's roll or pitch was not too severe—and they seldom were severe enough to make trouble except on small boats.

Some forty-five years ago the growing use of smaller boats and the popularity of small boat sailing for pleasure put this last problem in a different light. The result was the development of the spherical liquid compass by Wilfrid O. White. This compass is widely considered to represent the peak of the compass-builder's art. Its perfectly spherical bowl, in which the liquid is practically bisected by the compass card, has the effect of isolating the card from rotational motions of the

loss of sensitivity even in the roughest weather.

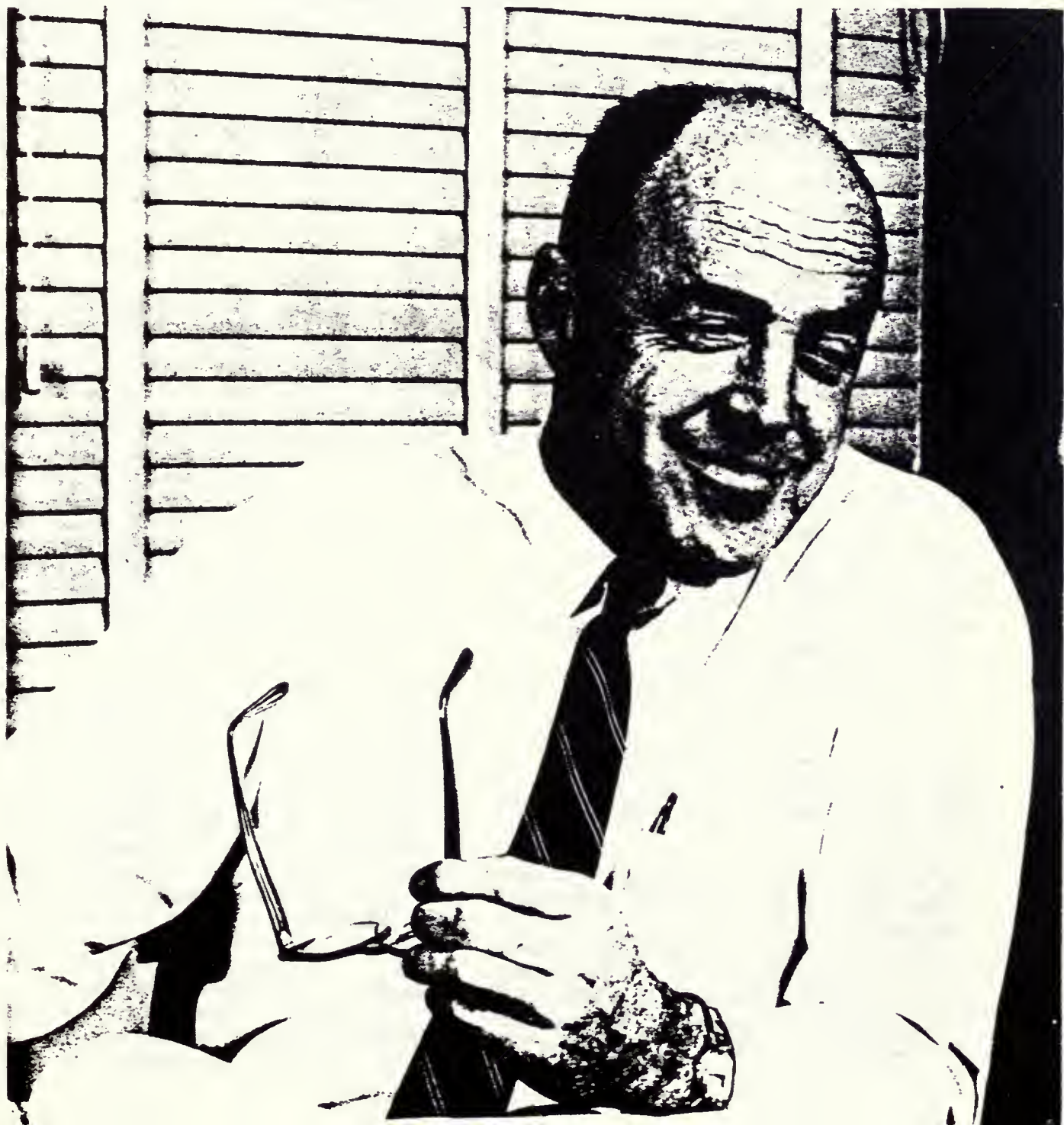
Modifications in marine compass spherical compass more than a half century ago have been made mainly to enhance its versatility and performance, in response to the specialized and demanding boating needs of today. Most modern, top quality compasses offer such features as night lighting, full internal gimbaling, hardened pivots and jewels, internal correctors, a choice of card styles—the conventional distance read card, as well as hi-speed models designed to withstand the punishment of powerboat use while maintaining spin-free performance.

The most innovative compass available today is the Danforth Freedom™ compass which not only incorporates all of the design features characteristic of the current trend, but also offers the truly unique features of surface mounting for ease of installation (no holes to cut in the deck or bulkhead) and a choice of models with battery powered night lighting so that no "hard wiring" is necessary when mounting the compass.

In the years since World War I, compasses of various types have been invented to meet new navigational needs. These include aircraft compasses, and the gyro compass which depends on the rotation of the earth rather than on magnetism. Nevertheless, the mariner's magnetic compass still keeps its central importance to all who sail beyond the sight of land. Today it is a perfected instrument of guidance and safety. It is easy to install, easy to use, and easy to adjust so that it does its job perfectly on all headings and on the roughest seas. Truly, Columbus never had it so good!

an industry leader speaks out

A conversation with Robert D. "Bob" Ogg, managing director of the Danforth Div., The Eastern Co., Portland, Maine, and a lifelong advocate of quality in pleasure boating products.



By CHARLES JONES □ Like Coca-Cola and Coke, the words Danforth and anchors are almost synonymous in the pleasure boating field.

For several generations Danforth has supplied a major portion of the anchors sold to boat owners in this country and around the world. Its famous stock-stabilized-pivoting-fluke, lightweight type anchor pioneered in the field. Quality materials and product dependability have always been the backbone of the Danforth organization.

Bob Ogg and the late Richard S. "Dick" Danforth worked jointly in the late 1930s in the invention and development of the Danforth line of anchors. For well over two decades Bob Ogg has guided the destiny of this firm. He was a part of its dramatic move ten years ago from the mild climes of northern California completely across the nation to the rockbound coasts of New England. There a new home was established in Portland, Maine. Danforth's acquisition in 1959 by the Eastern Co. provided additional desirable capabilities and resources for future growth and developments.

Bob has guided Danforth through acquisitions and mergers which have tremendously broadened its pleasure boating product lines in recent years, and at the same time have made it a dominant contender among the industry's diversified companies.

Despite this flurry of business activity, he has found time to ensconce himself in a great colonial house over 200 years old on a farm in the country near North Windham, Mass. With his eye for authenticity and knack for the unusual, he is presently deeply engrossed in its restoration.

Bob is a retired Lieutenant Commander. During WW II he was on the Nimitz staff. He is an engineer and physicist; a member of both the S.N.A.M.E. and A.M.S.E. Currently he is president of the Navy League on the Maine coast.

Major acquisitions for Danforth include the purchase of Wilfred O. White & Sons in the early 1960s. The purchase of Ware Automotive, Falcon Horns, Northill Anchors, Sea Slave, K-S Marine Lamps, and portions of Ted Kenyon's Ken-Lab.

Each new product line has been carefully upgraded and integrated into an overall line-up of boating wares of the highest quality.

With a knowing grin and his straightforward New England manner, Bob Ogg meets the challenge of the future with confidence and the easy assurance that there are even bigger things in the wind for Danforth in the decade ahead.

As one of the pleasure boating industry's major voices for quality how do you view the future in this regard?

