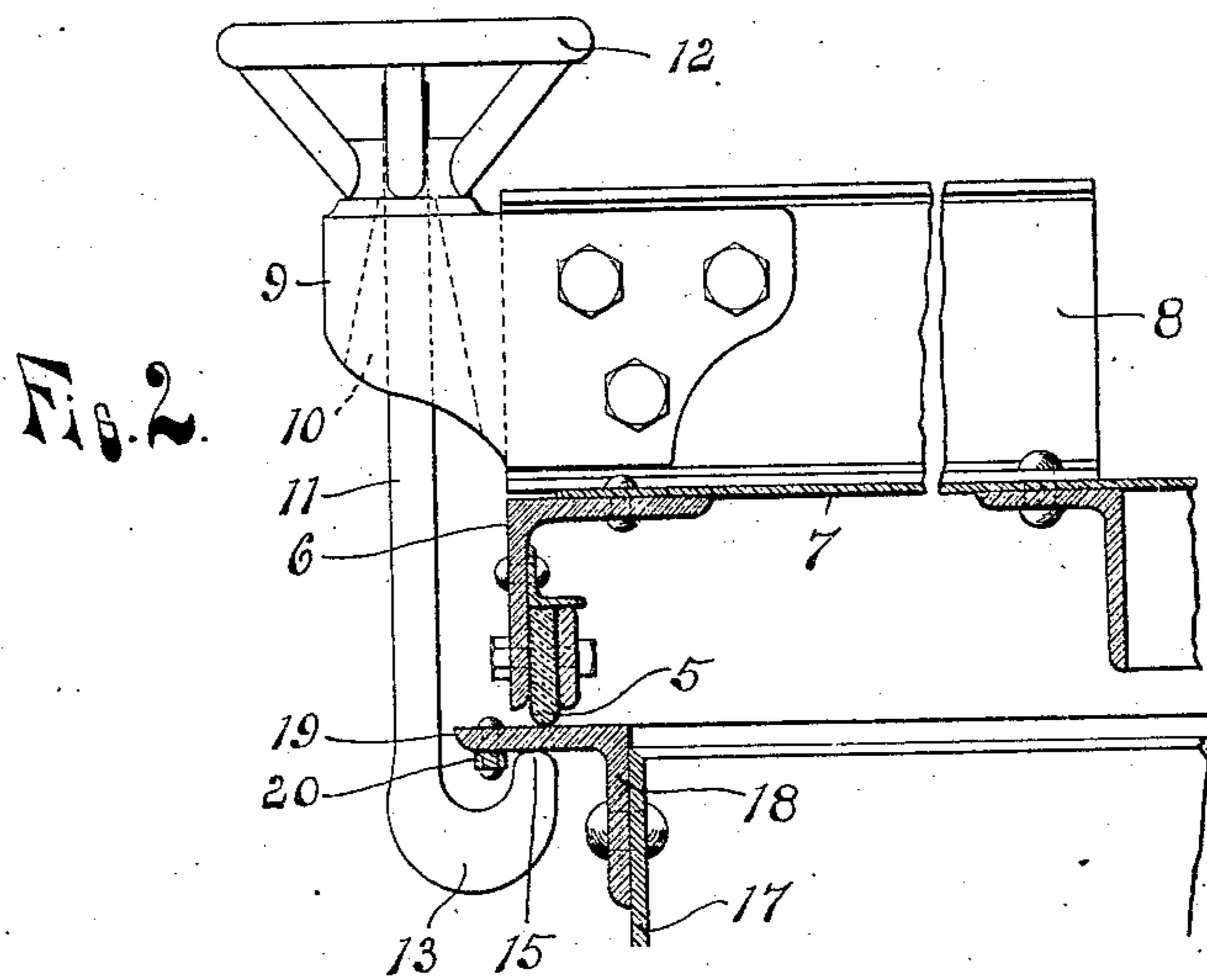
