H. R. LELAND AND W. SCHWEMLEIN.

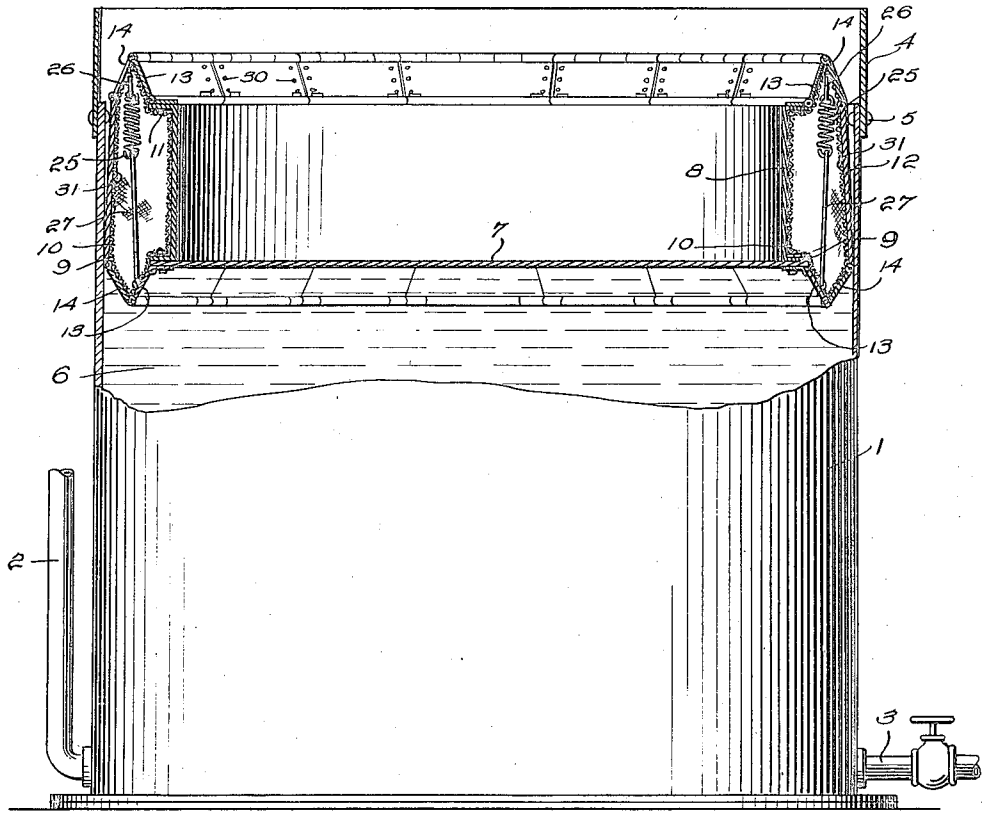
DECK FOR OIL TANKS.

APPLICATION FILED MAY 10, 1921.

1,426,998. Patented Aug. 22, 1922.

2 SHEETS—SHEET 1.

Fig. 1.



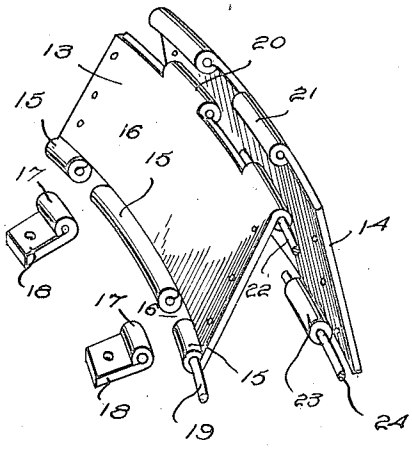


Fig. 4.

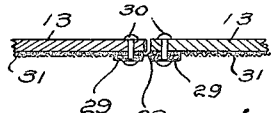


Fig. 5.

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2 SHEETS—SHEET 2.

Fig. 2.

