Oct. 7, 1930. A. M. GRIFFIN 1,777,560

FLOATING DECK

Filed Feb. 23, 1927 2 Sheets-Sheet 1

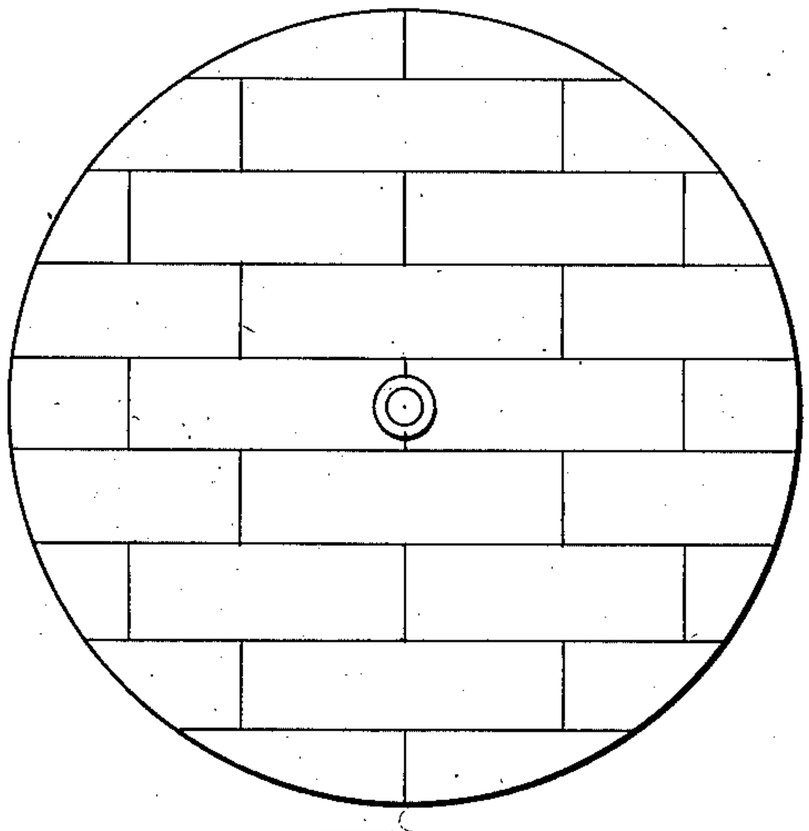

Fig. 1

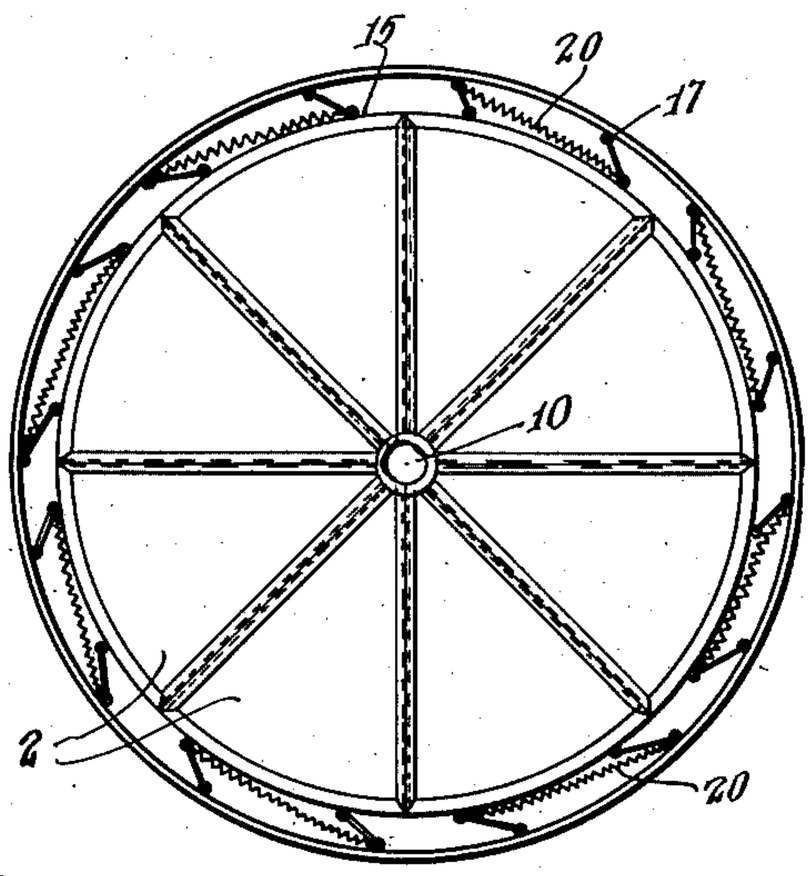

Fig. 2

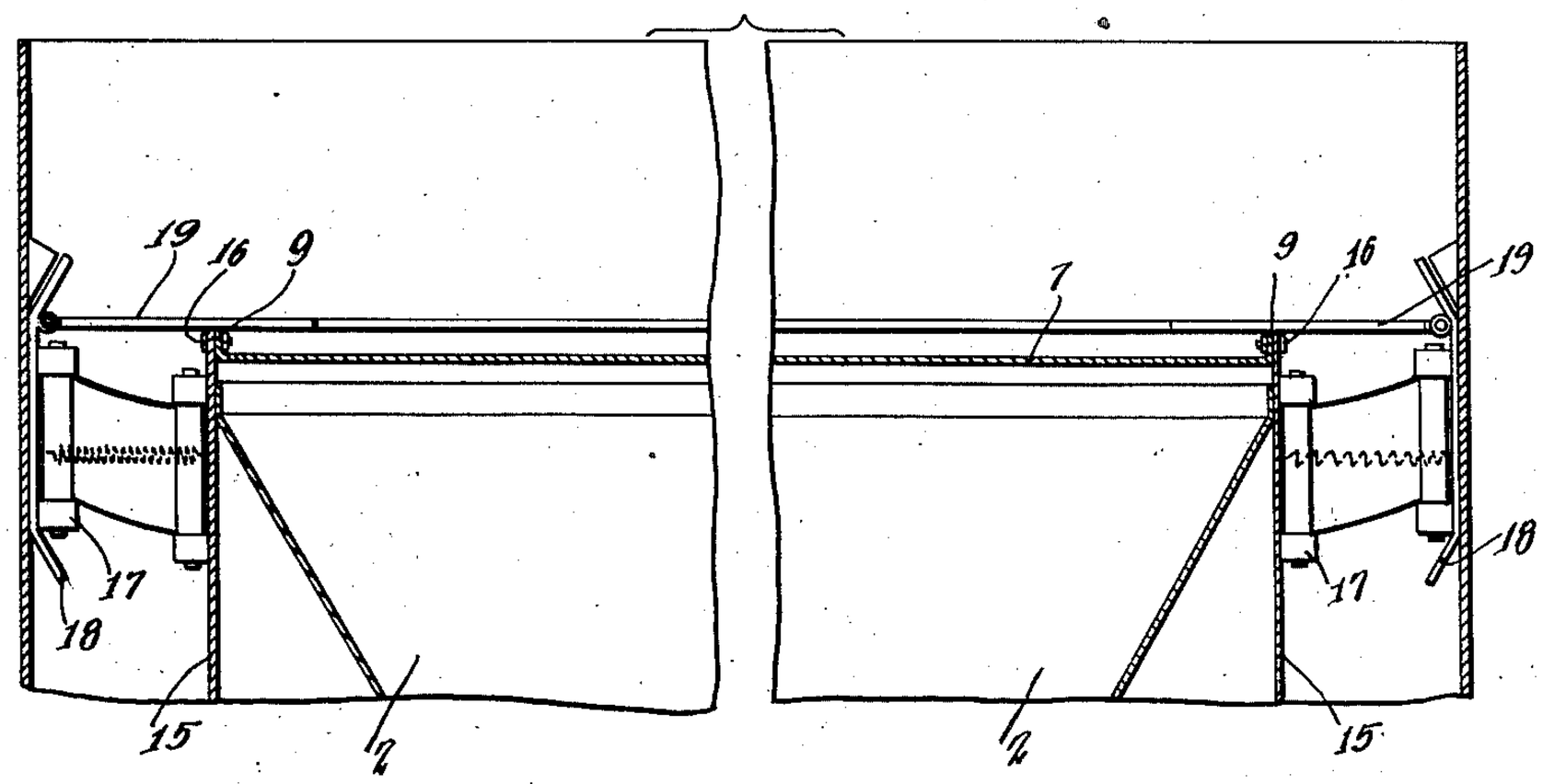

Fig. 3

Inventor

Alvah M. Griffin

By Lyon & Lyon

Attorneys

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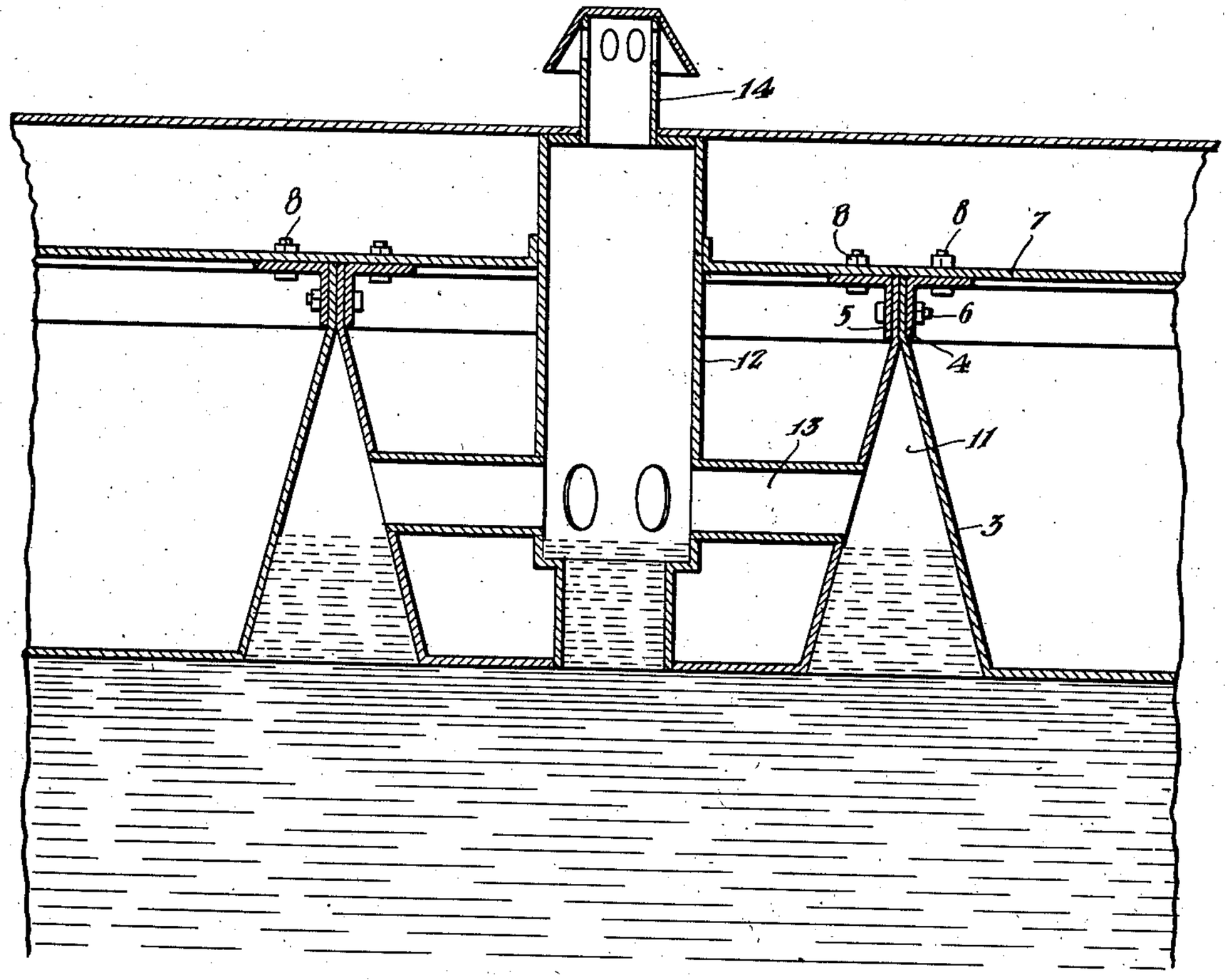

Fig. 4

Inventor
Alvah M. Griffin

By Lyon & Lyon

Attorneys

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UNITED STATES PATENT OFFICE

ALVAH M. GRIFFIN, OF LOS ANGELES, CALIFORNIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO CHICAGO BRIDGE & IRON COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS

FLOATING DECK

Application filed February 23, 1927. Serial No. 170,168.

This invention relates to floating decks, such as are employed upon large tanks generally employed in the storage of oil.

The objects of the present invention are to provide a floating deck including a plurality of individually completed air chambers for supporting the deck and to provide sectional units which form said air chambers in a shape which will permit the sectional units to be nested in shipment to provide a shape of sectional units which will form in the completed floating deck a plurality of gas channels by which gas accumulating under the deck may be passed to a central discharge tube and to provide a novel form of slot for a floating deck.

The present invention will be most readily understood from a description of the preferred form of example of a floating deck embodying the invention. For this purpose, reference is made to the accompanying drawings, in which:

Figure 1 indicates a plan view of the floating deck,

Figure 2 indicates a bottom plan view of the floating deck with the seal attached,

Figure 3 indicates a fragmental section of the floating deck indicating the seal construction, and,

Figure 4 is a fragmental vertical section of the deck disclosing the gas withdrawal tube.