We strive . . . and I believe succeed in building "Tiffany" products. This is not easy. It never has been and . . . believe me . . . it is getting more difficult with each passing year. Today the old time skills and pride of workmanship are no longer available as they once were. Up in Maine where we are located we have

what I believe is one of the last bastions of craftsmen. Special skills are still available but there simply aren't enough such individuals to go around. The shortage of trained people in this country gets more acute every year.

Today we must not only build our products with the look and performance of quality but we must also make them "primer easy". By this I mean that we must make their use simpler and more effortless than ever before. This goes for both the initial installations and for the operation. There are no longer skilled electricians and mechanics available at many boatyards and marinas around the country who can install a complicated piece of gear. At the same time there are very few boat owners who understand . . . or are willing to take the time to learn to operate a complicated instrument or piece of electronics gear. As a result of these customer changes we are constantly improving and simplifying the installation methods of everything we manufacture and offer to the pleasure boating industry. We strive to retain the same time honored outward appearance but inside it's an ever changing story. I know that this is the case with a lot of the manufacturers in our industry.

Isn't genuine quality prohibitively expensive with today's skyrocketing costs of materials and labor?

It is costly but I'm convinced quality is always cheaper in the long run. This is becoming more of a proven fact every year. People are tiring of living with mediocrity. There is a greater swing toward honest to goodness quality in boating gear today than in many a year.

In my opinion the lack of quality in our industry today is one of our weakest spots. Too often manufacturers and builders do not assume the responsibility for the quality of the products they offer. They seem to assume the philosophy of "buyer beware." Did you ever stop to think how important the simplest piece of boating gear can be? Take a pulley for instance. If it is not made of the best materials obtainable and properly assembled it could cost a life. I certainly wouldn't want that on my shoulders.

How do you select materials?

We have three guiding rules when making material selections. First we look at the materials from the standpoint of safety and performance for the job they are to do. Secondly we are interested in their appearance. The kind of finish they will ultimately take and how they will look after installation. We also want to be certain that with a moderate amount of care the appearance can be maintained over a long period of time. Last we reckon the cost of materials. Cost is important to us . . . but maybe less so than to some other manufacturers. We have learned that the customer is willing to pay a premium price if he is getting the best. This means that we can utilize the finest materials available, turn out products of which we can be justifiably proud today and 20 years from now, and make an adequate profit too.



"It is costly but I'm convinced quality is always cheaper in the long run. This is becoming more of a proven fact every year. People are tired of living with mediocrity. There is a greater swing toward honest to goodness quality in boating gear today than in many a year."

We are the industry's major anchor supplier. Do you realize how much an anchor manufacturer has at stake as far as a boat owners safety is concerned? He not only has a responsibility to build the finest anchor he knows how but he also has a big job to do in educating boat owners concerning the proper use of their anchors. We have, for many years, published a costly little book called "Anchors and Anchoring". These have been distributed by the hundreds of thousands. We even up date it periodically to keep abreast of changes and to be sure it does the best job possible.

Do you detect a trend toward more quality in the products being offered by marine manufacturers?

Yes, I do. I feel that in general the quality of the products being sold in the pleasure boating field has improved these last two years especially.

Ten years ago the industry over sold boating before it had a complete line up of quality products to offer. This really hurt us. Fiberglass was a relatively new boat building material in those days. Some builders did not produce a tested quality product. Others over produced and many in the industry were underfinanced. It set the industry back badly. Today we are, for the most part, moving ahead the way we should. We seem to have overcome the difficulties of a decade ago. Our growth is more gradual, the quality of what we offer is better and most of us have a stronger financial picture than we had 10 years ago.

Both the immediate and long range future of pleasure boating is a big concern to a lot of people today . . . especially with the economy tightening and the stock market in a decline. What is your outlook?

I can see nothing but long range growth for pleasure boating. Most of us had a really great year in

1969. I understand that over-all the industry reported a substantial gain at the retail level in dollar sales. Even with inflation what it is that's a big step up. We can't expect to show an increase of that proportion every year.

With the ever increasing number of leisure hours available to the average working man, the new quest for luxury even in recreational facilities, and the vast amount of discretionary income that is more or less to be spent as we wish, boating can look for some great business years ahead.

I believe that luxury and comfort will play an ever increasing role in the future of life. This kind of thinking on the part of John Q. Public automatically forces quality. It's a trend which I heartily endorse.

We expect to show an increase in sales during 1970. I expect that others in the industry will do the same. Over all I look for only a slight jump over 1969 . . . which was a real banner year. As we move further into the 1970's, however, I look for the growth pattern to improve dramatically. I look for the present tight money situation to improve by summer.

Good, qualified help is becoming increasingly scarce. What will be the answers to this situation?

Computerization has to be the answer for many manufacturers and builders. Many have already headed in this direction. Up in Bath, Maine they are building destroyers for the West German Navy. Most designs are basically being done by computer.

I also look for more and more modularity which simply have to be plugged in. Several boat companies are already well advanced in this area and others are following. A general lack of technical knowhow in all but specialized areas is going to bring us to much more of a "plug in world".

At the local level it is imperative that boating dealers train and retain at all cost qualified service personnel. Outstanding service . . . just as with good products keep customers happy. There is nothing more important to the future of our industry than happy boat owners. We can't afford to allow them to become disillusioned with boating. There are too many other manufacturers of recreational pleasure equipment waiting to lure them away.

Higher salaries and more benefits are two of the best inducements I know of to keep people on the job and satisfied.

How do you feel about one industry association vs two?

I'm in favor of one united association. In my opinion it is imperative to the future of the industry that the two major manufacturer associations get together at the earliest possible date. I have long been an advocate of this. It was my one great desire during my term as president of the National Marine Products Association. I can see no reason to wait . . . we all know it has to happen sometime.

Recent events give me renewed hope that this day is not far off. I understand that a great deal of ground work is already done and many areas of accord have been reached toward the formulation of a single National Marine Industry Association. It is time we speak with one united voice. Division such as we have had reduces respect and dual standards such as those on wiring have made us look bad as an industry.

Bob Ogg

Bob Ogg is identified as closely with a marine product as anyone can be without having his own name become generic with it. That's exactly what happened to his uncle, Dick Danforth, with whom Ogg went into the anchor business while in his teens. But the Danforth anchor and Bob Ogg are still identifiable as one: it's impossible to think of one and not the other.

For Ogg, managing director of the Danforth Division of The Eastern Company, looks back on 35 years since he and his uncle founded the company in 1939 to introduce the first Danforth anchor. It all started when he and his uncle, who often anchored overnight on San Francisco Bay in Danforth's sloop, had to get up in the middle of the night to reset the anchor, a type that was the most advanced of the day. Angered by repeated product failure, both decided an anchor could be designed that would keep a boat anchored. After experimenting for several months, they developed a crude prototype of the first Danforth anchor.

The company's first efforts were devoted primarily to building anchors from 30 to 10,000 pounds for use by the Navy, particularly anchors used for landing craft. In landing craft application, anchors were set astern as the craft was driven up onto the beach. To leave, the craft was then simply winched back to the anchor. (A member of Admiral Nimitz's Communications staff during World War II, Ogg is a LCDR, USNR (ret.).

An engineer involved in helping design the Danforth anchor from the beginning, Ogg's goal was a design that forced rapid penetration of the bottom, combined with a maximum surface fluke area that is brought into rapid contact with the bottom, utilizing the resistance of drag to hold. He wanted an anchor that drives deeper with more pull, a stock that virtually eliminates any rotation out of the bottom, plus a capability of resetting if it pulls loose.

It's lack of weight proved to be a selling handicap in the early days of consumer marketing in the 40s and 50s. Explains Ogg: "Boaters simply refused to believe that so light an anchor could hold so much. It was really Hurricane Carol in New England in 1954 that convinced many people. Hundreds of boats, anchored to Danforth anchors, rode out the hurricane, while thousands

of other boats were either washed ashore or out to sea."

Ogg decided that a booklet on the techniques of anchoring, primarily educational and non-promotional, was needed. The booklet, "Anchors and Anchoring," which he wrote, is now in its seventh edition and he estimates more than 2 million copies have been given away free. For years it has been used as a textbook for both Coast Guard Auxiliary and Power Squadrons.