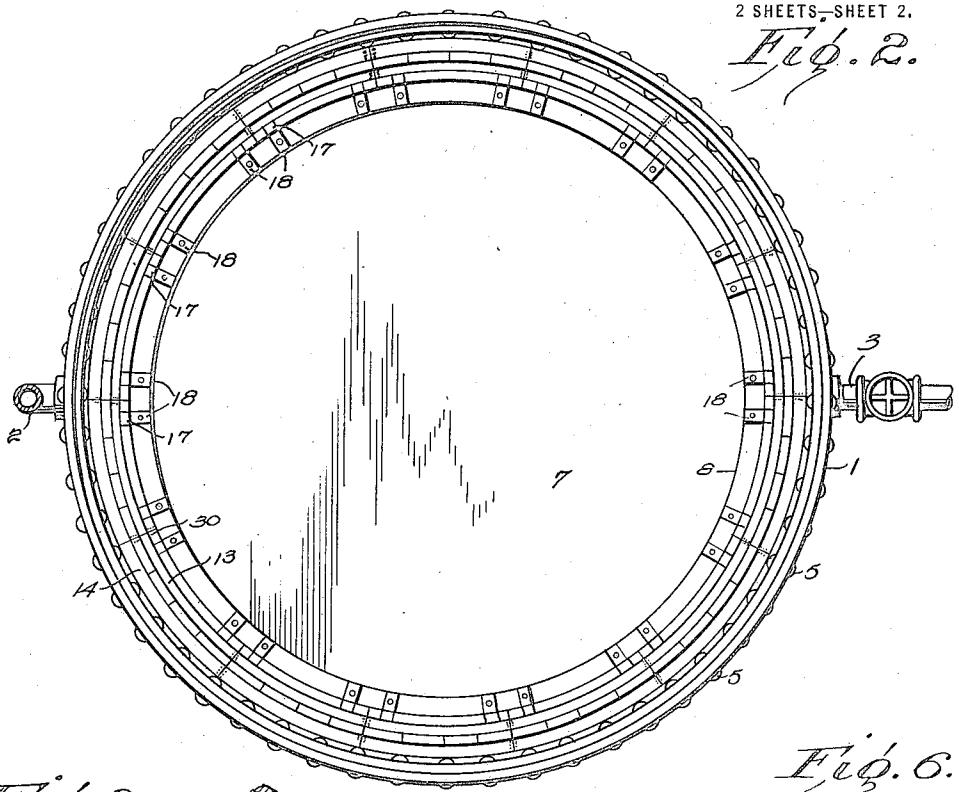


Fig. 3.

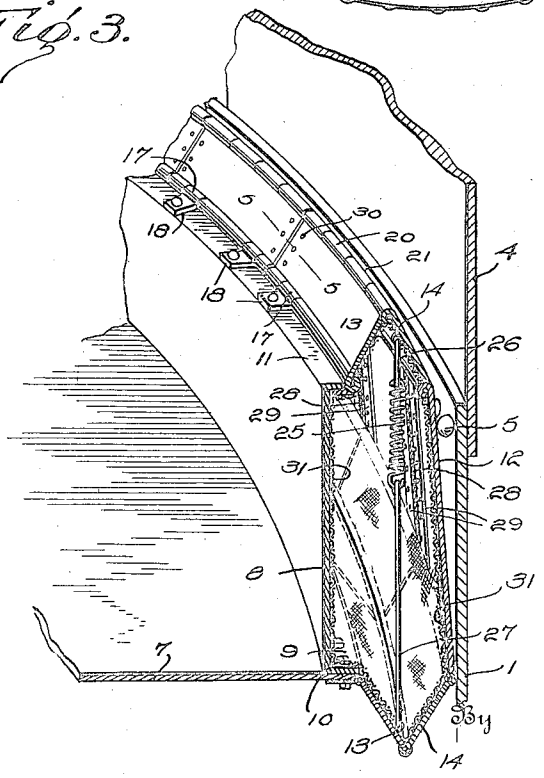
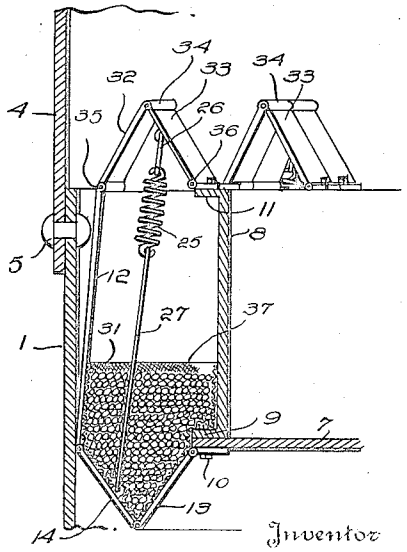


Fig. 6.