Referring to the drawings, the floating deck is illustrated as comprising a plurality of pontoons 2, having open tops and flaring side walls 3. The pontoons are indicated as generally in sector shape and set together so as to form a circular deck (see Figure 2). In certain cases, it may be desirable in forming a large deck to employ a plurality of concentric series of pontoons 2. The top side edges of the pontoons 2 are fixed together by suitable means, preferably there being placed angle irons 4 and 5 along the top side edges with one leg of the angle irons horizontally disposed at the top of the pontoons and the downwardly extending legs of the angle irons 4 and 5 are bolted together as indicated at 6, thus rigidly attaching adjacent pontoon sections together.

The top of the pontoons 2 are covered by a plate 7 bolted as indicated at 8 to the top legs of the angle irons 5 and 6. The top plate 7 may be built in a plurality of sections so that said plate may be readily shipped in use. At the periphery of the floating deck, the top plate 7 is turned up, as indicated at 9, to provide a water collecting pan at the top of the deck. The inner ends of the plate 7 leave an opening 10 through the deck by which the water may be discharged. If desired, a pipe or hose may be connected to said opening 10 to convey the water to the exterior of the tank.

The flaring sides 3 of the pontoons form between each adjacent pontoon, gas channels 11 and in order to remove the gas from under the deck, one of the pontoons is provided with a vertical tube 12 connecting with a plurality of radial tubes 13 communicating with the upper portion of the channels 11. The tubes 12 extend above the top plate 7 or water shed and there terminate in a discharge section 14 from which the gas may be discharged, the gas being preferably discharged into a pipe by which it is conveyed from the tank.

In order to provide a seal between the floating deck and the tank, there is provided preferably a cylindrical skirt 15 around the floating deck, the skirt being bolted to the deck by bolts 16 passing through the flange 9 on the cover 7. Said skirt 15 supports a plurality of hinges 17 which at their outer ends are hinged to sealing shoes 18, the sealing shoes being overlapped. To the sealing shoes 18 are attached horizontal cover plates 19 extending inwardly from the sealing shoes to close the space between the skirt 15 and sealing shoes 18. Preferably the shoes 18 are yieldingly urged to the outer position by suitable means such, for example, as springs 20 having one end attached to the skirt 15 and their outer ends attached to the outer part of the hinges 17.

While the floating deck herein described is well adapted to carry out the objects of the present invention, it is understood that various modifications and changes may be made without departing from the present invention, and the present invention includes all

such modifications and changes as come within the scope of the following appended claims.

I claim:

1. A floating deck comprising a plurality of elements of general pan shape with downwardly tapering walls formed so that the elements may be nested together when separate from the deck for shipment, said plurality of elements being arranged with their sides abutting to form a composite deck, means for attaching the same together, and a cover plate placed over the top of the pontoons.

2. A floating deck comprising a plurality of elements of general pan shape with downwardly tapering walls formed so that the elements may be nested together when separate from the deck for shipment, said plurality of elements being arranged with their sides abutting to form a composite deck, means for attaching the same together, and a cover plate placed over the top of the pontoons, the cover plate having its peripheral edges turned up to form a water collection pan.

3. A floating deck comprising a plurality of pontoons with flaring sides and open tops adapted to nest one within the other when said pontoons are separate from the deck, the upper edges of the pontoons being disposed adjacent one another and attached together, and a water-shed plate covering the top of said pontoons.

4. A floating deck comprising a plurality of pontoons providing separate air chambers, said pontoons being of general pan shape with downwardly tapering side walls so that a plurality of said members may be nested together for shipment when separate from said deck, said pontoons being disposed in substantially horizontal alinement and having substantially abutting sides and means engaging the same for attaching a plurality of said members together to form a composite deck, said pontoons forming a plurality of gas channels under the deck, and a gas discharge tube formed in one of said pontoons and communicating with said gas channels.

5. A floating deck comprising a plurality of open top pontoons with downwardly flaring sides whereby a plurality of said pontoons may be nested together for shipment when separate from said deck, the pontoons being placed together in substantally horizontal alinement so that together they form a composite deck, means engaging the sides of adjacent pontoon members for attaching the same together, a common water-shed plate attached over the top of the pontoons, and sealing means for the deck.

6. A floating deck comprising a plurality of pontoons of sector shape with downwardly flaring sides whereby the pontoons may be nested together for shipment when separate from the deck, the pontoons being arranged to form a circular deck with the side walls of said pontoons abutting and attached together, and a common water-shed covering plate attached over the top of the pontoons.

7. A floating deck comprising a plurality of pontoons providing separating air chambers, said pontoons being disposed in substantially horizontal alignment and having substantially abutting sides, and means engaging the same for attaching a plurality of said members together to form a composite deck, said pontoons forming a plurality of gas channels under the deck, and a gas discharge tube formed in one of said pontoons and communicating with said gas channels.

Signed at Los Angeles, California, this 9 day of February, 1927.

ALVAH M. GRIFFIN.