No. 618,728. Patented Jan. 31, 1899.

W. J. RAWLING.

HAND PUMP FOR EXTRACTING KEROSENE OR OTHER LIQUIDS FROM TINS.

(Application filed July 3, 1897.)

(No Model.)

FIG. 5.

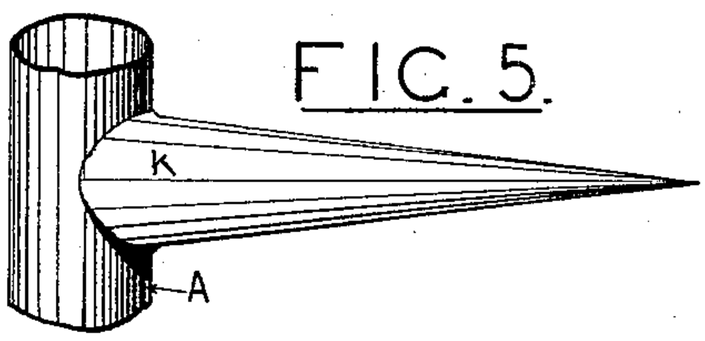


FIG. 1.

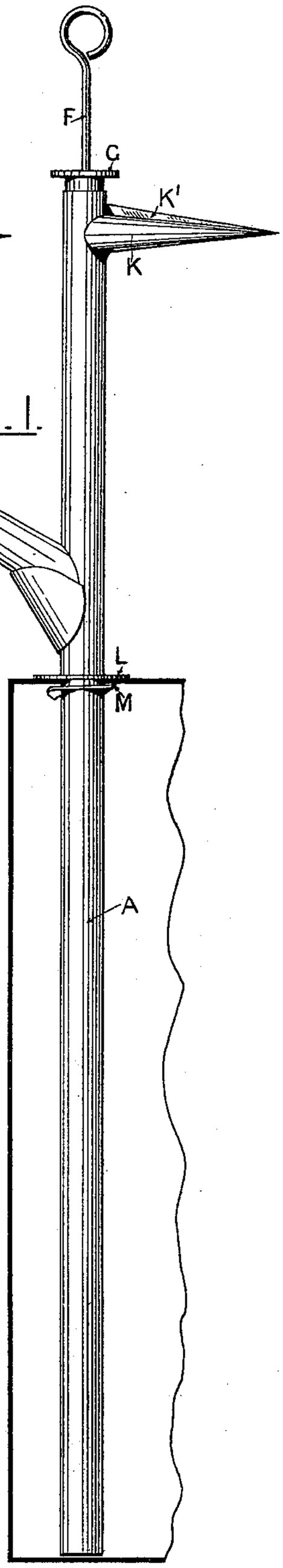


FIG. 2.

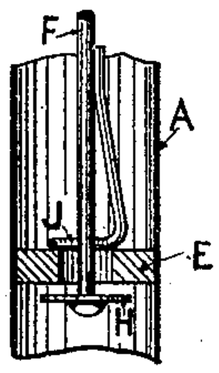


FIG. 3.

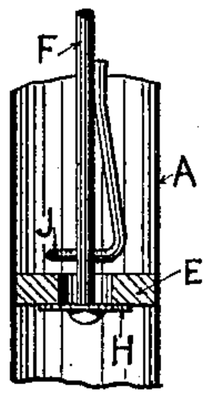


FIG. 4.

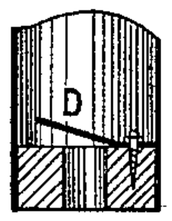


FIG. 6.

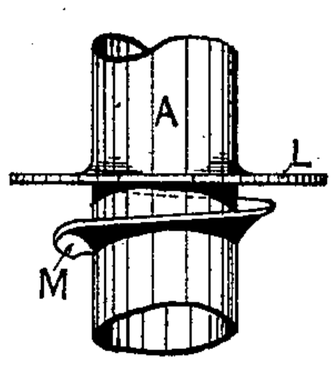


FIG. 7.

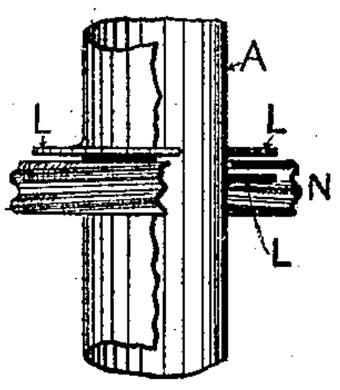


FIG. 8.

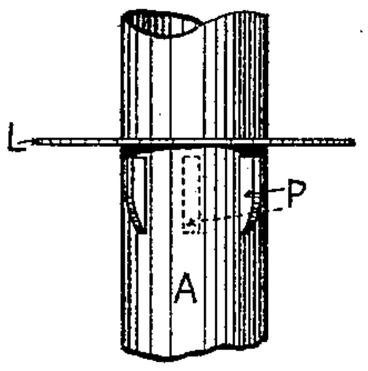
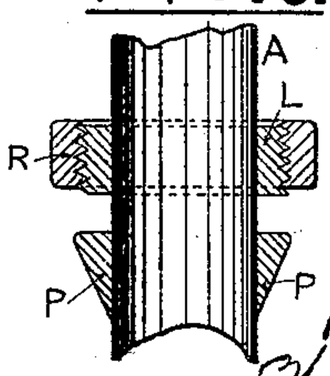


FIG. 9.



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UNITED STATES PATENT OFFICE.

WILLIAM JOHN RAWLING, OF ADELAIDE, SOUTH AUSTRALIA.

HAND-PUMP FOR EXTRACTING KEROSENE OR OTHER LIQUIDS FROM TINS.

SPECIFICATION forming part of Letters Patent No. 618,728, dated January 31, 1899.

