

BOOKS

MERCHANT SAIL

by William Armstrong Fairburn
and Ethel M. Ritchie

Reviewed by Paul C. Eaton
Dean of Students

THE HUMANITIES LIBRARY of the California Institute has recently come into possession of a six-volume work entitled *Merchant Sail*. This is the most nearly complete collection of information on the design, building, and operation of American sailing vessels, and of the relation of maritime commerce to the history of the colonies and of the Republic, that has ever been compiled—or perhaps that ever can be compiled.

Merchant Sail is the result of a lifetime of research, carried on as the recreation of a busy man, of the late William Armstrong Fairburn (1876-1947), naval architect, marine engineer, and industrial executive.

The set has not been offered for public sale but was published and distributed gratis to certain institutions as a public service by the Fairburn Marine Education Foundation, Inc., of Center Lovell, Maine. Its scope, depth, and thoroughness should make it very helpful to students of American history and economics, and invaluable to the maritime historian, amateur or professional.

The chronicle starts with the *Virginia of Sagadahock*, the launching of which into the Kennebec in 1607 was celebrated in Bath this year as the beginning of 350 years of shipbuilding in America. As befits a native of the state of Maine, Mr. Fairburn pays no attention to the claims of Haiti (1495), North Carolina (1526), Florida (1528), South Carolina (1562), Virginia (1585) or any other local "firsts" in shipbuild-

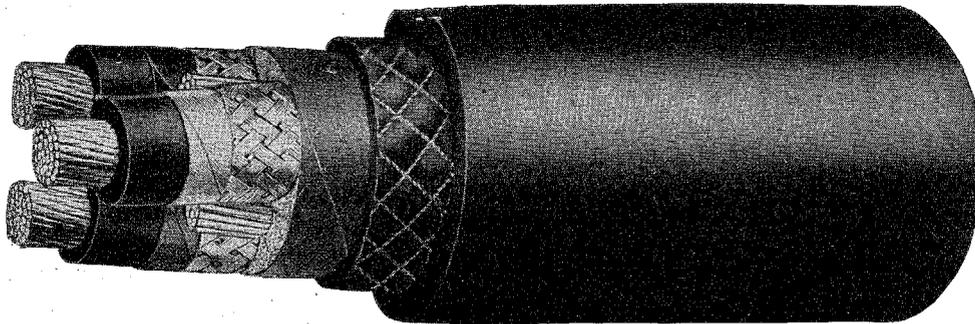
ing, and proceeds from that point to record in Volumes I—III the ups-and-downs of American seaborne commerce from wood to steel, from sail to steam, pretty well down to World War II. Naval construction and operations, as well as the competition of steamships, are also discussed where they have significant relation to wind-driven merchant shipping.

Grand Turk, Great Republic, Shenandoah, Wyoming—all the great names are here. So, too, are *Polly, Gold Hunter, Jere G. Shaw*, and *Transfer No. 6*: pinnaces, brigs, snows, privateers, clippers and their predecessors and successors, barks and barkentines, the coasting schooners from the early pinks to the great six-masters, even the rigged wooden barges which formed the ocean-going

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tows of the early part of this century. And for each type and trade there are accounts of the supporting skills and activities of designer, master and mate, sailor and supercargo, rigger and adzeman, longshoreman and wharfinger, clerk, banker, lawyer, managing owner, underwriter, crimp, cabin boy, and cook.

Sail under foreign flags

Mr. Fairburn lists the four-masted schooner *Laura Annie Barnes*, launched in 1921, also near the mouth of the Kennebec, as the last commercial sailing vessel built in America, but carries the story of sail under foreign flags down to the Finnish fleet of Capt. Gustaf Erikson, which once included the *Pamir*, lost in the hurricane of September 1957.

Volumes IV-VI are edited by Ethel M. Ritchie of Ojai, California, and deal specifically with the China, Australia, Manila, and India trades (IV), American shipbuilding (V), and an appendix of owners of clipper ships and the records of ships they owned, together with an index by vessels' names of all ships mentioned in the preceding volumes (VI). The final volume also carries an admirable biographical account of Mr. Fairburn, itself a contribution to the record.

Some earlier books, like Capt. Arthur H. Clark's *Clipper Ship Era*, Samuel Eliot Morison's *Maritime History of Massachusetts*, Basil Lubbock's *The Down Easters*, Clifford Ashley's *The Yankee Whaler*, McNair and MacMullen's *Ships of the Redwood Coast*, dealing with limited areas in the general field, have achieved perhaps a better synthesis of the material and have made more apparent the interrelation of shipping and economic, political, diplomatic, even social developments. Mr. Fairburn's 4,179 pages of fact, dimensions, times, tonnages, narrative and exposition contain the raw material of future studies. Lacking such a collection as this, log books, ledgers, customs house records, and the whole mass of supporting material of

this great era in our commercial history could have become even more inaccessible because of dispersion than it already is.

Presumably, those with special knowledge will find errors or omissions in a work as comprehensive as *Merchant Sail*. Great Lakes navigation and the coastwise trade of California and the Northwest, for instance, get little space; while almost every gunk-hole in Maine is heavily, yet not always completely, documented. By and large, however, the work is a major contribution and, fortunately for the non-specialists who make up most of the library's clientele, and who may want to skip the tabulated data, a very readable account of an important phase of the national heritage.

ELASTIC WAVES IN LAYERED MEDIA

by W. M. Ewing, W. S. Jardetzky and Frank Press
McGraw-Hill, N. Y. \$10

ALTHOUGH THE title suggests that this is a highly specialized book, it should appeal to a wide audience. Engineers working on delay lines or wave guides, geophysicists searching for oil, acousticians studying transmission in the ocean or atmosphere, physicists involved with electromagnetic wave propagation or solid friction—all make use of the techniques and results discussed by the authors.

Both experimental and theoretical aspects of the subject are covered on the elementary and advanced level. Perhaps the greatest contribution lies in the bibliography, which lists over 600 entries. The authors have scanned the world literature, including Russian and Japanese work in the field. Even when everything else is outmoded, this summary of the status of the field through 1955 will still be of value.

Frank Press, one of the three authors of this book, is professor of geology, and director of the Seismological Laboratory at Caltech.

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