

HENRY F. SNYDER.

Improvement in Man-Hole Covers for Oil Tanks.

No. 124,768.

Patented March 19, 1872.

Fig. 1.

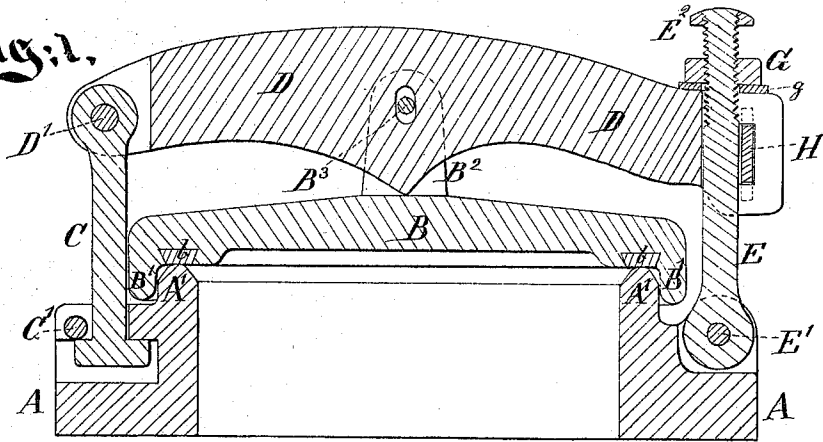


Fig. 3.

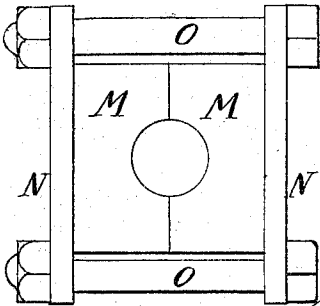


Fig. 4.

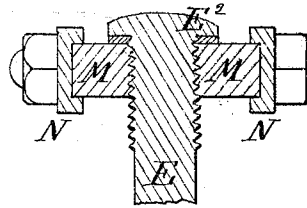
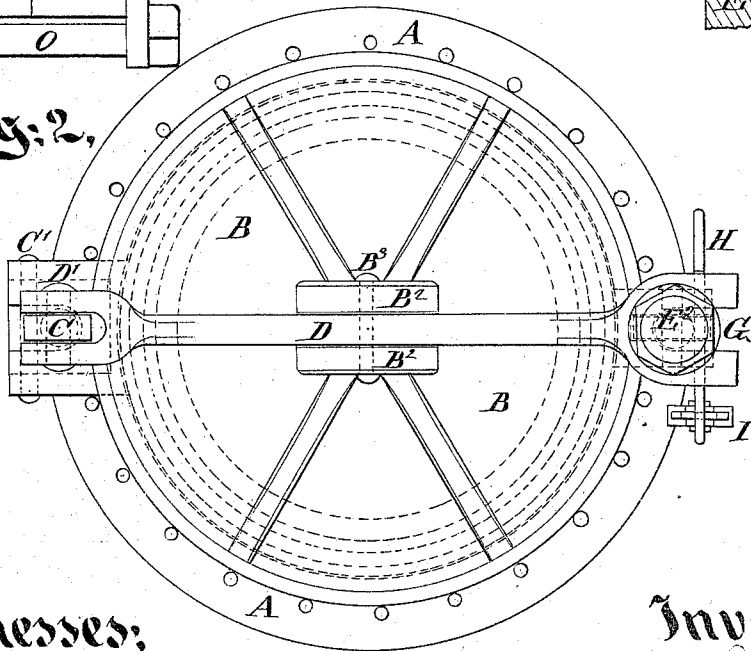


Fig. 2.



Witnesses:

Wm. C. Day

Arnold Hermann

1 2 3 4 5 6 7 8 9 10 11 12 Inches.

Inventor:

H. F. Snyder

By his attorney J. J. Bates

UNITED STATES PATENT OFFICE.

HENRY F. SNYDER, OF WILLIAMSPORT, PENNSYLVANIA.

IMPROVEMENT IN MAN-HOLE COVERS FOR OIL-TANKS.

Specification forming part of Letters Patent No. 124,768, dated March 19, 1872.

Specification describing an Improvement in Man-Holes for Oil-Tanks and analogous structures, invented by HENRY F. SNYDER, of Williamsport, in the county of Lycoming, in the State of Pennsylvania.

