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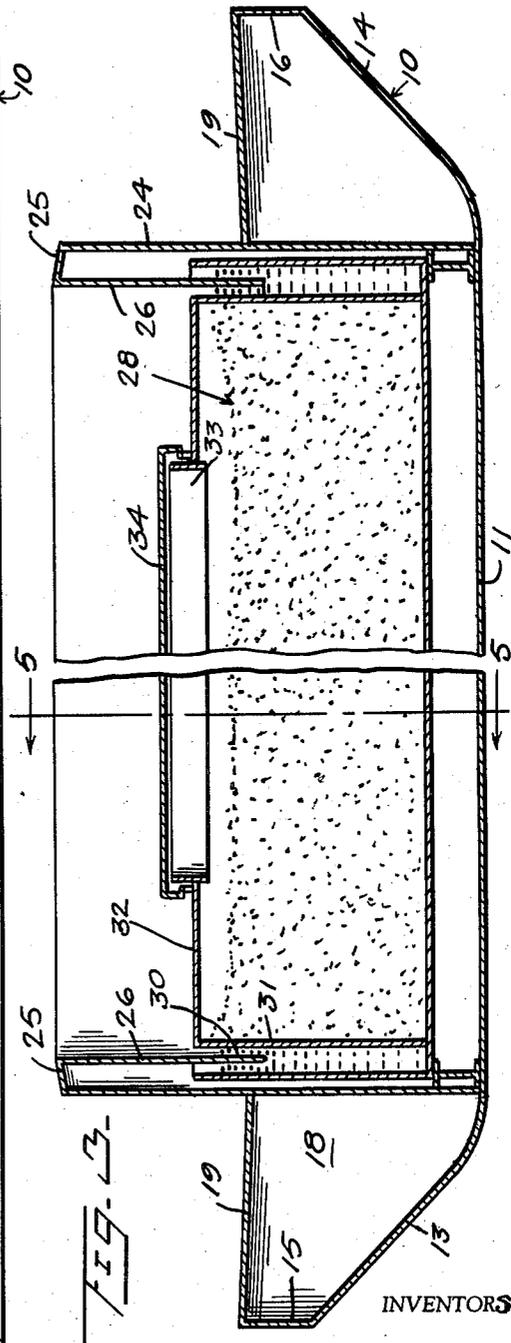
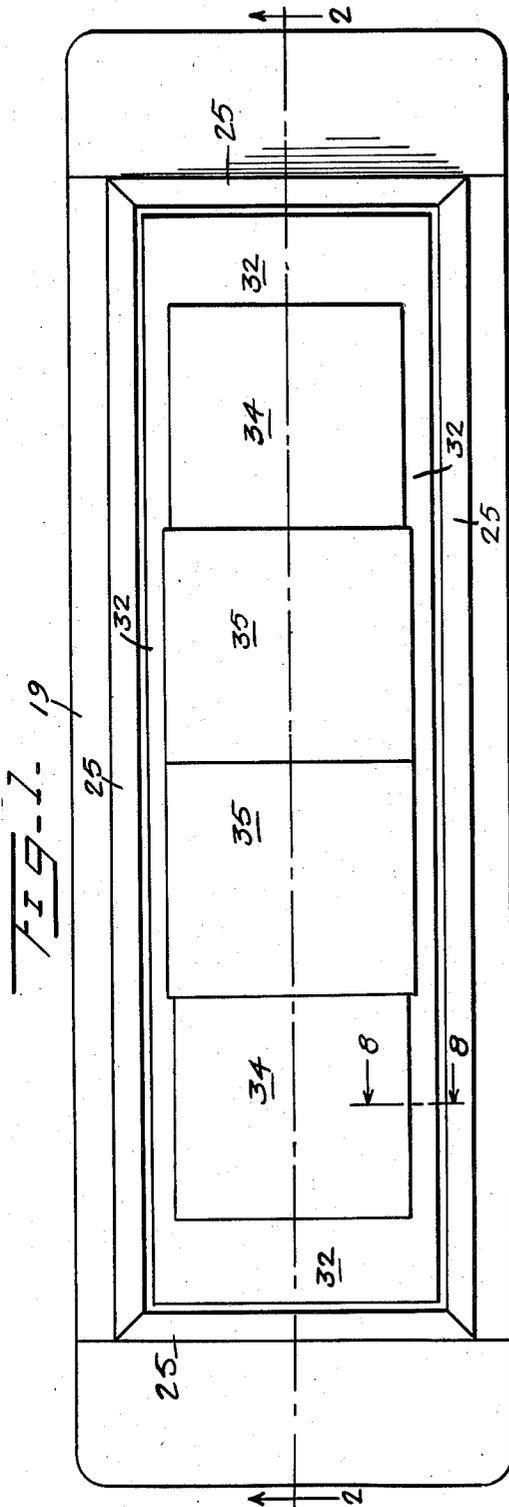
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2,845,890

