

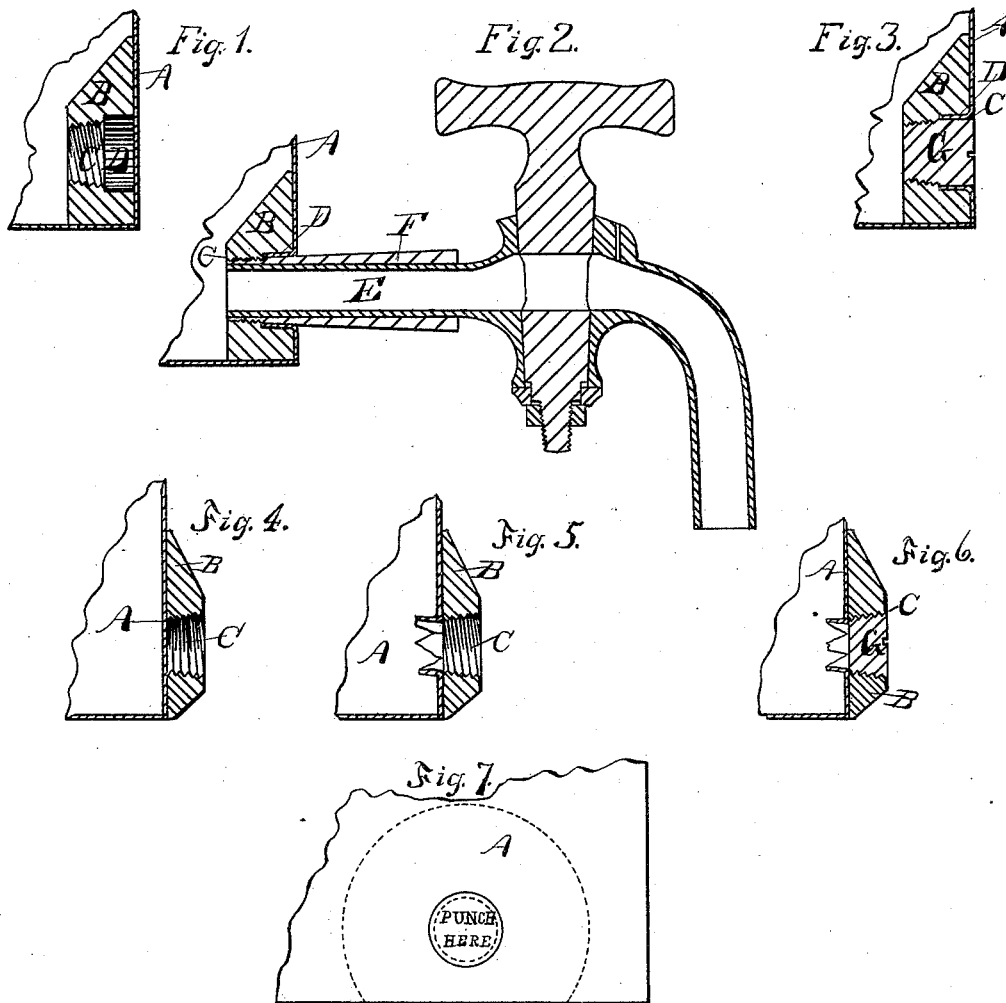
(No Model.)

C. H. JAMES.

DEVICE FOR TAPPING SHEET METAL VESSELS.

No. 423,429.

Patented Mar. 18, 1890.



Witnesses

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UNITED STATES PATENT OFFICE.

CULLEN H. JAMES, OF OAKLAND, CALIFORNIA.

DEVICE FOR TAPPING SHEET-METAL VESSELS.

SPECIFICATION forming part of Letters Patent No. 423,429, dated March 18, 1890.

Application filed December 9, 1889. Serial No. 333,034. (No model.)

To all whom it may concern:

Be it known that I, CULLEN H. JAMES, of Oakland, in the county of Alameda, State of California, have invented a new and useful Improvement in Devices for Tapping Sheet-Metal Vessels, of which the following is a specification.

My invention relates specially to tapping cans in which oils are put up for domestic use; but it is applicable to sheet-metal tanks, barrels, and all vessels of like character.

It has heretofore been the practice to tap oil-cans by soldering to the outside of the can a soft-metal boss provided with a perforation. A hole was then punched through the tin at the rear of such perforation and a hard-metal screw-threaded faucet was screwed into such hole, cutting threads into the metal, and thereby securing the faucet to the can and communicating with the interior through the hole punched in the tin. This is objectionable in that the soft-metal boss is liable to be melted by the heat applied in soldering it to the can. It is also objectionable in that when the faucet is removed the threads in the boss are worn, and when the faucet is again introduced the hole is so enlarged that the faucet has to be screwed deeper in than before, and, as the size of the hole in the tin depends upon the size of the hole in the boss, it forms a contraction at the end of the hole in the boss and prevents the further introduction of the faucet, so that after a few withdrawals and insertions of the faucet the boss becomes useless and has to be replaced.