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HARRISON RUSSELL LELAND AND WILLIAM SCHWEMLEIN, OF PARKERSBURG, WEST VIRGINIA, ASSIGNORS TO PARKERSBURG RIG & REEL COMPANY, OF PARKERSBURG, WEST VIRGINIA, A CORPORATION OF WEST VIRGINIA.

DECK FOR OIL TANKS.

1,426,998. Specification of Letters Patent. Patented Aug. 22, 1922.

Application filed May 10, 1921. Serial No. 468,213.

To all whom it may concern:

Be it known that we, HARRISON R. LELAND and WILLIAM SCHWEMLEIN, citizens of the United States, residing at Parkersburg, in the county of Wood and State of West Virginia, have invented certain new and useful Improvements in Decks for Oil Tanks, of which the following is a specification.

This invention relates to decks for oil tanks, and it comprises a floating deck having a body portion adapted to be arranged on top of the body of oil within a tank, an upwardly extending rim secured thereto, a plurality of plates spaced from said rim and adapted to engage the wall of the tank, links pivotally connected to said body portion and said rim, the opposite ends of said links being secured to the ends of said plate, and means for retaining said plate in engagement with the wall of the tank.

In a copending application Serial No. 468,058, filed May 9, 1921, we have disclosed and claimed a floating deck for oil tanks wherein the deck is arranged on top of a body of oil and is provided with spring pressed plates extending around the circumference of the deck adapted to normally contact with the wall of the tank. The present invention broadly relates to the subject matter disclosed in our copending application. In the present invention, we have provided a slightly different construction for securing the plates which contact with the wall of the tank to the deck, and means for retaining these plates in engagement with the wall of the deck.

In the construction disclosed in our copending application, the contact plates are hinged directly to the body portion of the deck and are curved at their upper ends to engage the top of the rim. In the present construction, the plates are connected to the deck and rim at the lower and upper edges respectively of the plates by means of link connections which open and close to move the plates inwardly and outwardly. A coil spring is secured to the links and is adapted to normally hold them in open position to retain the plates in contact with the wall of the tank. When the plates pass over obstructions in the wall of the tank, the links are closed against the action of the spring and the plates move inwardly toward the center of the tank. When the plates pass the obstruction, the springs return the links and plates to their normal position.

In the accompanying drawings, we have shown one embodiment of the invention. In this showing:

Figure 1 is a side elevation, parts being shown in section,

Figure 2 is a plan view,

Figure 3 is a detail perspective view of a portion of a tank and deck,

Figure 4 is a detail view of one set of links,

Figure 5 is a detail sectional view on line 5—5 of Figure 3, and,

Figure 6 is a vertical sectional view of a slightly different construction.

Referring to the drawings, the reference numeral 1 designates an oil tank provided with suitable filling means 2, and discharge means 3. As shown, the tank may be formed in two sections, an upper section 4 being secured to the bottom section, as at 5. A body of oil 6 is represented in the tank.

The floating deck comprises a base portion 7 which is of less diameter than the diameter of the tank. An upstanding rim 8 is arranged on the body portion of the deck, the rim being provided with a lower flange 9 for the reception of suitable fastening means 10, passing through the body portion to secure the rim in position. The rim is further provided with an upper flange 11.

A plurality of plates 12 are arranged around the deck, the plates being spaced from the rim and arranged in a substantially vertical position. These plates are connected at their upper and lower ends to the periphery of the body portion 7 and the flange 11, respectively, by means of links 13 and 14. As the construction of the two sets of links are identical, a description of one will suffice. The inner member 13 is provided with a curled edge 15, which is cut away at suitable intervals, as at 16. The cut away portions 16 are adapted to receive the curled edges 17 of the brackets 18, secured to the edge of the body portion and the rim respectively. Suitable pins 19 are passed through the curled edges to hingedly connect the link 13 to the deck 7, or the flange 11. The upper edge of the link 13 is provided with similarly arranged hinged members 20, alternately spaced with respect

to similar members 21, formed on the link section 14 and adapted to receive a hinge pin 22. The opposite edge of the links 14 are provided with similar hinged members 23 for the reception of hinge pins 24, passing through cooperating members formed on the plates 12.

A coil spring 25 is adapted to be secured to one of the links 13 of the upper or lower set and the opposite link 14 of the corresponding set. As shown, rods 26 and 27 respectively, are connected to the ends of the spring, the rod 26 being secured to the upper link 14 in any suitable manner, and the rod 27 to the lower link 13.

