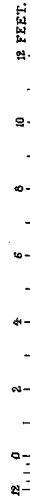
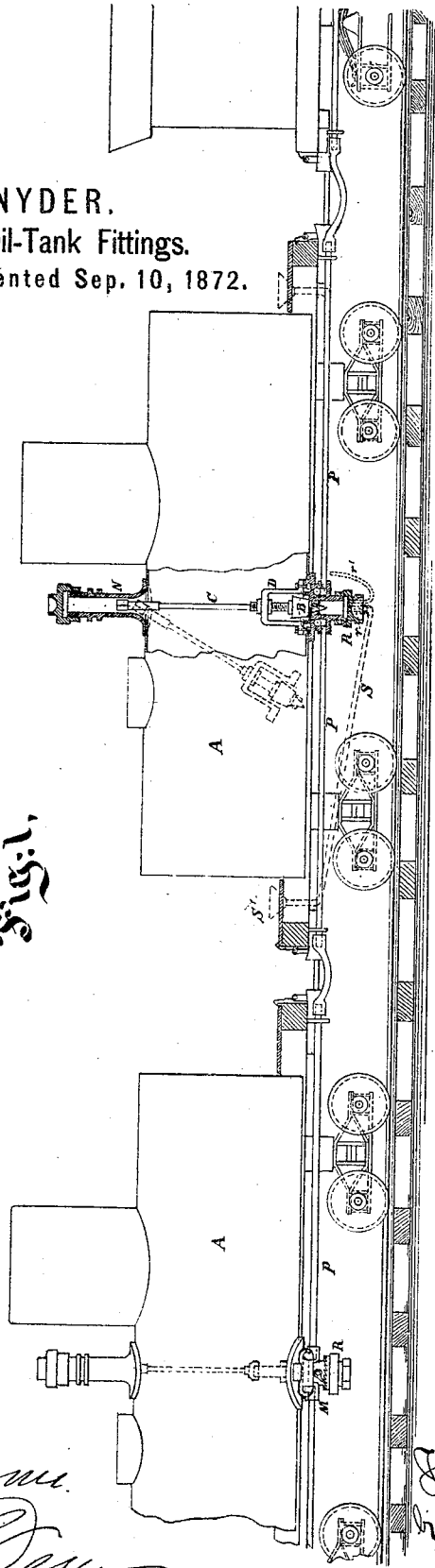


H. F. SNYDER.
Improvement in Oil-Tank Fittings.
No. 131,190. Patented Sep. 10, 1872.

Fig. 1.