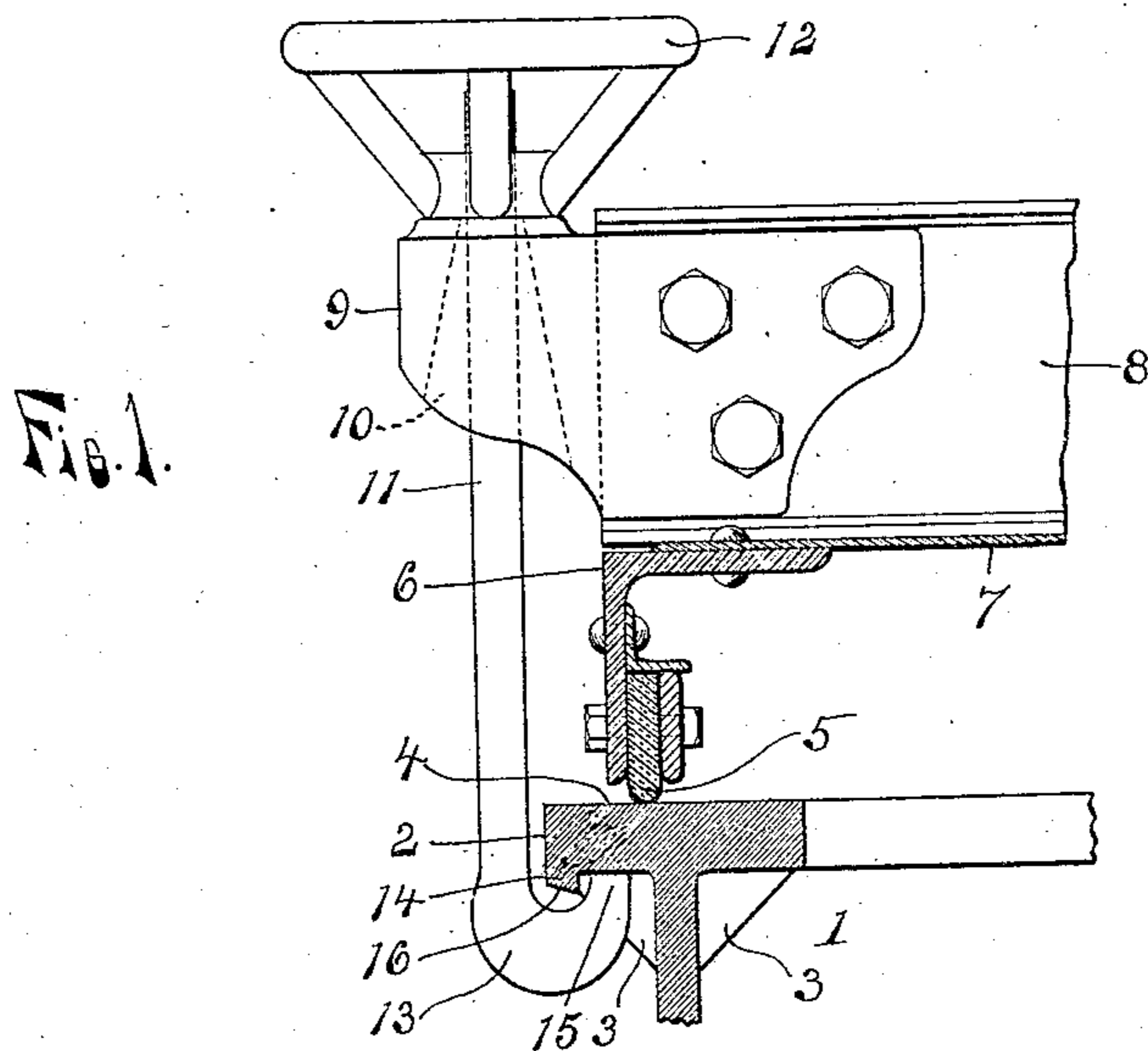