His desire to spread the word about anchoring in general, and Danforth anchors, in particular, extends to company catalogs, which are handed out freely. The reason provides a clue to Ogg's long-range approach to sound growth. One year at a New York Boat Show, an oldtimer in the industry asked Ogg why he let anyone, especially children, pick up catalogs without any attempt in qualifying them.

"That's the cheapest sales call I can make. I would rather see 100 catalogs wasted than miss an actual or potential prospect with one. Kids? Five or ten years from now they may buy a boat. I want them to remember Danforth with a good feeling."

Through Ogg's brand of continuing promotion of the Danforth anchor, fed with the burning conviction of a dedicated religious zealot, the company rose to the top of its market by 1959, and Ogg felt expansion into other marine products was desirable. In that year, the company was acquired by The Eastern Company. Ogg's position with the company is underscored by one of the conditions of the sale: that he remain as head.

From that year on, Ogg has led the company through a period of product diversification, sometimes through new

product development, sometimes by acquisition, so that today, its lines include compasses, weather instruments, lights, depthfinders, automatic pilots, horns, davits and other products, some several hundred products in all, including, for example, 45 different basic models of compasses alone.

Still, it's not specific products as such that excites Ogg to continue Danforth's expansion. "Our most important product," he declares, "is our reputation. When someone sees any product with the name Danforth on it, I want him to recognize the quality our name stands for."

Besides giving his all to Danforth for the past three and one-half decades, however, Ogg is known for his marine expertise outside his company. An engineer, he's a member of the Society of Naval Architects and Marine Engineers, American Geophysical Union, as well as the American Society of Naval Engineers. And, of course, he's also a member of the Boating Industry Association, and NAEBM.

After 35 years, Ogg is more excited than ever about Danforth, and speaking of the quality reputation he points out it has achieved, is still the company's best spokesman—a public relations department's dream executive: "I really can't say it strongly enough or say it enough times: this company was founded on consumer trust . . . the trust we've developed into every product we make. It's that sense of product integrity that has earned Danforth the reputation it now has . . . and I'm doing everything that can be done to make that reputation even stronger than it is today." His record for more than three decades is convincing evidence it's hardly an idle boast.



3,024,756

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Whereas Robert D. Ogg, of Portland, Maine, assignor to
The Eastern Company, a corporation of Connecticut,

PRESENTED TO THE **Commissioner of Patents** A PETITION PRAYING FOR
THE GRANT OF LETTERS PATENT FOR AN ALLEGED NEW AND USEFUL INVENTION THE TITLE
AND A DESCRIPTION OF WHICH ARE CONTAINED IN THE SPECIFICATION OF WHICH
A COPY IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND COMPLIED WITH THE
VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED, AND

Whereas UPON DUE EXAMINATION MADE THE SAID CLAIMANT is
ADJUDGED TO BE JUSTLY ENTITLED TO A PATENT UNDER THE LAW.

NOW THEREFORE THESE **Letters Patent** ARE TO GRANT UNTO THE SAID

The Eastern Company, its successors

OR ASSIGNS

FOR THE TERM OF **SEVENTEEN** YEARS FROM THE DATE OF THIS GRANT

RIGHT TO EXCLUDE OTHERS FROM MAKING, USING OR SELLING THE SAID INVEN-
TIONS THROUGHOUT THE UNITED STATES.

In testimony whereof. I have hereunto set my
hand, and caused the seal of the Patent Office
to be affixed at the City of Washington
this thirteenth day of March,
in the year of our Lord one thousand nine
hundred and sixty-two, and of the
Independence of the United States of America
the one hundred and eighty-sixth.

Attest:

Ernest Swider
Attesting Officer.

Thos. L. Rice
Commissioner of Patents

March 13, 1962

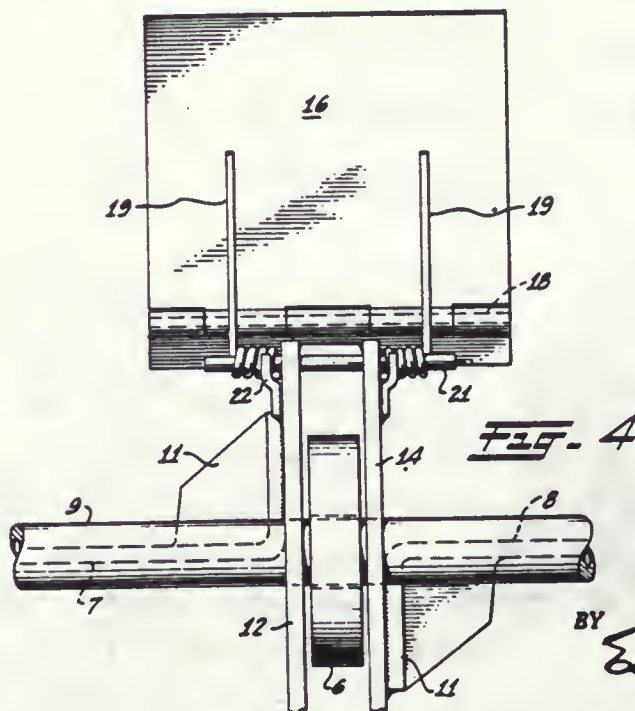
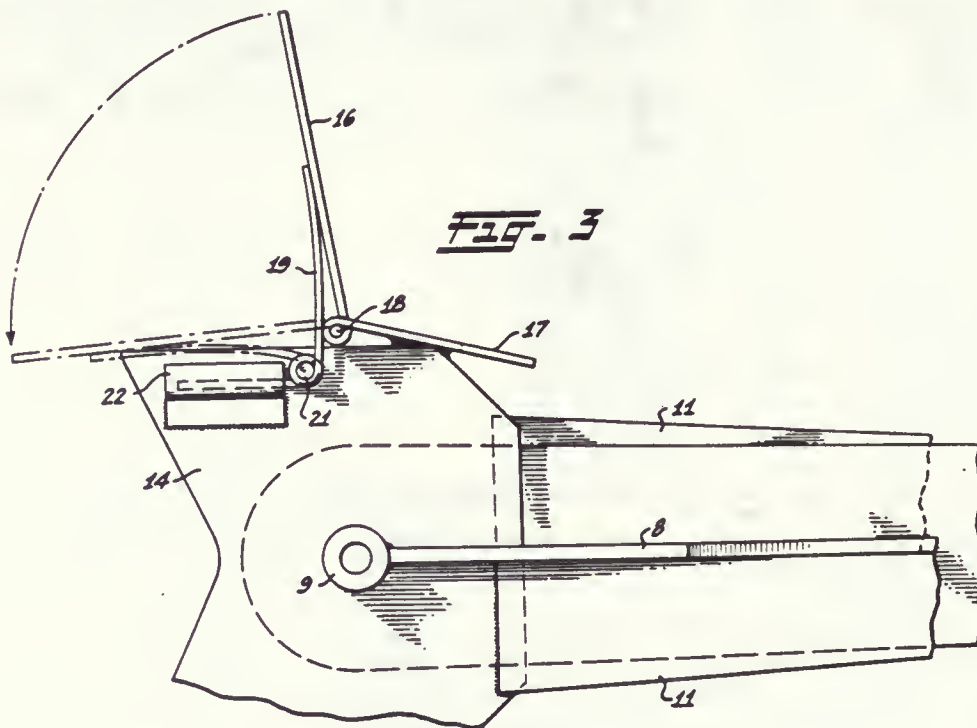
R. D. OGG