Application filed July 3, 1897. Serial No. 643,442. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM JOHN RAWLING, tinware-manufacturer, a subject of the Queen of Great Britain and Ireland, and a resident of Pulteney street, Adelaide, South Australia, have invented a certain new and useful Improved Hand-Pump for Extracting Kerosene or other Liquids from Tins, of which the following is a specification.

This invention is for the purpose of providing a small hand-pump which shall be simple and economical in construction and at the same time contain within itself the means of piercing a tin, such as a kerosene-tin, without removing it from its wooden case for the insertion of the pump, and means for retaining the pump and its outlet-spout in a fixed position and for practically preventing drip from the outlet.

I am aware that heretofore devices have been employed for securing a pump, including a clamp passing to and under the bottom of the tin and secured to the pump-barrel, or by wire guys from the head of the pump which are forced into the top of the tin in several places.

By my pump a tin may be pierced and with one hand be pumped empty without removing the tin from its wooden case and without causing waste or drip from the spout, while the other hand of the operator is left free to hold a receptacle, such as a lamp, under the spout.

According to my invention the retention of the pump and its outlet-spout in the required fixed position is secured by a screw or screwing arrangement attached in convenient form to the waist of the pump and adapted to fit upon or into the top of the tin. A suitable hole for inserting the pump-barrel and engaging the screw is formed in the tin by using a spike attached at right angles to the barrel of the pump.

In order to enable the piston of the pump to be easily provided and renewed when required and the last contents of the tin to be removed, I have devised a simple piston-head, preferably of leather, fitted in the manner hereinafter described, and a suitable inlet chamber and valve at the bottom of the barrel.

In the drawings, Figure 1 is a view of my pump complete in position in a kerosene-tin. Figs. 2 and 3 are enlarged views of the piston-head, the former showing its position during the downstroke and the latter during the upstroke. Fig. 4 is an enlarged view of the chamber and valve at the bottom of the barrel, which enables the last contents of the tin to be exhausted. Fig. 5 is an enlarged view of the piercing-spike which is affixed to the pump-barrel. Fig. 6 is an enlarged view of the fastening arrangement which after the tin has been pierced by the piercer attaches and holds the pump to the tin. Figs. 7, 8, and 9 are enlarged views of modified constructions for holding the pump-barrel on the tin or can.

The pump-barrel A is formed of tin or other suitable material of the necessary length and size and provided with a spout B, preferably of the shape shown, which allows the kerosene to run back into the barrel A and prevents drip when the pump ceases to be operated. The valve and valve-chamber in the bottom of the pump-barrel comprise an annular piece of wood or other suitable material C, to which is attached a flap of leather D. The piston-head consists of a flat disk of leather E, with a hole in the center, which forms an annular aperture around the piston-rod F. The head E during the upstroke of the pump rests upon a metal disk H on the end of the rod F, which closes the central aperture, as shown in Fig. 3; but during the downstroke the head E is held by a wire ring J, which leaves an annular space around the rod corresponding with the one in the head E, as shown in Fig. 2. The upper end of the piston-rod passes through a cap G, which fits into the top of the barrel A. To the top of the barrel is soldered or otherwise rigidly secured a spike K for piercing the tin to admit the insertion of the pump-barrel. This spike consists, essentially, of a metal cone tapering from a sharp point to a size equal to the diameter of the pump-barrel. It may have a plain surface or it may be provided with one or more wings, (one of which, K′, is shown in Fig. 1,) according to the style of the fastening to be used. The screw or screwing arrangement I prefer is that shown in Figs. 1 and 6, which consists of a shoulder L immediately above a screw-thread M, rig-

idly secured to the pump-barrel, said screw-thread being spaced from the shoulder sufficiently to allow the top of the tin to be clamped between the shoulder and the screw-thread.

In operation the pump is held horizontally and the piercer pressed by the hand through the capsule or any other part of the top of the tin to be emptied, forming a hole, into which the pump-barrel is then inserted. The hole made by the piercer having a wing K′ provides a radial slit which allows the screw-thread to enter easily. A turn is then given and the pump and spout are thus held securely in the desired position.

Fig. 7 illustrates a fastening device consisting of the ordinary metal cap N used on kerosene-tins, fitted upon the pump-barrel A between two flanges L fixed to the pump-barrel, so that when the pump is placed in position the lower flange is securely held between the tin and the cap. In this case the spike K will be a plain one, as shown in Fig. 5.

In Fig. 8 the screw arrangement is formed of projections P, attached to the pump-barrel under the flange L. In this case the piercer K will require to have two, three, or more wings like K′ to correspond with the projections on the pump-barrel. The projections P on the barrel having been inserted through the slits in the tin a partial turn is given to the pump, and the tops of the projections by the screw action hold the pump tightly to the top of the tin.

Fig. 9 represents a similar arrangement; but in this case the piercer K will require to have two wings K′ to correspond with the two projections P on the pump-barrel. After the pump has been inserted and given a half-turn the nut R is screwed down tight.

I would have it understood that I do not limit myself to the details herein set forth. The shape of the screw attachments may be modified in many ways without departing from the spirit of my invention.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. A pump having a pointed piercer attached thereto at right angles to the barrel, a screwing device adapted to fit upon or into the top of the tin, a shoulder immediately adjacent to such screwing device, a piston-head consisting of a flat disk with an annular aperture around the piston-rod, its upward movement governed by a metal disk rigidly attached to the bottom of the rod and its downward movement governed by a wire ring substantially as described and for the purposes set forth.

2. A piercer consisting of a conical body provided with a longitudinal wing projecting therefrom, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in the presence of two witnesses, this 18th day of May, 1897.

WILLIAM JOHN RAWLING.

Witnesses:

ARTHUR GORE COLLISON,

NORMAN WHITTELL BEANEY.