The improvement relates to the means of securing the cover tightly and safely, and of applying and removing it conveniently.

The following is a description of what I consider the best means of carrying out the invention: The accompanying drawing forms a part of this specification, and represents the housing or ring around the man-hole, with the several working parts attached thereto; and also, on a larger scale, some of the tools or apparatus employed in the manufacture of one portion of the details. It will be understood that the man-hole ring with its attachments are to be secured to the body of the oil-tank or other structure, not represented, by bolting, riveting, or other ordinary or suitable means.

Figure 1 is a vertical section through the housing and cover with the several securing means. Fig. 2 is a plan view of the same. Figs. 3 and 4 represent the means employed in producing a proper end on the swinging link.

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

I will denote by the single letter A the entire ring or housing which surrounds the man-hole, and forms the foundation for the other work, and will designate by A¹, A², &c., certain specific parts thereof. The top immediately around the man-hole is narrowed and smoothed, as indicated by A¹, and is adapted to fit very tightly against and imprint itself slightly into a soft-metal ring, b, which is formed in the under face of the cover B. The cover is provided with a deep rim, B¹, which descends around the rim A¹ of the housing, and both the parts are turned or otherwise fitted so closely as to guide the cover B in its descent to its seat and cause it to present always the same indented portion of its soft ring b to receive the narrowed or sharpened edge of the rim A¹. The back of the cover B has two lugs B², which receive a cross-pin, B³. The latter stands in a short vertical slot in a stout lever or locking-bar, D, and allows a slight motion of the latter up and down relatively to the cover while compelling the cover B to move

with it when it is lifted and turned over to open the man-hole. C is a post or link, secured to the foundation A by means of a head formed on its lower end, which is slid laterally into a corresponding recess, and secured by a pin, C'. The upper extremity of the part C, which I will hereafter term a post, is received within a fork formed in the end of the lever D, and is pivoted therein by the cross-pin D'. The lever D is formed with a projection downward near the center of its length, adapted to bear fairly and centrally on the back of the cover B, between the lugs B². The lever D and its connections turn on the pivot D' in opening and closing the man-hole. I have not deemed it necessary to represent the parts when open, believing that its action will be sufficiently clear from the figures given with this description. The right hand of the lever D is forked and somewhat deepened, as represented. There is a swinging link, E, turning, in a recess in the foundation-piece A, on a cylindrical pivot, E'. Its upper end is both threaded and headed. The method of forming this head without disturbing the threads, and its importance to the full success of the invention, will be presently described.

When the man-hole is to be opened, the nut G is turned on the threads so as to raise it. This movement sets the link E at liberty, so that it may be easily turned by the hand, turning on its pivot, and thus swinging out of the forked end of the lever D and leaving the latter and its connections free to be lifted. When it is desired to close the man-hole the lever D and its connections are brought over into the position represented, and the lip B¹ guides the cover down to its true position. When the sharpened or narrowed upper edge of the rim A¹ has entered properly to its seat in the lead or other soft-metal ring b, and the lever D has pressed it gently down as well as can be done by the force of the hand, the link E is swung up again into the position represented, and the nut G screwed down by a wrench or other suitable means. To avoid a loss of the nut G by unscrewing it too far, I head or rivet the upper end of the bolt E; and to avoid injury to the threads below, I take care to inclose the threads within a temporary nut, made in pieces, as shown.

It is important to provide in my device

against the opening the man-hole by unauthorized parties. I attain this end by the employment of a transverse key, H, inserted crosswise through the lever D, outside of the nut E, and securing it in its position by a padlock, I, indicated in plan in Fig. 2. The plan view, Fig. 2, shows the upper surface of the man-hole cover B, strengthened by radial ribs. This is not essential to the success of the invention, but it obviously allows the cover to be sufficiently strong with less material than would otherwise be required.

I claim as my invention—

1. The lever D and swinging link E, arranged and operating relatively to the cover B and ring A A¹, as and for the purposes herein specified.

2. The headed end E² of the swinging link E, in combination with the nut G, the slotted lever D, and cover B, as specified.

3. The locking-key H and padlock I, in combination with the headed holding-link E, lever D, man-hole cover B, and rim or combining A A¹, arranged for joint operation as specified.

In testimony whereof I have hereunto set my name in the presence of two subscribing witnesses.

HENRY F. SNYDER.

Witnesses:

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