3,024,756

ANCHOR WITH HINGED CROWN SECTION

Filed Dec. 21, 1960

2 Sheets-Sheet 2



INVENTOR:-
ROBERT D. OGG

BY *Benaroff & Stein*
ATTORNEYS

March 13, 1962

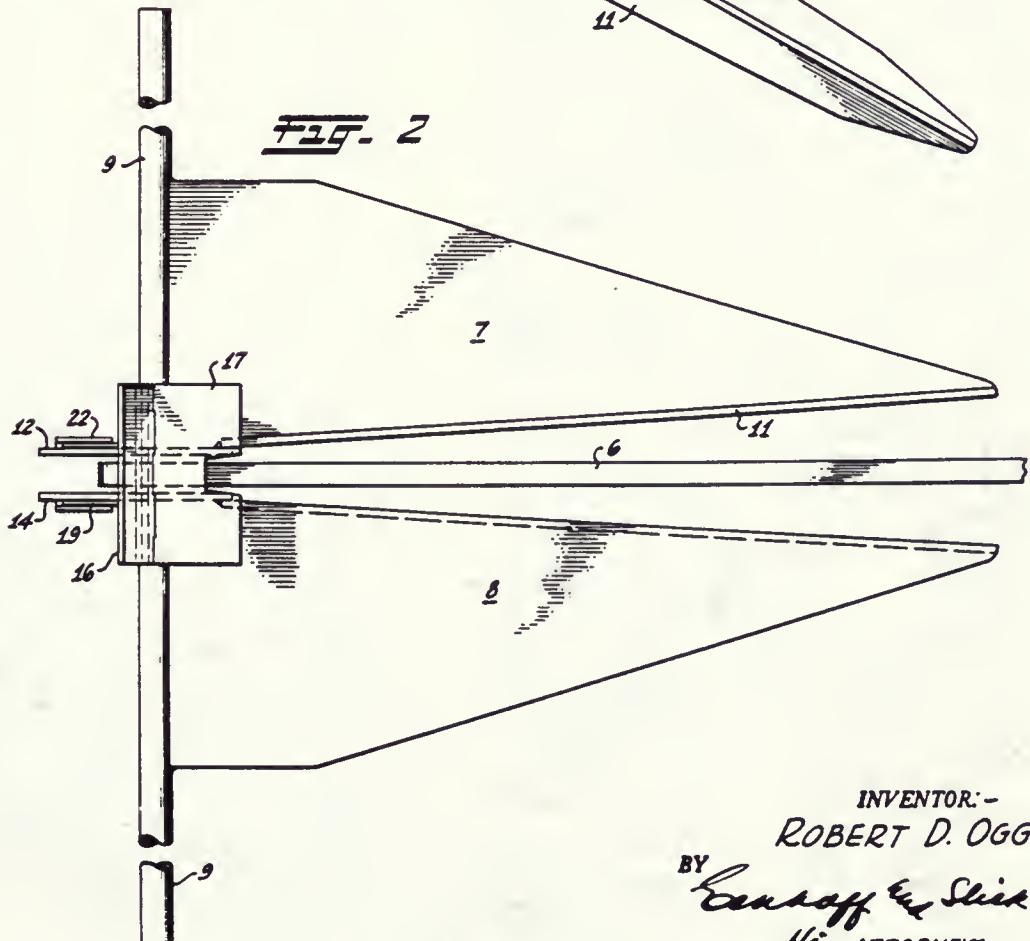
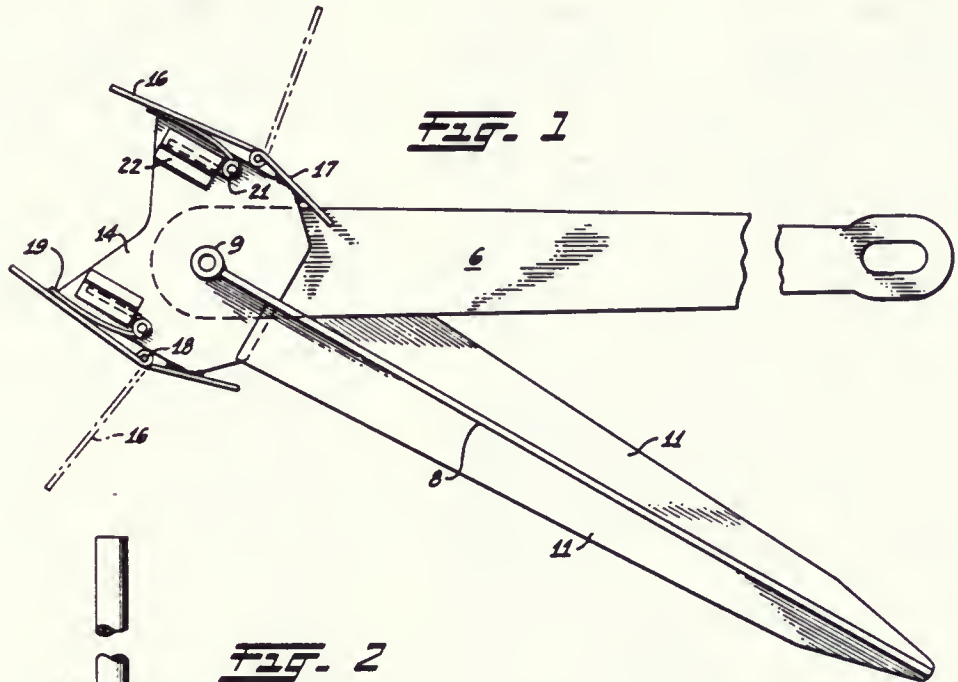
R. D. OGG

3,024,756

ANCHOR WITH HINGED CROWN SECTION

Filed Dec. 21, 1960

2 Sheets-Sheet 1



INVENTOR:-
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1

3,024,756

ANCHOR WITH HINGED CROWN SECTION
Robert D. Ogg, Portland, Maine, assignor to The
Eastern Company, a corporation of Connecticut
Filed Dec. 21, 1960, Ser. No. 77,373
7 Claims. (Cl. 114-208)

This invention relates to an improved ship's anchor of the twin fluke type, particularly anchors constructed in accordance with any one or more of Patents 2,249,546; 2,282,566; 2,320,966; 2,567,390; 2,641,215 and 2,643,631.

The so called twin fluke anchor includes a shank and twin flukes, usually secured together as a unit and pivoted at one end of the shank whereby both flukes engage the ground simultaneously. The anchor may include a stock at either end of the shank although it is common to pivot the shank on the stock so the latter is provided at the after end of the shank. Anchors of this type are known as having an extremely high holding power per pound of weight. For example, when such an anchor is engaged with a good sound bottom, it is not infrequently found that the anchor will hold several thousand times its own weight.

When such an anchor is cast overboard and is permitted to fall upon bottom, the pull provided by the attached anchor line or cable draws the anchor over the bottom. To ensure that the flukes engage bottom positively and without too much loss of time, it is usual to provide at the after end of the anchor, a structure which facilitates movement of the flukes into operating position and ensures their rapid and positive engagement with the bottom. This structure, usually termed a crown, has included arrangements of both arcuate and plane surfaces extending upwardly more or less directly from the plane of the flukes for a considerable distance above such plane. It is the function of these surfaces to ensure that the anchor engages bottom promptly and that the flukes are moved relative to the shank into their final operative position.

In Patent 2,641,215 the crown of such a twin fluke anchor is described in considerable detail. It is said to be a particular advantage of that anchor that it would engage a bottom promptly when drawn over the bottom and would not "float." When an anchor "floats," the flukes lie flat on the bottom surface or are even inclined upwardly and do not fall into operating position even though the anchor is drawn over the bottom for considerable distance. "Floating" occurs most frequently in a soft mud bottom. In fact, it is in a bottom of this characteristic that the greatest difficulty is encountered in securing the engagement of a twin fluke type anchor. This is because if such an anchor is designed to operate satisfactorily on a hard sand bottom it generally will not engage promptly in a soft mud bottom. Many harbors and rivers throughout the world carry so much silt that effecting a proper anchorage is a matter of some difficulty. In many instances, the bottom will contain a fluid mixture of silt and water of such low density that it is ineffective in offering much more resistance to the movement of the anchor than water itself and, as a consequence, an anchor designed to function properly in hard sand is merely drawn through this fluid mass ineffectively.