Witnesses;
Arnold Hornum
Wm. C. Dey

Inventor;
H. F. Snyder
 by his attorney
J. L. Sedon

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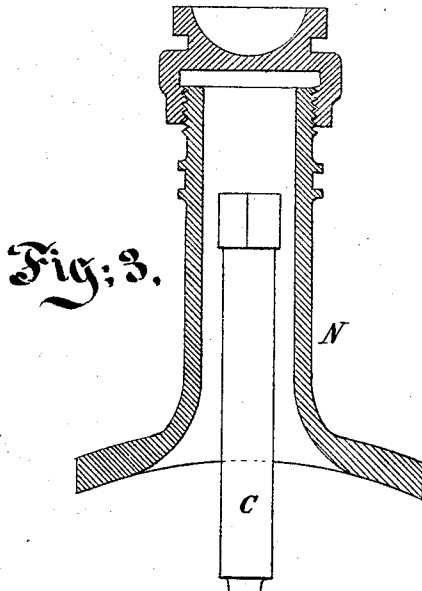
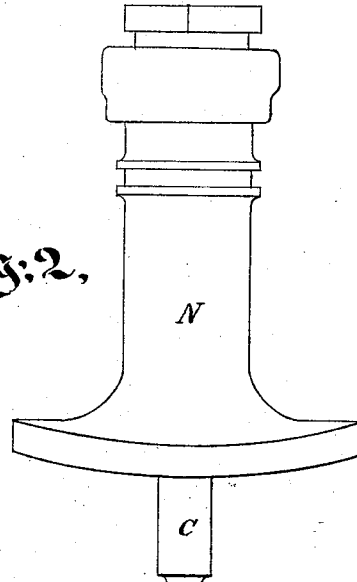
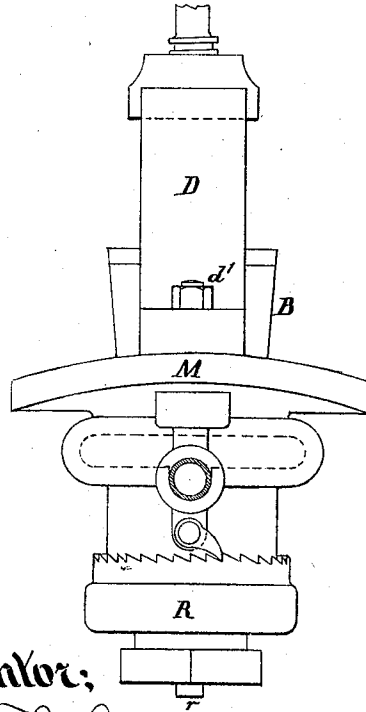
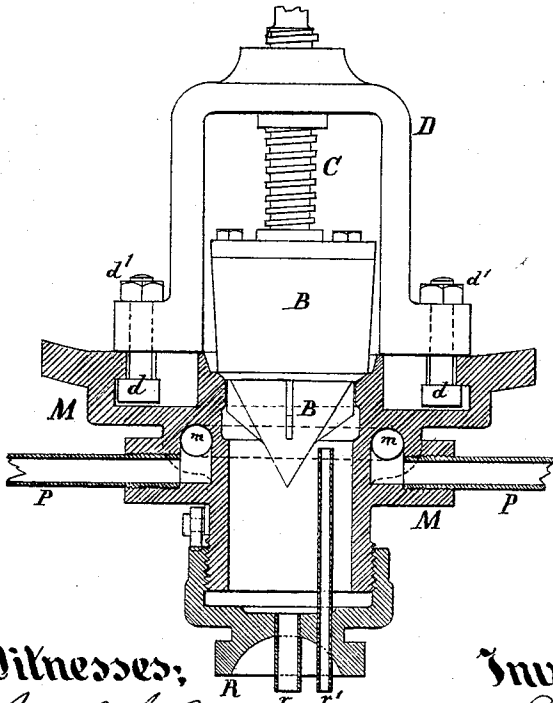


Fig. 2,



0 1 2 3 4 5 6 inches.



Witnesses;

Arnold Hermann.

W. C. Day

Inventor;

Henry F. Snyder
by his attorney *J. S. Stearns*

UNITED STATES PATENT OFFICE.

HENRY F. SNYDER, OF WILLIAMSPORT, PENNSYLVANIA.

IMPROVEMENT IN OIL-TANK FITTINGS.

Specification forming part of Letters Patent No. 131,190, dated September 10, 1872.

Specification describing certain Improvements in Oil-Tank Fittings, invented by HENRY F. SNYDER, of Williamsport, Lycoming county, Pennsylvania.

The invention relates to the devices for discharging the oil from the bottom of tanks, and the corresponding parts at the top, through which the discharge-valve is operated. It is intended more particularly for use with tanks mounted on wheels, or, in other words, oil-cans; and for the transportation of the oil known as petroleum, but may be used with other tanks and other oils.

In the carrying of oils there is liable to gather at the bottom a quantity of water, and in cold weather such water freezes. This invention affords a ready means of overcoming the difficulties due to the freezing. It also provides important means for moving the valve and its mountings to be exchanged or repaired. It provides a spread or inverted funnel-shaped neck at the top of the tank, a tall-bodied valve tapered from the top downward, and of such height as to ordinarily reach above the top of the ice; and channels and connections for conveniently applying hot water or steam for warming the valve and its connections to thaw the ice. It also provides a removable cap, with connections for these pipes, which may form a separate element of the mechanism, to be applied only at the time of its being required.

The following is a description of what I consider the best means of carrying out the invention. The accompany drawing forms a part of this specification.

Figure 1 is a side elevation, part in section. It shows two oil-tank cars, the one on the left having the fixtures in place for use, the dotted lines therein showing the shaft standing vertically within the tank. The car on the right represents, in strong lines, the same condition of the parts in section, and, by dotted lines, represents the position of the valve and its mountings when in the act of being removed for repairs or for other purposes. This figure also represents, in dotted lines, the provision for applying hot water through the agency of a tube and funnel connected with the removable cap at the extreme base. The remaining figures represent some of the parts on a larger scale. Fig. 2 is a side elevation

of the work at the top and bottom, a large portion of the shaft being broken away to bring the parts nearer together. Fig. 3 is a corresponding vertical section.