No. 845,426.

PATENTED FEB. 26, 1907.

E. F. LLOYD.
CLOSURE FOR GAS TANKS.
APPLICATION FILED MAY 15, 1905.

2 SHEETS—SHEET 1.



WITNESSES:

Lewis E. Blanders
Joseph A. Morke

INVENTOR.

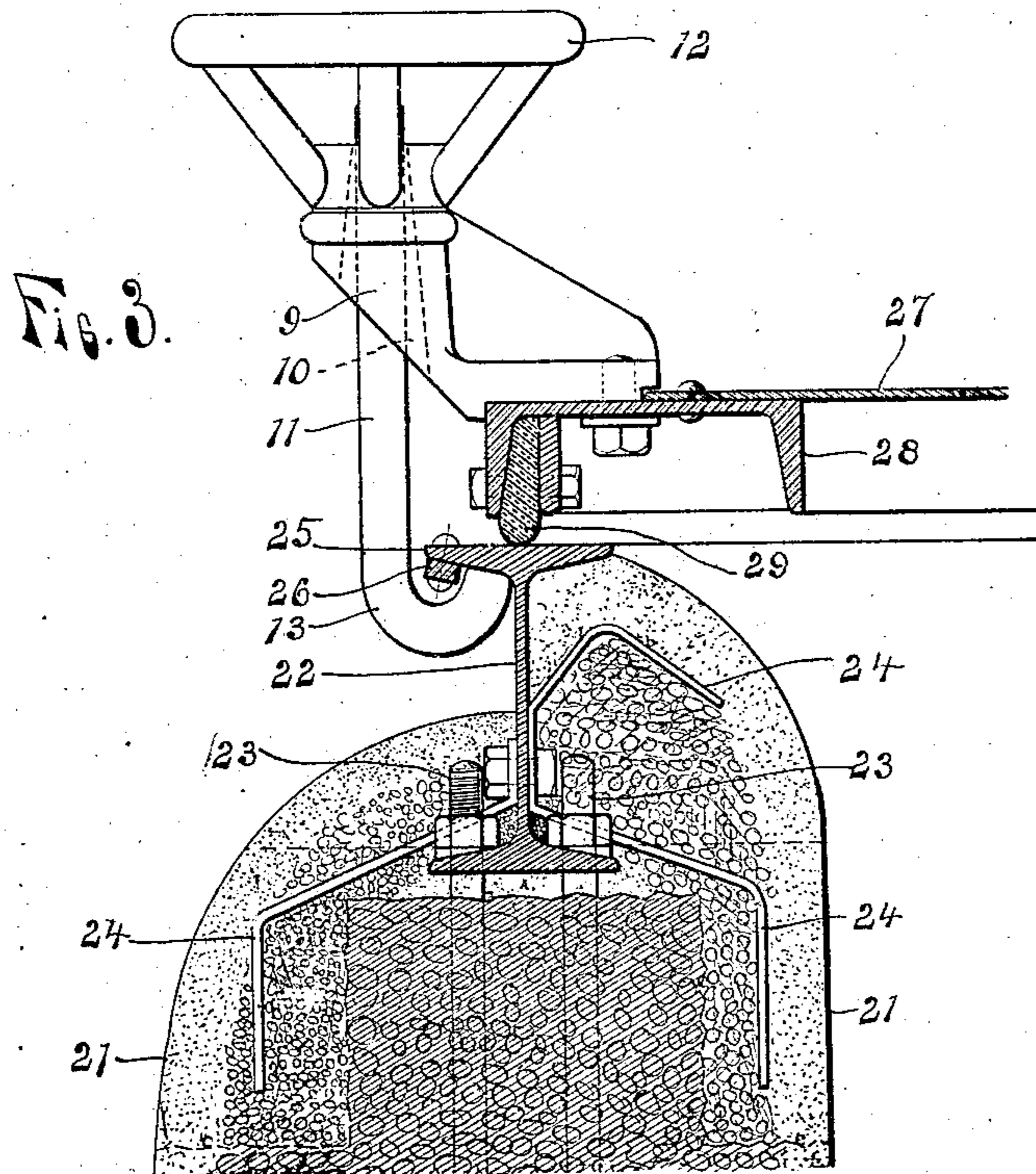
Ernest E. Lloyd
BY *Robert S. Bennett*
ATTORNEYS.

No. 845,426.

PATENTED FEB. 26, 1907.

E. F. LLOYD.
CLOSURE FOR GAS TANKS.
APPLICATION FILED MAY 15, 1905.

2 SHEETS—SHEET 2.



WITNESSES:
Lewis E. Sanders
Joseph A. Norwalk

INVENTOR.
Ernest F. Lloyd
BY *Barth & Barth*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ERNEST F. LLOYD, OF DETROIT, MICHIGAN.

CLOSURE FOR GAS-TANKS.

No. 845,426.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed May 15, 1905. Serial No. 260,531.

To all whom it may concern:

Be it known that I, ERNEST F. LLOYD, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Closures for Gas-Tanks, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to improvements in the construction of closures for gas-tanks; and the object of the invention is to provide a very simple and inexpensive fastening or clamp for the cover and to so construct a
15 cast-iron, sheet-metal, or cement tank as to particularly adapt it to the use of such a fastening and to permit the engagement of said fastening with the tank at any point along its rim, thus obviating the necessity of
20 its exact registry with any particular part or place on the tank.

The invention also consists in certain other new and useful features and in the particular construction, arrangement, and combination of parts, all as hereinafter more fully described, and shown in the accompanying drawings, in which—

Figure 1 is a sectional detail of a portion of a cast-iron tank and its cover with one of the
30 clamps or fastenings therefor in place, the construction shown embodying the invention. Fig. 2 is a similar view showing the application of the invention to steel tanks, and Fig. 3 a like view illustrating a cement
35 tank construction embodying the invention.