The anchor of the present invention is particularly characterized by its ability to function satisfactorily in either type of bottom, that is, it possesses the necessary characteristics for functioning satisfactorily in a soft mud bottom as well as in a good hard sand bottom. To achieve this, the anchor possesses a crown structure including dual crown-plates mounted on each side of the anchor, one of each of the dual plates being movable with respect to the other whereby, upon engagement with

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a soft bottom, the flukes are rotated into engaging position promptly and effectively. If the anchor transverses the soft portion of the bottom and becomes engaged with hard sand, then one of the dual plates is moved into a second position in which it provides the crown characteristics necessary to ensure proper engagement of the anchor in a hard sand bottom.

A further feature of the anchor of this invention is its ability to rid itself of soft clinging mud by reason of the novel crown construction.

It is in general the broad object of the present invention to provide an improved twin fluke anchor construction in which a crown is provided having dual crown-plates on each side thereof, one of each of the dual plates being movable with respect to the other whereby the crown characteristics initially provided are suited to the engagement of the anchor in a soft bottom, these characteristics changing automatically as the anchor is moved into engagement with a firmer bottom.

The invention includes other objects and features of advantage, some of which, together with the foregoing will appear hereinafter wherein the present preferred form of anchor is set forth.

In the drawings accompanying and forming a part hereof, FIGURE 1 is a side elevation showing an anchor constructed in accordance with this invention; the full lines show the anchor as it appears when engaged in hard bottom, while the dotted line shows the anchor as it appears free of any bottom engagement or in a soft bottom.

FIGURE 2 is a top plan view of the anchor with the flukes extended in the same plane as the shank.

FIGURE 3 is an enlarged fragmentary view of the crown.

FIGURE 4 is an enlarged fragmentary view looking at the rear of the anchor and showing the construction of one of the dual crown-plates.

The anchor of the present invention includes a shank 6, a pair of substantially like symmetrical flukes 7 and 8 disposed on opposite sides of the shank. A stock 9 is extended between the flukes 7 and 8 and the three are joined together as by welding into a suitable unit, the shank being mounted between the flukes and pivotally supported on the stock 9. Each fluke includes a rib 11 extending along its inner edge adjacent to the stock. Extending transversely of the plane of the flukes are spacer plates 14, the spacer plates extending above the plane of the flukes a short distance. Mounted upon the spacer plates on each side of the flukes are dual crown-plates 16 and 17 joined together by a hinge 18. Each crown-plate 17 is fixed in position on the spacers and extends forwardly over the flukes at a small acute angle, e.g. 5° to 25°, while crown-plates 16 is urged by a spring 19 into a vertical position in which it stands upwardly in respect to the plane of the flukes at an angle of approximately 80° to such plane. Any further movement of the movable plate 16 toward the flukes is limited by the construction of the hinge 18. The springs 19 are supported upon a pin 21 passed through the spacer plates. One end of the spring 19 bears against the back of a plate 16 while the other end of the spring is carried in a clip 22 mounted on the side of a spaced plate.

Normally, the movable crown-plates each stand outwardly at an angle of from about 70° to about 80° to the plane of the flukes as is shown in FIGURE 1. Thus, in the normal position of engagement of the anchor in soft bottom, as is shown in dotted lines in FIGURE 1, both movable plates 16 stand out at this angle to the plane of the flukes. The pressure applied by the spring 19 is such that the plates are maintained in this position unless and until the anchor comes into engagement with a bottom of such consistency that sufficient pressure is applied

to move the plates against the bias of the springs into the full-line position in which the plates are shown in FIGURE 1. Thus, the described anchor is such that it functions effectively in either a soft or hard bottom, adjusting and suiting itself to the characteristics of the bottom engaged.

As is set forth in Patent 2,641,215, in the preferred form of anchor the crown-plates are preferably positioned so that from 20% to 50% of the area of each dual crown-plate is forward of the stock, the preferred value being 35% and the preferred range, 25% to 45%. Each dual crown-plate is disposed fore and aft of the pivot and should preferably be of an overall length equal to 19% of the shank length, the preferred range being 15% to 23% and in any case the preferred overall length between 10% and 28% of the shank length; in the anchor shown in the drawing, the shank length is the distance from the center of the cable attachment eye to the center of the stock.

Each fixed-crown plate 17 preferably slopes upwardly and away from the plane of the flukes at a relatively small acute angle, preferably 14° and preferably one within the range of 9° to 19° and in any case between 5° and 24°. Also, each dual crown plate must, for best results, be spaced from the center line of the pivot (measured in a direction substantially normal to the plane of the flukes) a distance equal to between 8% and 10% of the shank length, the preferred distance being in the range of from 5% to 14%, and in any case, within the range of 3% to 16%; when the stock acts as the pivot mounting for the flukes, the stock center line or longitudinal axis can be utilized in making this measurement.

In addition, I prefer that each plate 16 provide at least about 40% of the total area of the crown-plates and preferably from 50% to 75% of such total area of the plates 16 and 17.

I claim:

1. An anchor of the twin fluke type having a shank with a forward and an after end, a stock, a pair of flukes pivoted at the after end of the shank with the shank between the flukes, said flukes having faces thereon substantially simultaneously engaging the ground in operative position; the improvement comprising a crown including a pair of substantially flat crown-plates, each crown-plate being supported in the position wherein said crown-plate is spaced from the plane of the flukes, each crown-plate includes a forward and after portion, the two portions being hinged with respect to each other, the after portion being movable with respect to the flukes between a first position in which the movable plate stands at an angle of from about 70° to about 80° to the plane of the flukes and a position in which said plate is substantially parallel to the forward portion.

2. In an anchor of the twin fluke type having a shank with a forward and an after end, a stock, a pair of flukes pivoted at the after end of the shank with the shank between the flukes, said flukes having faces thereon substantially simultaneously engaging the ground in operative position; the improvement comprising a crown including a pair of substantially flat crown-plates, each crown-plate being supported in a position wherein said crown-plate is spaced from the plane of the flukes a distance, measured outwardly from the center line of the stock and at substantially 90° to the plane of the flukes, of between about 3% and about 16% of the shank length with each crown-plate sloping upwardly and rearwardly away from the plane of the flukes and being supported to permit bottom to flow freely between the fluke and the underside of the crown-plate, each crown-plate having a width greater than about 5% of the shank length and a length of from about 10% to about 28% of the length of the shank and being positioned with between about 20% and about 50% of its area forward of the pivot, each crown-plate including a forward and after portion, the two portions

being hinged with respect to each other, the after portion being movable with respect to the flukes between a first position in which the movable plate stands at an angle of from about 70° to about 80° to the plane of the flukes and a position in which said plate is substantially parallel to the forward portion.

3. In an anchor of the twin fluke type having a shank with a forward and an after end, a stock, a pair of flukes pivoted at the after end of the shank with the shank between the flukes, said flukes having faces thereon substantially simultaneously engaging the ground in operative position; the improvement comprising a crown at the after end of the shank including a pair of substantially flat crown-plates, and a thin flat plate extending vertically to the plane of the flukes and parallel to the shank and supporting each crown-plate in a position wherein each crown-plate is spaced from the plane of the flukes a distance, measured outwardly from the center line of the stock and at substantially 90° to the plane of the flukes, of between about 3% and about 16% of the shank length and with the crown-plate sloping upwardly and rearwardly away from the flukes at an angle of from about 5° to about 24° to the plane of the flukes, each crown-plate having a width of between about 5% to about 17% of the shank length and a length of from about 10% to about 28% of the length of the shank, each crown-plate including a forward and after portion, the two portions being hinged with respect to each other, the after portion being movable with respect to the flukes between a first position in which the movable plate stands at an angle of from about 70° to about 80° to the plane of the flukes and a position in which said plate is substantially parallel to the forward portion.

