

**COLD STORAGE, HEATING
AND VENTILATING ON
BOARD SHIP**

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Cold storage, heating and ventilating on board ship by Sydney F. Walker

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BY

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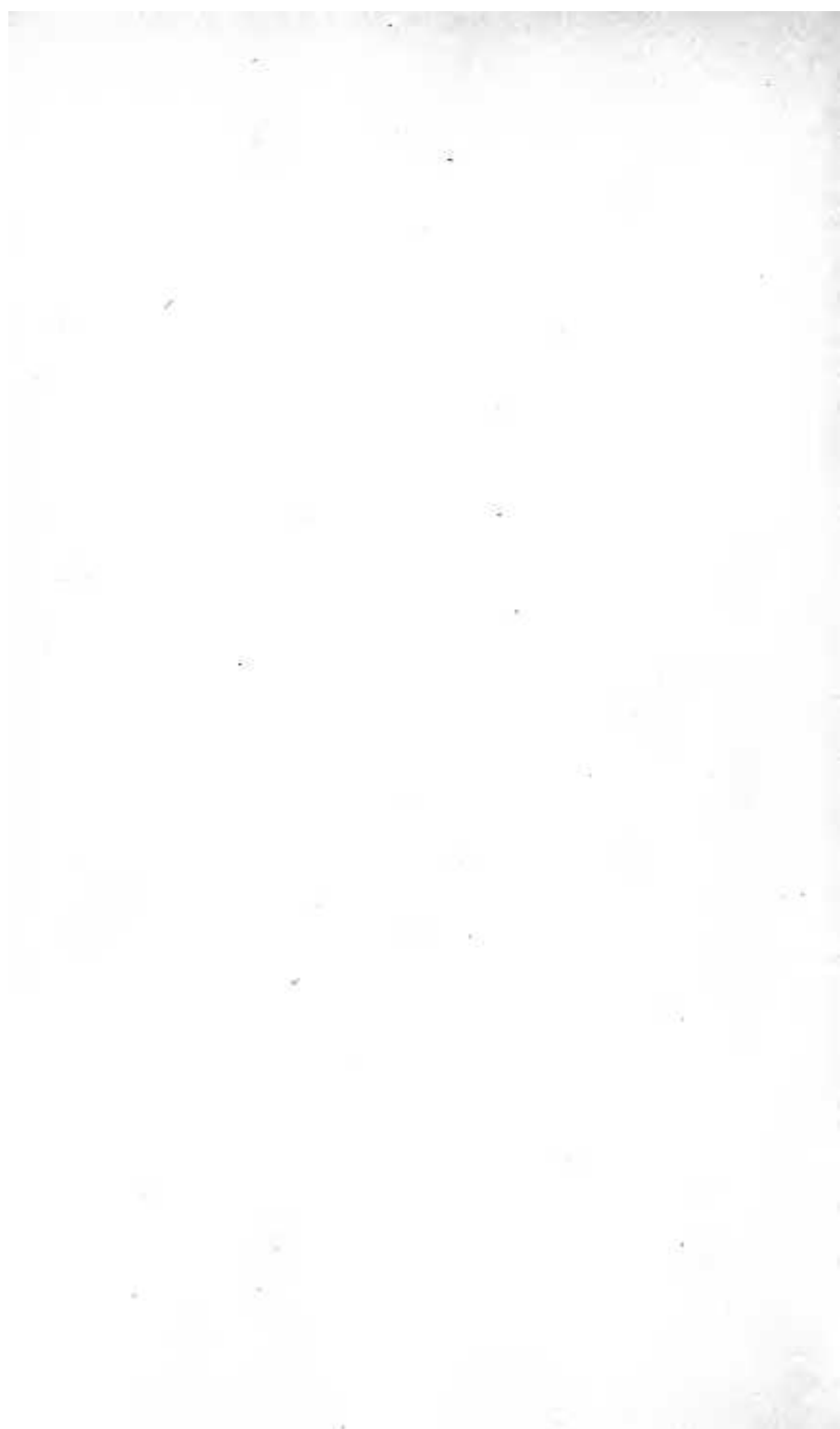
TO THE
MEMBERS OF THE
ASSOCIATION

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PREFACE

EVERY problem in engineering requires a special solution when applied to marine work. The limitations of weight and space on board ship, and the absolute necessity for reliability and economy introduce factors which can be disregarded in many similar problems in connection with machinery installed on shore. Refrigerating machines and heating and ventilating apparatus are no exceptions to this rule, and in this book an attempt has been made to treat the problem of cold storage and heating and ventilating exactly as it presents itself to a naval architect and marine engineer. The reader will find the treatment not merely descriptive, but thoroughly practical from an engineering standpoint. About one-third of that part of the book which deals with cold storage is devoted to a discussion of "faults" which may occur in the apparatus. Directions are given for hunting down various troubles and repairing them, and, what is more important, explicit instructions are given for operating various types of plants, so as to avoid breakdowns. Comparatively little has hitherto been published on the subjects covered by this book. Therefore, exceptional pains have been taken to make the present treatment exhaustive and thoroughly up to date.

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COLD STORAGE ON BOARD SHIP.

It is not much over thirty years since cold storage was first introduced, and not so long since the first cargo of dead mutton was first shipped, yet an enormous industry has since been built up in the transport of dead meat of all kinds, from countries such as the United States, Australia, New Zealand, and the Argentine, where it can be grown cheaply, to countries such as the British Islands and South Africa, where the conditions are not so favorable, and where consumption is large and increasing. The early cargoes of frozen meat were looked upon with great uneasiness in some quarters, and it is on record that the Duke of Beaufort once wrote to *The Times*, stating that it was flying in the face of Providence to use "such means to preserve produce which was never intended to be preserved in that way." In addition to this, a large fruit-carrying trade has grown up, increasing in dimensions every year, which enables those who reside in the northern hemisphere to enjoy the fruits that are being grown in the southern, at the time when their own fruits are not obtainable; the fruits that are transported being almost as luscious to the taste, after a journey of several thousand miles, as when picked on the spot. In fact, some of the fruits sold in London, that have been brought from Australia and Cape Colony, taste better than those grown in England itself.

There is another very useful office that cold storage has performed for those who go down to the sea in ships—it has enabled fresh meat to be carried for the whole of the voyage, quite

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