H. F. & A. SNYDER.

Oil-Tank Fittings.

No. 148,095. Patented March 3, 1874.

Fig. 1.

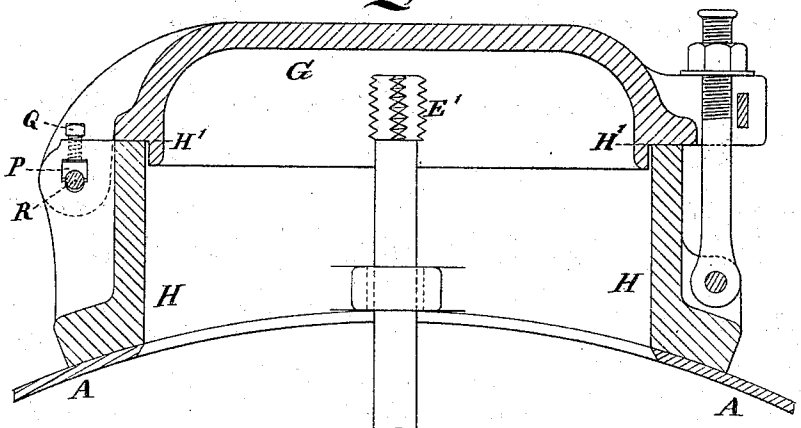


Fig. 2.

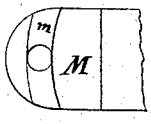


Fig. 3.

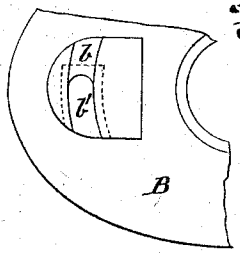


Fig. 4.

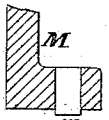
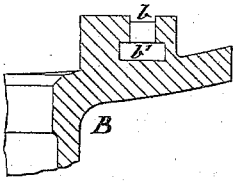
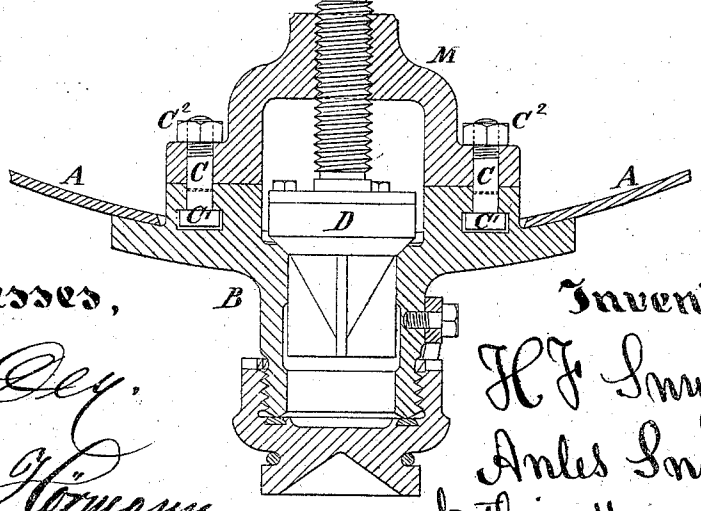


Fig. 5.





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by their attorney

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AM. PHOTO-LITHOGRAPHIC CO. N. Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

HENRY F. SNYDER, OF WILLIAMSPORT, AND ANTES SNYDER, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN OIL-TANK FITTINGS.

Specification forming part of Letters Patent No. **148,095**, dated March 3, 1874; application filed January 17, 1874.

To all whom it may concern:

Be it known that we, H. F. SNYDER, of Williamsport, Lycoming county, Pennsylvania, and ANTES SNYDER, of Pittsburg, Allegheny county, Pennsylvania, have invented an Improvement in Oil-Tank Fittings, of which the following is a specification:

Tanks standing empty are liable to be full of gas, or with air so heavily charged with petroleum vapors that it is dangerous for a man to go into them. The gas or vapor is heavier than the atmosphere. The approved way to empty them is to open wide, or entirely remove, the discharge-valve, and let it run slowly out.