4. In an anchor of the twin fluke type having a shank with a forward and after end, a stock, a pair of flukes pivoted at the after end of the shank with the shank between the flukes and movable therebetween in a plane normal to the flukes, said flukes having faces thereon substantially simultaneously engaging the ground in operative position; a crown at the after end of the shank including a pair of substantially flat crown-plates, each crown-plate being supported in a position wherein said crown-plate is spaced from the plane of the flukes a distance, measured outwardly from the center line of the stock and at substantially 90° to the plane of the flukes of between about 3% and about 16% of the shank length with the crown-plate sloping upwardly and rearwardly away from the flukes at an angle of from about 5° to about 24° to the plane of the flukes to permit bottom to flow freely between the fluke and the underside of the crown-plate, each crown-plate having a length of from about 10% to about 28% of the length of the shank and a width greater than about 5% of the shank length and being positioned with between about 20% and about 50% of its area forward of the pivot; the improvement comprising each crown-plate including a forward and after portion, the two portions being hinged with respect to each other, the after portion being movable with respect to the flukes between a first position in which the movable plate stands at an angle of from about 70° to about 80° to the plane of the flukes and a position in which said plate is substantially parallel to the forward portion.

5. In an anchor of the twin fluke type having a shank with a forward and an after end, a stock, a pair of flukes pivoted at the after end of the shank with the shank between the flukes, said flukes having faces thereon substantially simultaneously engaging the ground in operative position; a crown at the after end of the shank including a pair of substantially flat crown-plates, each crown-plate being supported centrally of the flukes and in a position wherein said crown-plate is spaced from the plane of the flukes a distance, measured outwardly from the center line of the stock and at substantially 90° to the plane of the flukes, of between about 3% and

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about 16% of the shank length with each crown-plate sloping upwardly and rearwardly away from the plane of the flukes, each crown-plate having a width greater than about 5% of the shank length and a length of from about 10% to about 28% of the length of the shank; the improvement comprising each crown-plate including a forward portion fixed relative to the flukes and an after portion hinged with respect to said forward portion and to the flukes.

6. An anchor of the twin fluke type having a shank with a forward and an after end, a stock, a pair of flukes pivoted at the after end of the shank with the shank between the flukes, said flukes having faces thereon substantially simultaneously engaging the ground in operative position; the improvement comprising a crown including a pair of substantially flat crown-plates, each crown-plate being supported in the position wherein said crown-plate is spaced from the plane of the flukes, each crown-plate includes a forward and after portion, the two portions being hinged with respect to each other, the after portion being movable with respect to the flukes between a first position in which the movable plate stands at an angle of from about 70° to about 80° to the plane of the flukes and a position in which said plate is substantially parallel to the forward portion providing at least about 40% of the total area of the crown-plates.

7. In an anchor of the twin fluke type having a shank with a forward and an after end, a stock, a pair of flukes

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pivoted at the after end of the shank with the shank between the flukes, said flukes having faces thereon substantially simultaneously engaging the ground in operative position; a crown at the after end of the shank including a pair of substantially flat crown-plates, each crown-plate being supported centrally of the flukes and in a position wherein said crown-plate is spaced from the plane of the flukes a distance, measured outwardly from the center line of the stock and at substantially 90° to the plane of the flukes, of between about 3% and about 16% of the shank length with each crown-plate sloping upwardly and rearwardly away from the plane of the flukes, each crown-plate having a width greater than about 5% of the shank length and a length of from about 10% to about 28% of the length of the shank; the improvement comprising each crown-plate including a forward portion fixed relative to the flukes and an after portion hinged with respect to said forward portion and to the flukes, the forward portion providing at least about 40% of the total area of each crown-plate.

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2,643,631	Danforth	June 30, 1953

3585728

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Whereas, THERE HAS BEEN PRESENTED TO THE
Commissioner of Patents

A PETITION PRAYING FOR THE GRANT OF LETTERS PATENT FOR AN ALLEGED NEW AND USEFUL INVENTION THE TITLE AND DESCRIPTION OF WHICH ARE CONTAINED IN THE SPECIFICATION OF WHICH A COPY IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PATENT OFFICE IN THE CLAIMANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID CLAIMANT(S) IS(ARE) ADJUDGED TO BE ENTITLED TO A PATENT UNDER THE LAW.

NOW, THEREFORE, THESE **Letters Patent** ARE TO GRANT UNTO THE SAID CLAIMANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID CLAIMANT(S) FOR THE TERM OF SEVENTEEN YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF ISSUE FEES AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM MAKING, USING OR SELLING THE SAID INVENTION THROUGHOUT THE UNITED STATES.

In testimony whereof, I have hereunto set my hand and caused the seal of the Patent Office to be affixed, at the City of Washington this twenty-second day of June, in the year of our Lord one thousand nine hundred and seventy-one, and of the Independence of the United States of America the one hundred and ninety-fifth.

Attest:

Edward S. Litcher
Attesting Officer.

William S. Schuyler
Commissioner of Patents.

June 22, 1971

R. D. OGG

3,585,728

COMPASS CARD WITH MAGNETIC PARTICLES

Filed June 2, 1969

2 Sheets-Sheet 2

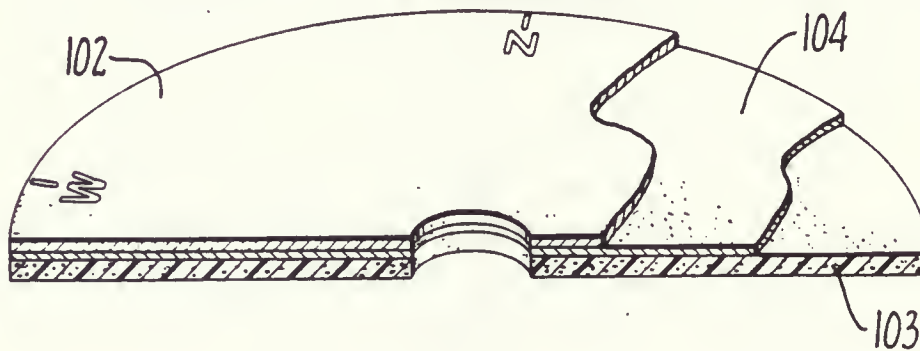


FIG. 4.

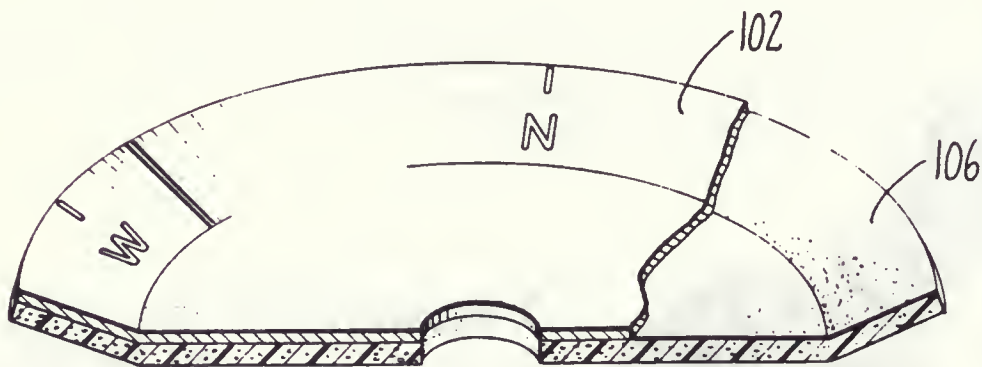


FIG. 5.