BARGE FOR LIQUID AND/OR DRY CARGO

Filed Nov. 27, 1956

3 Sheets-Sheet 1



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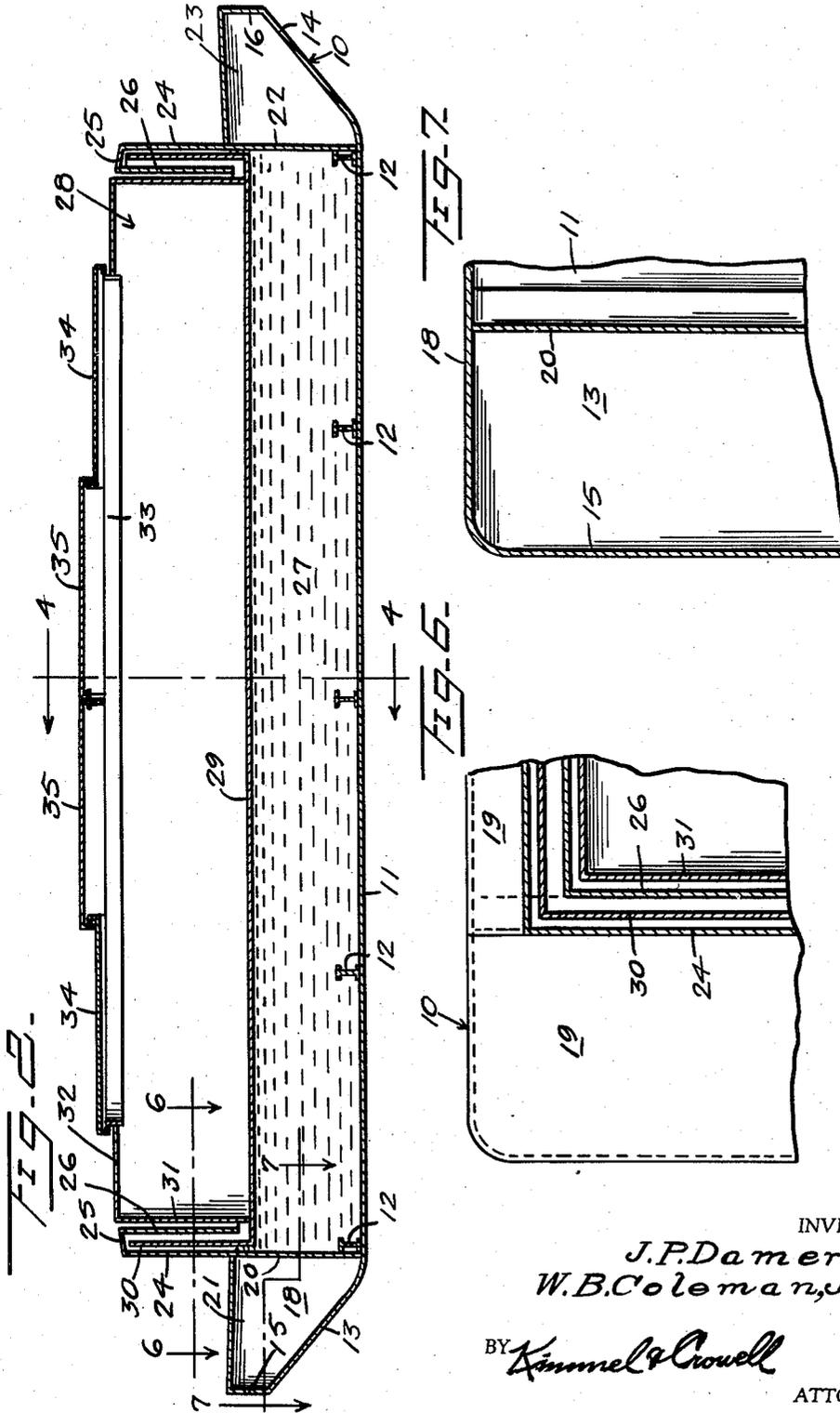
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BARGE FOR LIQUID AND/OR DRY CARGO