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

A is the body of the tank, which may be in any ordinary or suitable form and of any suitable material. It will be here described as a boiler-iron tank, having the fittings bolted firmly and tightly thereto at the top and bottom in convenient positions to fulfill their appropriate functions. The work at the bottom consists of the valve, with the seat therefor, and the other connected parts, while the work at the top consists of a stem or casing to receive the upper end of the operating shaft, with a suitable cover therefor. B is the body of the valve, and B' a winged point which extends below the seat and serves as a guide. The body B of the valve has a height of six inches, more or less, and is smooth and tapering, the smallest end being downward. The operating shaft C, threaded, as represented, through the yoke D, is fitted by collars within the body of the valve, so that it may turn without turning the valve, but will compel the valve to rise and sink in the obvious manner. The height and taper of the body B allows it to be lifted with or without a slight warming. The ordinary whole-bodied valve would be covered with ice if the water formed to any considerable depth, and any moderate amount of thawing would not liberate it. The yoke D is held down by bolts *d*, the heads of which are received in recesses, cored, as represented, in the casting M, which forms the foundation or fixed portion of the work at the base. By removing the nuts *d'* and lifting the shaft C and its connections so as to clear the yoke D from the bolts *d*, it may be swung to one side into the position indicated in dotted lines in the right hand car in Fig. 1. This movement is made practicable by the trumpet-shaped base of the top neck N. This neck is made small in its upper and main portion, but is flared outward at and near its lower end, as represented. The top and main body are only large enough to allow the insertion of a suitable wrench to connect with the head of the shaft C. The lower end is flared sufficiently to allow the shaft C to be swung, as

represented, and thus provides a ready means for the convenient insertion and removal of the shaft C with the attached valve and yoke. It greatly facilitates the manufacture and repairs of these parts to be able to thus remove them and insert them together. The base of the casting M is provided with the chamber *m*, extending quite around exterior to the central discharge-passage. On filling this chamber marked *m* with strong steam from the boiler, the entire casting M and its connections may be rapidly and efficiently heated in a very brief period. I provide flexible or yielding connections, by rubber hose or otherwise, between the pipes P, extending along each car and connecting with the passage *m*, so as to form a continuous train of connections from the boiler of the locomotive. Previously to operating the shaft C, if there is any reason to suppose the valve to be encumbered by ice, the engineer works a cock on the boiler, not represented, and allows steam to pass through the pipes P and circulate through the passage *m* in each car. The effect is the rapid heating of the parts and the thawing of the ice immediately adjacent. This done, the valve B may be easily operated, and the oil discharged in the ordinary manner.

This apparatus is always available when the locomotive is attached with steam up; but when, for any reason, the steam is not at hand, it becomes important to provide means for introducing heat from other sources. The removable cap R, formed as represented with pipes *r r'* connecting up through the base, affords a ready means, in connection with the removable tube S and funnel S', for applying hot water, which may be brought in pails from any convenient source, and allowed to flow down through the funnel S' and pipe S and flow up into the space below the valve B.

The hot water thus introduced imparts its heat to the iron, and, on becoming itself cold, is allowed to be discharged through the pipe *r'*. In order to avoid a too rapid discharge of the hot water through these means, the pipe *r'* is extended up as high as possible. A set of this apparatus—that is to say, the removable cap R, with its attachments—may be kept in any convenient place where oil is to be discharged, and may be applied whenever wanted.

It will be understood that the casting N should extend up so as to allow the tank to be very full without overflowing there, and that its top should be so small as to forbid the insertion of a common wrench, and only admit the proper operating key.

I claim as my invention—

1. The inverted funnel-shaped top neck N, arranged to serve relatively to the shaft C of the valve-operating mechanism, as set forth.

2. The high tapering valve B, mounted, as shown, and presenting a smooth tapered form extending above the water, with a low seat, as specified and shown.

3. The channels *m* in the base-piece M in combination with the pipes P, for conducting steam thereto, and arranged to serve as herein set forth.

4. The removable cap R, with the passages *r r'* and pipe S, adapted to allow the convenient application of hot water and the circulation thereof through the base-piece M, as specified.

In testimony whereof I have hereunto set my hand this 11th day of March, 1872, in the presence of two subscribing witnesses.

HENRY F. SNYDER.

Witnesses:

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