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June 22, 1971

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3,585,728

COMPASS CARD WITH MAGNETIC PARTICLES

Filed June 2, 1969

2 Sheets-Sheet 1

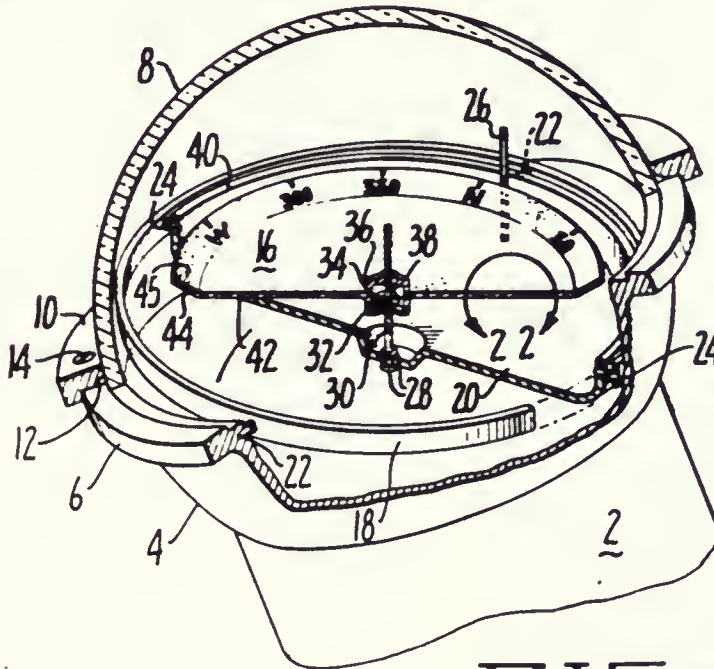


FIG. 1.

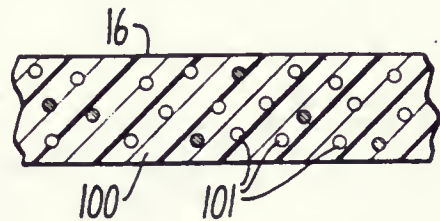


FIG. 2.

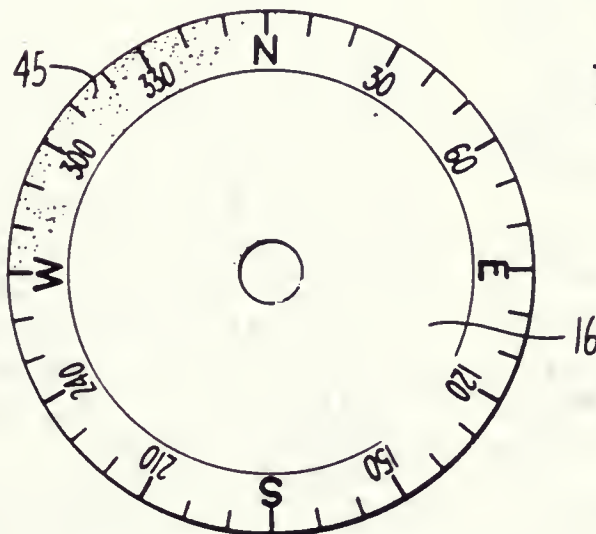


FIG. 3.

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1

2

3,585,728

COMPASS CARD WITH MAGNETIC PARTICLES

Robert D. Ogg, Portland, Maine, assignor to

The Eastern Company

Filed June 2, 1969, Ser. No. 829,534

Int. Cl. G01c 17/04

U.S. Cl. 33—222

1 Claim

ABSTRACT OF THE DISCLOSURE

An improved compass card wherein the magnetic portion of the card is provided in the form of small magnetic particles either in the body of the card as such or as a layer applied over at least one face of the card. The magnetic particles have a magnetization of substantially the same intensity while their direction of magnetization is at an angle of substantially 20° to the axis of revolution of the card. A card so constructed is free of the gyrational motion which characterizes cards used heretofore and wherein separate magnets were supported upon the card.

SUMMARY OF THE INVENTION

Compass cards heretofore have been made of a non-magnetic material, usually aluminum. One or more bar magnets are secured, usually to the underside of the card, to provide the necessary pole-seeking property of the card. Because the mass of the bar magnets is not in the plane of the card, the card is subject to substantial gyrational motion. For example, if the boat or airplane carrying the compass would suddenly change direction, the card would tend to tilt as it swung to a new position with respect to its mounting. But, because the mass of the magnets is off-center with respect to the plane of the pivot point, the card would continue to swing past the horizontal plane. The card would then have a swing back and would take several oscillations before the card would come to rest. The card of the present invention is free of these difficulties.

Further, if the magnets are not in the plane of the card, they extend downward like paddles into the damping liquid and exert a drag on the card as the vessel or plane turns. The card of the present invention includes magnetic means which increase the thickness of the card little, if any, and do not provide any protrusions from the smooth surface of the card so that the damping liquid can flow over the surface of the card and cause minimum drag. Further, being magnetized at an angle of substantially 20° to the axis of revolution of the card or 70° to the plane of the card, the card is subject to a minimum of turning lag upon a sudden shift in position of the body of the compass.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a compass embodying the present invention.

FIG. 2 is an enlarged section taken along the line 2—2 in FIG. 1.

FIG. 3 is a plan view of the compass card of FIG. 1.

FIG. 4 is a section through another embodiment of the compass card of the present invention.

FIG. 5 is a section through still another embodiment of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to FIG. 1, an embodiment of the invention is shown in the general form of a damped spherical compass of the type described in British Pat. No. 1,095,966 of Dec. 20, 1967 and entitled Magnetic Com-

pass. The instrument shown is mounted on or supported by a cup-shaped base 2 of brass, aluminum or other non-magnetic material, for mounting in a binnacle or other conventional support. A hemispherical shell or bowl 4 of non-magnetic material, which may be made, for example, of brass is secured on base 2. The open edge of the bowl forms a circumferential flange 6 in which is received the lower edge of a transparent hemispherical dome 8 of glass or plastic. Both the bowl 4 and the dome 8 are formed as nearly as practicable to a true spherical form, as any material departure from this form impairs the ability of the composite spherical container to roll with respect to the body of damping liquid with which it is filled. A retaining ring 10 fits over the flange 6 and is beveled to receive a compressible annular gasket 12 for sealing the spherical container. The ring 10 is held in place by a series of screws 14 which serve to clamp the dome in a fluid-tight seal against the bowl.

A compass card 16 is supported horizontally within the container by gimbal means which include an outer gimbal ring 18 and a generally saucer-shaped inner gimbal member 20. The outer gimbal ring 18 is supported by a pair of trunnions 22 spaced at 180° on the bisecting plane or equator of the container provided by the hemispherical bowl 4 and the hemispherical dome 8. These trunnions define a first roll axis. The gimbal ring 18 carries a second pair of trunnions or pivot pins 24 spaced at 90° intervals to the trunnions 22 for supporting gimbal member 20 and these define a second axis. Thus the compass proper remains horizontal. The member 20 and the surrounding gimbal ring 18 occupy substantially all of the equatorial plane within the sphere so that the maximum damping action is applied by the inertia of the contained liquid. Since the gimbal means are supported concentrically within the sphere, the container may be tilted at any angle without producing interference. An upright pin 26 is mounted in the gimbal member 20 to serve as a lubber line for reading the compass heading.

Secured to the center of member 20 by a pair of clamping nuts 28 is a vertical post 30, which may carry (if desired) a depending balancing weight (not shown), and which projects upwardly to form a cup 32 for receiving a jewel pivot bearing 34. The compass card 16 is provided with a central housing 36 which is received freely over the cup 32, and a cone-point pivot 38 is mounted in this housing by conventional means for seating in the pivot bearing 34. The compass card 16 is thus mounted for rotation on a vertical axis defined by the pin 38, and lies approximately in the plane of the gimbal member 20.

In the embodiment shown in FIGS. 1-3, card 16 comprises a saucer-shaped member of thin sheet material having a substantially flat base portion 42 and a tilted or upturned rim 44, although the card can be flat as is shown in FIG. 4. It will be noted that the bearing indicia of the compass card 16 are mounted on the inside (or upper, as drawn) surface 45 of the rim 44. The means of marking the indicia is not critical, and, as examples, the indicia can be embossed on the rim or marked thereon in any conventional manner. It is important, of course, that any form of marking that is used should be compatible with the damping fluid in the shell 4 and should be of good contrast, such as white letters and numerals on black background, or the reverse.