The object of my invention is to provide simpler, more perfect, and more durable means for the convenient tapping of such vessels in such manner as will not impair the vessel for reuse; also to provide for cheap and convenient renewal of worn parts.

A further object is to so construct my device as to cause as little loss of space as possible in packing for shipment.

The accompanying drawings illustrate my invention and the manner in which it is used.

Figure 1 represents a section of a fragment of an oil-can which is provided with my invention as applied when the vessel is provided with it at the time of manufacture, and is ready for shipment. In this style the

hard-metal boss is soldered to the inside of the can. Fig. 2 represents a section of the same when the can has been tapped and provided with a faucet. The section is taken on the mid-line of the faucet. Fig. 3 represents the same fragment of the can when the faucet is removed and the can is ready for reuse. Fig. 4 shows a modification of my device as applied to cans now in use, the can being untapped. In this form the hard-metal boss is soldered to the outside of the can. Fig. 5 is a view of the same after the can has been tapped. Fig. 6 shows the same ready to be refilled and reshipped. Fig. 7 is a view of the outside of a fragment of the can provided with my improvement applied as in Fig. 1, showing its appearance before the can is tapped.

A represents the sheet-metal walls of the can or other vessel.

B is a hard-metal boss soldered thereto and having a tapering screw-threaded perforation or hole C therethrough. Where it is designed to apply this invention to the vessels at the time of their construction, this perforation is preferably countersunk or enlarged on the outer side of the boss. The outer side or face of the boss provided with this countersink is soldered to the inside of the wall of the can or other vessel close to the bottom of the vessel, and the outer face of the sheet metal is provided with marks to indicate the location of the perforation, so that the person desiring to tap the vessel can determine where to punch the opening for the faucet.

The faucet which I use in practicing my invention is provided with a straight plain cylindrical core, shank, or stem E of hard stiff metal—such as brass or othersuitable metal—of which the rest of the faucet is made. Around this core I cast a tapering soft-metal ferrule F, which may be composed of the following metals, melted together in substantially the proportions set forth, to wit: bismuth, one-fourth pound; antimony, one-half pound, and lead, five pounds. The purpose of this composition is to produce a soft-metal covering or jacket for the faucet which, when screwed into the tapering hole C, will be cut and threaded by the threads of the tapering hole.

In practice, when my invention is applied at the time the cans are manufactured—that is, when the boss is placed inside the can, as shown in Fig. 1—the boss forms no obstruction in packing, and the can may be shipped as conveniently as though there were no boss.

When desired to tap the can, it is placed with the side provided with the boss uppermost. Then the sheet metal of the can is punctured by a suitable punch, the spread of the sheet metal being thereby bent into the countersink of the boss, which is equal in depth to half its diameter, so that it will receive the spread of the metal, so that it will be out of the path of the faucet.

When the boss is soldered to the outside of the can, the countersink is unnecessary, as the sheet metal is pressed into the inside of the can, as shown in Fig. 5.

When the ferrule F on the faucet is withdrawn and inserted into another can, it is screwed in deeper than before, thus cutting new threads farther along on the ferrule, so that there is no liability of leakage. The shank E is of a diameter smaller than the diameter of the hole C, so that it can pass into the can as the ferrule becomes more and more worn. When the ferrule is worn until it is desired to renew it, it is easily removed by dipping it in a molten bath of the composition of which it is formed. The shank of the faucet is then placed within a tapering mold and the composition is then poured around it. Thus at slight expense the ferrule is renewed.

When the can has been emptied and it is desired to refill and reship it, a plug G is in-

serted into the hole in the boss. It is preferably a screw-plug; but it may be of cork or other suitable material. The plugs may be made of soft metal adapted to receive a thread from the hard-metal boss when screwed thereinto.

In practice it is not necessary to give the ferrule and perforations so much taper as is shown in the drawings. In the drawings the taper is exaggerated in order that it may be the more easily seen.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the sheet-metal walls of a vessel, a hard-metal boss soldered thereto and having a screw-threaded perforation, and the faucet having a stiff-metal shank provided with a soft-metal ferrule.

2. The combination of the sheet-metal walls of a vessel, a hard-metal boss soldered thereto and having a tapering screw-threaded perforation, and the faucet having a plain cylindrical stiff-metal shank provided with a tapering soft-metal ferrule.

3. A sheet-metal vessel having a metal boss soldered to the inside of one of its walls and provided with a screw-threaded perforation countersunk next to such wall to receive the spread of the metal when the metal is punctured to tap the vessel.

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