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3 Sheets-Sheet 2



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BARGE FOR LIQUID AND/OR DRY CARGOJohn P. Dameron and Walker B. Coleman, Jr.,
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4 Claims. (Cl. 114—73)

The present invention relates to barges, and more particularly to barges which are adapted to handle liquid cargo in combination with dry cargo, and either dry or liquid cargo separately, however, the invention is applicable to self-propelled barges, ships, railway vehicles, highway vehicles and other cargo carrying devices.

The primary object of the invention is to provide a dry cargo hold for a barge arranged in floating relation to a liquid cargo hold positioned therebetween on the barge.

Another object of the invention is to provide a barge having a floating dry cargo hold with means associated therewith for sealing the dry cargo hold to the barge.

A further object of the invention is to provide in a barge having a liquid cargo hold and a floating cargo hold positioned therein, a liquid seal between the floating hold and the barge for sealing the liquid cargo hold.

A still further object of the invention is to provide a dry and liquid cargo barge of the class described above which is inexpensive to manufacture, simple to use, and which will effectively maintain a separation between dry and liquid cargo carried simultaneously therein.

Other objects and advantages will become apparent in the following specification when considered in the light of the attached drawings, in which:

Figure 1 is a top plan view of the invention.

Figure 2 is a longitudinal cross-section taken along the line 2—2 of Figure 1, looking in the direction of the arrows.

Figure 3 is an enlarged fragmentary cross-section similar to Figure 2, showing the floating hold in its lower position.

Figure 4 is a transverse cross-section taken along the line 4—4 of Figure 2, looking in the direction of the arrows.

Figure 5 is a view similar to Figure 4, taken along the line 5—5 of Figure 3, looking in the direction of the arrows, showing the floating hold in lowered position.

Figure 6 is an enlarged fragmentary transverse cross-section taken along the line 6—6 of Figure 2, looking in the direction of the arrows.

Figure 7 is an enlarged fragmentary horizontal cross-section taken along the line 7—7 of Figure 2, looking in the direction of the arrows.

Referring now to the drawings in detail wherein like reference characters indicate like parts throughout the several figures, the reference numeral 10 indicates generally a flat bottom barge, or a barge having a slight bottom dead rise, constructed in accordance with the invention.

The barge 10 has a flat bottom 11 supported by a plurality of frame members 12. The bottom 11 is provided with upwardly sloping end portions 13 and 14 terminating in vertical end walls 15 and 16, respectively. The bottom 11 is further provided with vertically extending side walls 17 and 18 terminating in a decking 19 extending generally parallel to the bottom wall 11 in vertically spaced relation thereto.

A bulkhead 20 is positioned adjacent to the vertical

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wall 15 but spaced therefrom to form a sealed compartment 21 adjacent one end of the barge 10. A second bulkhead 22 is positioned adjacent to but spaced from the end wall 16 to form a second sealed compartment 23 adjacent the opposite end of the barge 10.