In accordance with this invention, to give the compass card pole-seeking characteristics, instead of attaching a pair of magnets to the underside of the compass card 16, as is shown in FIG. 4 of the aforementioned British patent, the card itself includes magnetic particles such as to give the card pole-seeking characteristics. Thus as is shown particularly in FIG. 2, the card is made of a rigid plastic material 100 having suitable magnetic parti-

cles 101 dispersed therein. As magnetic particles, one can use any one of the well-known materials within this broad designation, such as iron, cobalt, various known magnetic alloys such as alnico, magnetite, gamma ferric oxide, ferrites or other ceramic magnetic materials, such as barium titanate. Preferably the particles have an acicular shape. Any organic plastic material can be used so long as it has sufficient mechanical strength and is inert to the damping fluid.

The card is manufactured with the magnetic particles in an unmagnetized condition. After fabrication, the card is subject to a magnetic field such that, in relation to the symbol or indicium on the card designating "North," the direction of magnetization of the particles is substantially uniform and at substantially 20° to the axis of revolution of the card or 70° to the plane of the card. This direction applies in the Northern hemisphere. In the Southern hemisphere, one should effect the magnetization with relation to the "South" designation.

Another form of compass card is shown in FIG. 4 where the card proper is designated as 102 and a layer 103 of a material containing particles of a magnetic material is secured over a face of the card 102 by a layer of adhesive 104. In this embodiment of the invention, the card 102 can be of conventional material, e.g. brass, and the plastic matrix holding the magnetic particles need not be rigid but could be of synthetic rubber or like material.

In the form of card shown in FIG. 5, the layer of material, including a binder and magnetic particles, is shown at 106. The layer 106 is applied directly to the card 102 as a thick fluid and is then dried or otherwise set directly upon the card. The particles may be orientated while the

plastic is still fluid as is well-known to those skilled in the art.

In each of the cards shown in FIGS. 4 and 5, the same magnetization is effected as with the card of FIGS. 1, 2 and 3.

From the foregoing, I believe it is apparent that a cardanically mounted compass card is provided wherein the pole-seeking characteristics of the card are provided in such fashion that the card is free from any reaction to forces which would move the card gyratorially.

I claim:

1. A compass having an annular compass card wherein at least a portion of the card is composed of a solid binder having particles of magnetic material distributed therethrough, said particles having a magnetization of substantially the same intensity and of the same direction, said direction being at an angle of about 20° to the axis of revolution of said card and in substantial alignment with that indicium on the card indicating the magnetic north.

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113,741	3/1918	Great Britain.

ROBERT B. HULL, Primary Examiner



A Passion For Doing

If Robert Danforth Ogg, '41, had to select a motto that sums up his approach to life, he might well choose "Just Say Yes."

Consider:

At the age of 19, Ogg was assigned to the undesirable detail during a family sailing expedition of checking whether the boat's anchor had become dislodged in the middle of the night.

Although the teen abhorred the predawn disruption, he did not try to sneak out of the job. Instead, he invented an anchor that settled in securely and would not break free.

Ogg no longer had to make the nightly inspections and his uncle, Richard Danforth, started producing the new Danforth anchors, widely used in the British and American navies.

In 1958, Ogg determined

the family nautical business could not thrive on the California coast. Moving operations to Portland, Maine, made economic sense.

Dislike of the bitter winters did not deter him. He made his home at St. Croix in the Virgin Islands, commuting 1,500 miles by plane every week during the winters to avoid temperatures that dipped to minus 40.

Returning to California after retirement, Ogg quickly renewed ties to Berkeley, where he had studied engineering and physics in the 1940s.

He learned that some of the most ardent Berkeley alumni were uninformed about outstanding programs on campus. Instead of complaining, Ogg set up *Discover Cal*, which introduces departments, libraries, and special projects.

"If there's something to

be done, my answer is yes, always yes," observed Ogg during a recent interview before whisking off to a lunch conference that concentrated on a \$6 million Lawrence Hall of Science fund-raising effort.

At the age of 70, Ogg is not your laid-back kind of guy. His enthusiasm about the projects that have consumed his life is infectious.

"He's fascinated with everything from engineering to sailing," said Vice Chancellor Roderic Park, whose close friendship with Ogg was sparked by their shared love for boating. "He is a person who is alive intellectually."

Inventions are a passion. From the time he pieced together a radio set at the age of six, Ogg has loved to think up new ways to get things done.

Ogg has held patents for several anchors, a probe that measures water speed, a gas vapor detector for gauging dangerous conditions on boats, a distance recording device for boats, and an anchor for offshore oil wells.

In 1947, Ogg was called into service by Earl Warren, who won Ogg's admiration the first time they met. Warren, then governor of California, needed Ogg for the new state communications department.

As part of his new job, Ogg devised a system of running wires through tunnels so that car travelers could listen to AM radio stations without interruptions.

"The greatest inventions are the simplest inventions," said Ogg.

Another love is sailing.

Ogg's appetite for the sea was heightened by a boyhood voyage from New York to San Francisco in 1924. The high point of the trip was passing through the eye of a hurricane off the coast of Cuba.

"I loved it. I loved seeing the weather," recalled Ogg with a gleam in his eye.

Ogg has been a member in many yacht clubs, including the New York club. Moreover, he wrote *Anchors and Anchoring* and *Compasses and Compassing*, which have become standard reference books for beginning boaters. He also contributed articles to the *Handbook of Ocean Engineering*.

Since his retirement in 1979, Ogg has championed numerous University efforts. He is a University Foundation trustee and serves with his wife, Nancy, on the University Research Expeditions Program advisory committee.

In recognition of Ogg's service, the University honored him last year with the Wheeler Oak Meritorious Award.

"He's a loyal blue," said Richard Otter, a fellow foundation trustee.

Ogg doesn't view his efforts to build University programs as charity. "It gives me great pleasure. I feel that everybody ought to fight for this University," he said.

"One problem is that too many people sit back and assume that the state will pay for everything. Well, it doesn't. Cal does a tremendous job. But the University needs our help. That's why I kick in my two bits."

—Lynn Kidder

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Paul O. Williams

B.A. from Principia College; M.A. and Ph.D. in English from University of Pennsylvania. Taught at Duke University (1961-64) and Principia College (1964-86). Wood Professor of Humanities, Principia College, 1980-86.

Author of numerous articles and notes in American literature, as well as poems, essays, reviews, and short stories totalling around 300 items. Eight science fiction novels in print.

Samuel Fels Fellowship 1960-61; Certificate of Commendation, Amer. Asso. for State and Local History 1967; John W. Campbell Award, World Science Fiction Convention 1983; Pres., Thoreau Society 1977-78; Pres., Historical Asso. of Greater St. Louis; Member, Historic Sites Advisory Council, Illinois, 1970-71; Member, Illinois Humanities Council, 1978-82; Member, Editorial Board, The Thoreau Edition, Princeton University Press, 1967-77.

Board member, Historic Elsay Foundation 1968-75; Editor of publications, Historic Elsay Foundation, 1968-75, including a collection of oral history interviews. Director, Village of Elsay Museum, 1978-83.

Harriet Siegel Nathan

University of California at Berkeley alumna with two Journalism degrees: A.B. in 1941 and M.J. in 1965. Wrote for the on-campus paper, The Daily Californian ("Monarch of the College Dailies") as reporter, columnist, assistant women's editor, and managing editor. Prepared President Sproul's biennial report to the Legislature, 1942-44; wrote advertising copy; edited house journals; served on local and state boards of the League of Women Voters primarily in local and regional government and publications. As a graduate student, wrote for the University's Centennial Record. Worked as an interviewer/editor at the Regional Oral History Office part-time from the mid-sixties; concurrently served the Institute of Governmental Studies as Principal Editor doing editing, writing, research, production, and promotion of Institute publications. Wrote journal articles; and a book, Critical Choices in Interviews: Conduct, Use, and Research Role (1986) that included oral history interviews in the analysis.

Suzanne Bassett Riess

Grew up in Bucks County, Pennsylvania.
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Post-graduate work, University of London
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Feature writing and assistant woman's page
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Free-lance writing and editing in Berkeley.
Volunteer work on starting a new Berkeley
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Natural science docent at the Oakland Museum.

Editor in the Regional Oral History Office
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