One part of our improvement relates to improved means for entirely removing the valve and attachments without getting into the car. Another part relates to means of adjusting the bearing of the man-hole cover, so as to always make a close joint when screwed down. A third part relates to the means of access to the shaft by which the valve is operated.

The following is a description of what we consider the best means of carrying out the invention.

The accompanying drawings form a part of this specification.

Figure 1 is a vertical cross-section, showing all those parts of the tank and its fittings to which our invention relates. The figure shows only so much of the cylindrical portion of the tank as is immediately adjacent to the man-hole at the top, and to the discharge or orifice at the bottom. The vertical shaft, which allows the valve to be operated by manipulating at the top, is represented as having its central portion broken away, and the upper and lower ends brought nearer together than is the case in practice. In this figure all the parts are in place, and the discharge-valve and man-hole are both represented closed. Fig. 2 is a plan view, showing the construction of a portion detached. It represents one end of the yoke which arches over the discharge-valve, seen from below. Fig. 3 is a plan view of another portion detached. It is a portion of the main casting, which forms the seat of the discharge-valve, and which is peculiarly prepared for locking the yoke thereto. Figs. 4 and 5 are vertical sections of the corresponding parts on the opposite side of the valve.

Similar letters of reference indicate like parts in all the figures.

A represents portions of the cylindrical body of the tank; B, the casting surrounding the discharge-aperture, and H the casting surrounding the man-hole at the top. We core deep curved recesses *b'* in the main casting B, adapted to receive the bolts C, and confine them by means of their heads C^1. They are open at one end to permit the bolts C to enter, and closed at the other end, so that when the yoke M is turned partially around, and thus moved to its proper place, it will be stopped. The sides of these grooves or curved recesses *b'* are arcs of circles drawn from the center of the shaft of the valve D. On the lower side of the yoke M are shallow curved projections *m m*, which fit accurately into corresponding curved recesses *b* turned in B. All the curves are struck from the center of the shaft E.

When we wish to remove the valve D and its connections from the main casting B, a long wrench is used with which the nuts C^2 on bolts C are loosened, and yoke M is then easily turned round, so as to slide the bolts C completely out of the deep locking recesses or pockets *b'*, and the yoke and all its attachments can be easily raised to the top of the tank and removed through the man-hole. It can be again returned to its place, and fastened in proper position by a reverse operation, when required.

To accomplish the second end, and allow the adjustment of the hinge of the man-hole cover, we apply half-boxes P, which are adjusted by screws Q, so as to raise and lower the axis R, and thus allow the cover G to close with equal tightness all around.

Referring to the third point above referred to—the means of convenient access to the shaft for operating the discharge-valve—it is important that the top of the shaft or valve-stem E should be somehow locked, so as to prevent unauthorized persons from tampering with it, and yet it is very inconvenient to have to use a peculiarly-shaped wrench to open the valve with. We overcome this difficulty by making the under side of the man-hole cover concave,

so that the valve-stem E can be brought high enough above the joint edge H′, so as to allow the stem-top E′ to be taken hold of with a common wrench, and yet, when the cover is closed, it is safely locked in.

We claim as our invention—

1. The curved locking-recess *b′* in the main casting B, in combination with the bolts C C^1 and securing-nuts C^2 on the yoke M, adapted to serve relatively to each other, and to the shaft E, valve D, and oil-tank A, as and for the purposes herein specified.

2. The shallow curved recesses *b*, adapted to serve as a guiding means in the partial revolution of the yoke M, in combination with the latter and with the locking means *b′* C C^1, and with the valve D, shaft E, and oil-tank A, as herein specified.

3. The adjusting-screws Q and movable boxes or half-boxes P, in combination with the oil-tank A, man-hole casting H, and cover G, as herein specified.

4. The shaft or valve-stem E, extending from the valve D to a level above the man-hole casting, so that it may be operated by an ordinary wrench, in combination with the correspondingly-recessed cover G, substantially as and for the purposes herein specified.

In testimony whereof we have hereunto set our hands this 15th day of December, 1873, in the presence of two subscribing witnesses.

HENRY F. SNYDER.
ANTES SNYDER.

Witnesses:
T. C. ROGERS,
H. D. HEISER.