An upstanding wall 24 projects upwardly from the deck 19 having portions thereof arranged in spaced parallel relation to the end walls 15 and 16 and other portions thereof arranged in spaced parallel relation to the side walls 17 and 18. The wall 24 extends vertically and has an inwardly extending flange 25 formed on the upper end thereof and extending inwardly and upwardly therefrom. A vertical wall 26 is arranged in spaced parallel relation to the wall 24 and is integrally formed with the wall 24 through the member 25 in depending relation thereto. The height of the wall 26 is substantially equal to that of the height of the wall 24 so that an inverted chamber is formed therebetween.

A liquid cargo hold 27 is formed by the bottom 11, side walls 17 and 18, and bulkheads 20 and 22 to receive a liquid cargo, as illustrated in Figures 2 and 4.

A floating dry cargo hold, generally indicated at 28, is formed with a bottom wall 29 having a vertically extending outer wall 30 projecting upwardly therefrom between the walls 24 and 26. The hold 28 has a second vertically extending wall 31 extending parallel to the wall 30 and spaced therefrom so as to project upwardly within the wall 26, as best seen in Figures 4 and 5.

A decking 32 extends inwardly from the vertical wall 31 terminating in a hatch coaming 33 forming an opening for the filling and emptying of the dry cargo hold 28. Sliding hatch covers 34 and 35 of conventional design are arranged on the decking 32 to seal about the coaming 33 so that the dry cargo hold 28 will be weather tight.

The hatch covers 34 and 35 may be mounted on rollers as at 36 to provide for ease of movement of the hatch covers 34 and 35 to an open position. The space between the walls 30 and 31 is filled with a sealing liquid 37 so that the wall 26 will be immersed in the liquid 37 to effectively seal the floating hold 28 to the barge 10 to seal the liquid cargo hold 27.

In the use and operation of the invention, liquid is introduced into the liquid hold 27 through any suitable filling means (not shown) so that the cargo hold 28 floats, as illustrated in Figures 2 and 4. With the dry cargo hold 28 in its floating position, as illustrated in Figures 2 and 4, dry cargo can be introduced therein to the full capacity of the barge 10.

It should be understood, of course, that the dry cargo hold 28 can be filled in the absence of liquid in the liquid cargo hold 27, as illustrated in Figures 3 and 5, in which case the dry cargo hold 28 will rest on the bottom of the liquid cargo hold 27 still, however, maintaining its seal with the wall 26.

While I have disclosed the invention as applied to a conventional barge structure, it should be understood that the particular shape of the barge hull, flotation compartments, and framing, form no part of the invention, being shown merely to illustrate one application thereof. The hatch covers may be of any desired shape or size or may be omitted entirely when carrying some types of dry cargo.

Having thus described the preferred embodiment of the invention, it should be understood that numerous structural modifications and adaptations may be resorted to without departing from the scope of the appended claims.

What is claimed is:

1. A liquid and dry cargo barge structure comprising in combination a hull, bulk heads positioned in said hull delineating flotation compartments and a liquid cargo

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hold in said hull, a floating dry cargo hold positioned within said liquid cargo hold and arranged to float on the liquid cargo therein, and means on said hull cooperating with means on said dry cargo hold for sealing said dry cargo hold to said hull thus sealing said liquid cargo hold, said liquid cargo hold and said dry cargo hold being capable of both separate and simultaneous cargo carrying use.

2. A combination as claimed in claim 1 wherein said dry cargo hold has combined therewith removeable hatch covers.

3. A combination as claimed in claim 1 wherein the means on said dry cargo hold includes an annular liquid seal trough formed on said dry cargo hold, and the means on said hull cooperating with the means on said dry cargo hold includes a wall immersed in the liquid seal in said liquid seal trough sealing said hull to said dry cargo hold.

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4. A device as claimed in claim 1 wherein the means on said dry cargo hold comprises annular spaced said walls having a sealing liquid carried therein, and the means cooperating therewith on said hull comprises an upstanding inwardly reverted wall including a depending portion arranged to project downwardly between said spaced annular walls of said dry cargo hold into the sealing liquid contained therebetween.

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