W. McG. YOUNG.

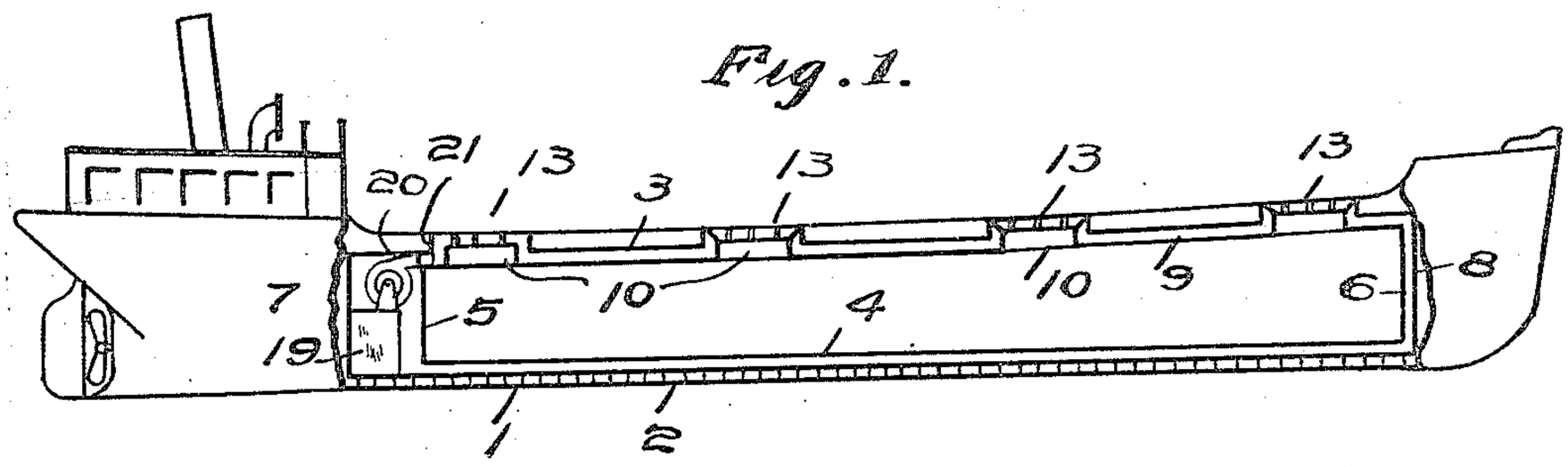
SHIP.

APPLICATION FILED FEB. 14, 1914.

1,155,028.

Patented Sept. 28, 1915.

Fig. 1.



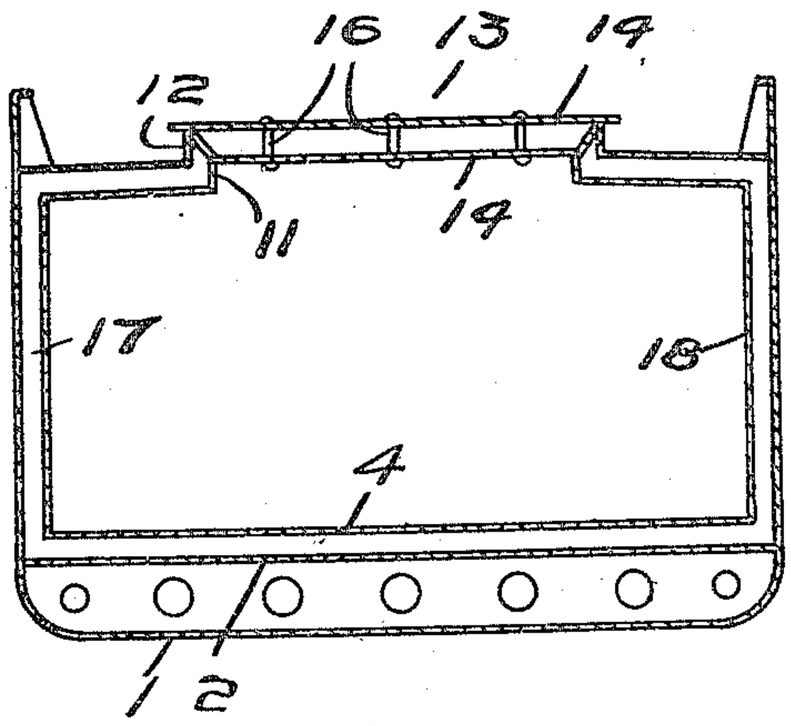


Fig. 2.

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UNITED STATES PATENT OFFICE.

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SHIP.

1,155,028. Specification of Letters Patent. Patented Sept. 28, 1915.

Application filed February 14, 1914. Serial No. 818,721.