The plates and links are arranged entirely around the circumference of the tank, the abutting edges of adjacent plates and sets of links being arranged in contact with each other. As shown in Figure 5 of the drawings, a strip of gauze or wire fabric 28 is arranged at the meeting edges of the plates and the upper set of links. The gauze is adapted to extend over the slight space between the adjacent plates and links, and is secured to said plates and links by means of strips 29 of suitable material. These strips are secured to the plates or links by suitable means, such as rivets 30. The rim of the deck, the links 13 and 14, and the plates 12 may be provided with a lining 31 of fabric or other suitable material to retard circulation of air, gases and oil.

In Figure 6 of the drawings, there is shown a construction wherein the upper links are continuous, but a pair of links 32 are arranged at each end of each plate 12. These links are hinged to each other, as at 34, the outer link 32 being hinged to the plate, as at 35, and the inner link being hinged to the deck rim, as at 36. In this form of the invention, the fabric lining does not extend over the upper portion of the plate 12 and the rim 8, but terminates at approximately the oil level in the tank, as indicated at 37. A filling 38 of gravel or other suitable material may be arranged in the lower links 13 and 14 and between the rim and the plate 12.

In operation, the deck raises and lowers with the oil level in the tank and the plates 12 are normally maintained in engagement with the side wall by means of springs 25. The springs pull the links 13 and 14 toward each other, tending to move the plates outwardly. As oil is delivered to, or taken from the tank, causing the deck to be elevated or lowered, when the plates 12 come in contact with obstructions caused by overlapping joints, rivet heads or the like, the plates are moved inwardly against the tension of the spring, causing the upper and lower sets of links to separate from each other. As soon as the obstruction in the wall has been passed, the spring returns the parts to normal position with the plate 12 engaging the wall.

The provision of a floating deck eliminates the necessity of an air or gas chamber above the body of oil when the tank is only partially filled. This reduces evaporation, as in prior constructions where a body of air is present in the tank above the oil level, and it further reduces the possibility of explosions due to confinement of gases and vapors under relatively high pressure.

It is to be understood that the form of our invention herewith shown and described is to be taken as a preferred example of the same, and that various changes in the shape, size, and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described our invention, we claim:

1. In an oil tank, a floating deck comprising a body portion of less diameter than the diameter of the tank, an upwardly extending rim secured to the body portion, a series of plates contacting with the wall of the tank and spaced from said rim, means for pivotally connecting opposite ends of said plates to said rim and said body portion to permit slight movement of said plates, and means for maintaining said plates in contact with said wall.

2. In an oil tank, a floating deck comprising a body portion of less diameter than the diameter of the tank, an upwardly extending rim secured thereto, a series of plates contacting with the wall of the tank and spaced from said rim, the upper and lower edges of said plates being pivotally connected to said rim and said body portion respectively to permit slight movement of said plates, and a plurality of springs to normally maintain said plates in contact with the wall of the tank.

3. In an oil tank, a floating deck comprising a body portion of less diameter than the diameter of the tank, an upwardly extending rim secured thereto, a series of plates contacting with the wall of the tank and spaced from the rim, a set of links connecting the upper ends of said plates to said rim, a set of links connecting the lower end of said plates to the body portion, and springs arranged between said links to normally maintain said plates in engagement with the wall of the tank.

4. In an oil tank, a floating deck comprising a body portion of less diameter than the diameter of the tank, an upwardly extending rim secured thereto, said rim being provided with a flange on its upper end, a series of plates contacting with the wall of the tank, and spaced from said rim, links connecting the upper ends of said plates to said flange, links connecting the lower

ends of said plates to the body portion of the deck, and means for normally maintaining said plates in contact with the wall of the tank.

5. In an oil tank, a floating deck comprising a body portion of less diameter than the diameter of the tank, an upwardly extending rim secured thereto, said rim being provided with a flange on its upper end, a series of plates contacting with the wall of the tank and spaced from said rim, links connecting the upper ends of said plates to said flange, links connecting the lower ends of said plates to the body portion of the deck, and springs arranged between said links to normally maintain said plates in engagement with the wall of the tank.

In testimony whereof we affix our signatures in presence of two witnesses.

HARRISON RUSSELL LELAND.
WILLIAM SCHWEMLEIN.

Witnesses:
D. K. SHREUDT,
HERBERT C. POSTLEWAIT.