In Fig. 1 is shown a cast tank 1, formed with an outwardly-extending rim or flange 2 at its upper edge, which is strengthened by integral brackets 3 and forms a seat 4 at its
40 upper side for the rubber gasket or dry lute 5, which is secured in any suitable manner to the vertical flange of an angle-bar 6, riveted to the under surface of the cover 7 along its edge. The cover is further strengthened by
45 I-beams 8, extending across the upper surface thereof, and to the ends of these beams or to the cover direct are secured brackets 9, each provided with a vertical opening 10 in its projecting end. Within the said opening
50 10 is a clamping-bolt 11, which is screw-threaded at its upper end to receive a wheel-nut 12, said nut engaging the upper surface of the bracket to support the bolt and adjust the same therein. The opening 10 at its up-
55 per end is of substantially the same diameter as the bolt. but gradually enlarges down-

ward, so that said bolt may be swung in the opening toward or from the cover to engage a hook 13 on the lower end of said bolt with the flange 2 on the tank. The flange 2 is
60 cast with a rib 14 on its lower side at its outer edge, behind which rib or between it and the side of the tank the end 15 of the hook (which may be rounded, as shown in Fig. 2) is adapted to engage the flange, said rib pre-
65 venting the accidental disengagement of the hook with the flange, and the lower face 16 of the rib is inclined upward from a horizontal plane toward its outer edge, so that if the operator inadvertently engages the end of
70 the hook with the rib instead of behind it said end will slip from the rib when the wheel-nut is turned.

The construction of the clamp, consisting of the bracket, clamping-bolt, and wheel-
75 nut, and the construction of the cover shown in Fig. 2 is substantially the same as that shown in Fig. 1; but the tank 17 is formed of sheet-steel, and to provide a seat for the
80 lute and a flange for the engagement of the clamps an angle-bar 18 is riveted to the outer surface of the vertical wall of the tank at its upper edge, the outwardly-extending horizontal member of the bar forming the flange
85 19, beneath which the hooks are engaged. To prevent the hooks from becoming accidentally disengaged from said flange, a strip or bar 20 is riveted to the under surface of the flange along its outer edge.

In Fig. 3 is shown a cement tank construc-
90 tion with which the clamp, which is of substantially the same construction as the clamps shown in the other figures, is especially adapted to be used and the rim of which tank is so constructed as to effectually
95 prevent leakage. The wall 21 of the tank is built up to the desired height and an I-beam 22 then placed thereon, with long anchor-bolts 23 extending through its lower flanges downward into the wall. Anchor plates or
100 strips 24 are secured by bolts to the web of the beam, and cement or concrete is filled in around the beam and these strips on the outer side of the beam to about one-half of its height and on the inner side to the top of
105 the inwardly-extending flange on its upper end. The height of the beam and its flanges furnishes a long surface to which the cement will adhere, but does not prevent the cement from being packed solidly in contact with
110 every part thereof, and by leaving the outwardly-projecting flange 25 free a suitable

strong and rigid flange with which the clamping-hooks may be engaged is provided. A strip or bar 26, similar to the strip 20, is riveted to the lower surface of this flange 25 along its outer edge to hold the hooks engaged therewith, and as said lower surface of the flange is inclined upward from a horizontal plane toward its outer edge the lower surface of the bar 26 is given an inclination similar to that of the rib 16 (shown in Fig. 1) and for the same purpose.

The cover 27 for the cement tank may be constructed the same as those shown in Figs. 1 and 2, or it may be constructed, as shown in Fig. 3, by securing a channel-bar 28 to the edge of the cover and bolting the dry lute 29 to the vertical outer flange of said channel.

Having thus fully described my invention, what I claim is—

1. The combination with a receptacle for gas, a cover for said receptacle, and a dry lute interposed between the cover and receptacle, of a continuous flange on the receptacle forming a seat for the lute, a bracket on the cover having a vertical opening enlarging downward from its upper end, a clamping-

bolt in said opening having a screw-threaded upper end, a wheel-nut on said end in contact with the bracket, a hook on the lower end of the bolt adapted to engage the flange, and a rib on the lower side of the flange along its outer edge.

2. The combination with a receptacle for gas, a cover for said receptacle, and a dry lute carried by the cover, of a continuous outwardly and horizontally extending flange on the receptacle at its upper edge, a rib on the under surface of said flange at its outer edge having a lower surface inclined upwardly and outwardly from a horizontal plane, a bracket on the cover, an opening in the bracket, a clamping-bolt in said opening having a screw-threaded upper end, a wheel-nut on the said end of the bolt, and a hook on the lower end of said bolt.

In testimony whereof I affix my signature in presence of two witnesses.

ERNEST F. LLOYD.

Witnesses:

OTTO F. BARTHEL,
JOSEPH A. NOELKE.