To all whom it may concern:

Be it known that I, WILLIAM McGEE YOUNG, a subject of the King of Great Britain, residing at Victoria, British Columbia, Canada, (care of Water-Right Branch, Parliament Building,) have invented certain new and useful Improvements in Ships; and I do hereby declare that the following is a full, clear, and exact description of the same.

The invention relates to improvements in ships, as described in the present specification and illustrated in the accompanying drawings that form part of the same.

The invention consists essentially in the novel construction and arrangement, whereby the hold of the vessel is kept at an equable cool temperature throughout a voyage in order to prevent heating of grain, such as wheat, etc.

The objects of the invention are to avoid cool storage in transportation and provide cool storage to such an extent as will keep grain shipped in bulk in splendid condition without the same heating, in tropical or other seas without fear of damage by changes of temperature to the contents of the hold.

In the drawings, Figure 1 is a side elevation of the ship showing one of the side walls broken away to disclose a diagrammatic view of the arrangement of the hold. Fig. 2 is a cross sectional view on a larger scale through a hatchway.

Like numerals of reference indicate corresponding parts in each figure.

Referring to the drawings, 1 is the bottom of the ship and 2 is the usual inner bottom arranged in substantially the same way as customary in ship construction.

3 is a deck in the same arrangement as at present.

4 is an inner horizontal flooring in the hold of the ship extending from the stern portion of the ship to the bow portion thereof at the bottom of the hold, slightly above the inner bottom 2, and at each end thereof terminating at the vertical walls 5 and 6 respectively, said walls 5 and 6 forming the end walls of the hold the wall 5 being in proximity to the bulk head 7 and the wall 6 in proximity to the bulkhead 8, said bulkheads 7 and 8 extending downwardly from the deck 3 to the inner bottom 2.

9 is the ceiling of the hold extending from the vertical wall 5 to the vertical wall 6 slightly below the deck 3 and broken by the hatchways 10 and having the coamings 11 corresponding to and slightly distanced from the deck coamings 12, said deck coamings extending upwardly a little above the coamings 11.

13 are the hatches having the lower plates 14 resting on the coamings 11 and the upper plates 15 resting on the coamings 12, said plates being distanced one from the other by the brackets 16.

It will now be seen that there is a complete passage surrounding the hold on the outer side, for the vertical walls 17 and 18 at the sides join the vertical walls 5 and 6 and at the same time are joined to the ceiling 9 and the flooring 4 and forms with said ceiling, floor and end walls a complete box, when the hatches are in position covering the hatchways and yet the deck or the ordinary bottom of the ship are not in any way interfered with, though it must be understood that in some circumstances the double bottom arrangement may be used in conjunction with the double walls and double deck arrangement in the present invention.

19 is an air plant of any suitable description and adaptable for delivering air at considerable velocity of high, low or moderate temperatures according to the needs at the time, said air plant having a delivery tube 20 or many such tubes pointing into the space 21 between the double walls of the hold, said air plant constantly delivering air at a great velocity into the said space, which air flows completely around the hold and returns, there being a constant circulation of air.

In the tropical seas the air plant will be in the nature of a refrigerator plant, forming an insulator between the outer and inner shells. It will deliver air at a temperature sufficient to keep in proper condition grain, subject to heating.

There may be various changes in the construction to suit different ways of constructing ships, the main feature being a continuous air passage around all sides of the hold including the top and bottom, and also the hatches and hatch covers, in other words a box-like hold within an air tight casing formed by vertical and horizontal walls and bulkheads of the ship.

It may also be noted in connection with the description of this invention that while the box-like form of hold is specifically for the purpose of moderating the temperature

of the interior thereof it is also very useful in case of danger to the boat, preserving the cargo and the ship from destruction. Under such circumstances it is not the equivalent of a double skin, for it is a complete box within a corresponding compartment in the hull.

What I claim is:

1. A ship having a hold, and an air jacket surrounding the hold in a fore and aft as well as in a transverse direction, and being formed by the outer skin or plate of the ship and the inner skin or hold plates, hollow hatches on the hold communicating with the air jacket and forming a continuous air passage therewith, and an air plant arranged to deliver air at a suitable temperature to the said jacket surrounding the hold.

2. A ship having a bottom and an inner bottom, a deck, an inner horizontal flooring in the hold of the ship extending from the stern portion to the bow thereof at the bottom thereof, slightly above the inner bottom, vertical walls at each end of said flooring, said walls forming the end walls of the hold, a ceiling for the hold extending slightly below the deck having hatchways therein, deck coamings and coamings on the ceiling of the hold, hatches having lower and upper plates resting respectively on the different coamings and distanced from one another, and an air plant for delivering air at a suitable temperature and circulating it around the hold.

Signed at the city of Victoria British Columbia Canada this twenty-third day of June 1913.

WILLIAM McGEE YOUNG.

Witnesses:
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