

No. 625,384.

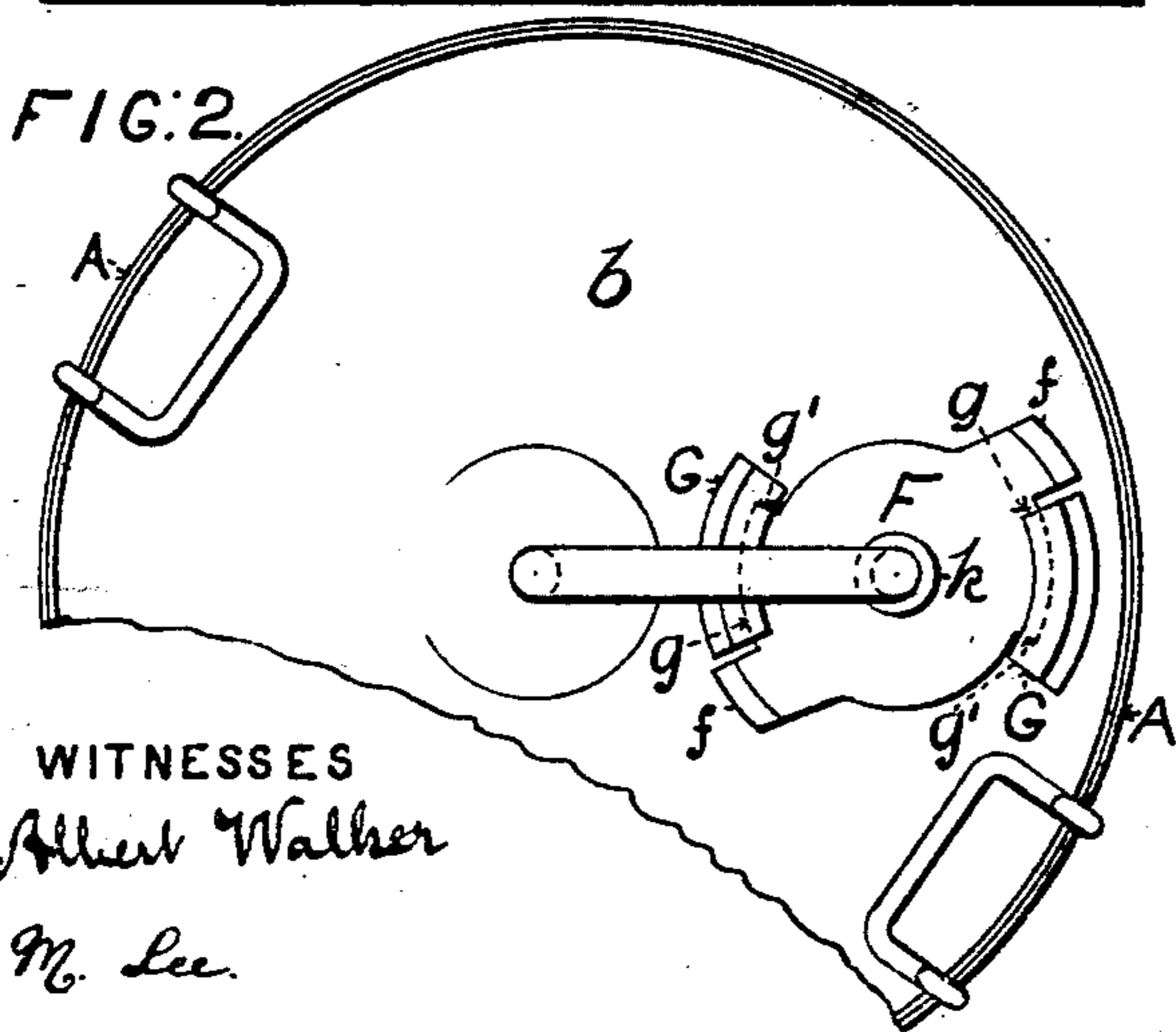
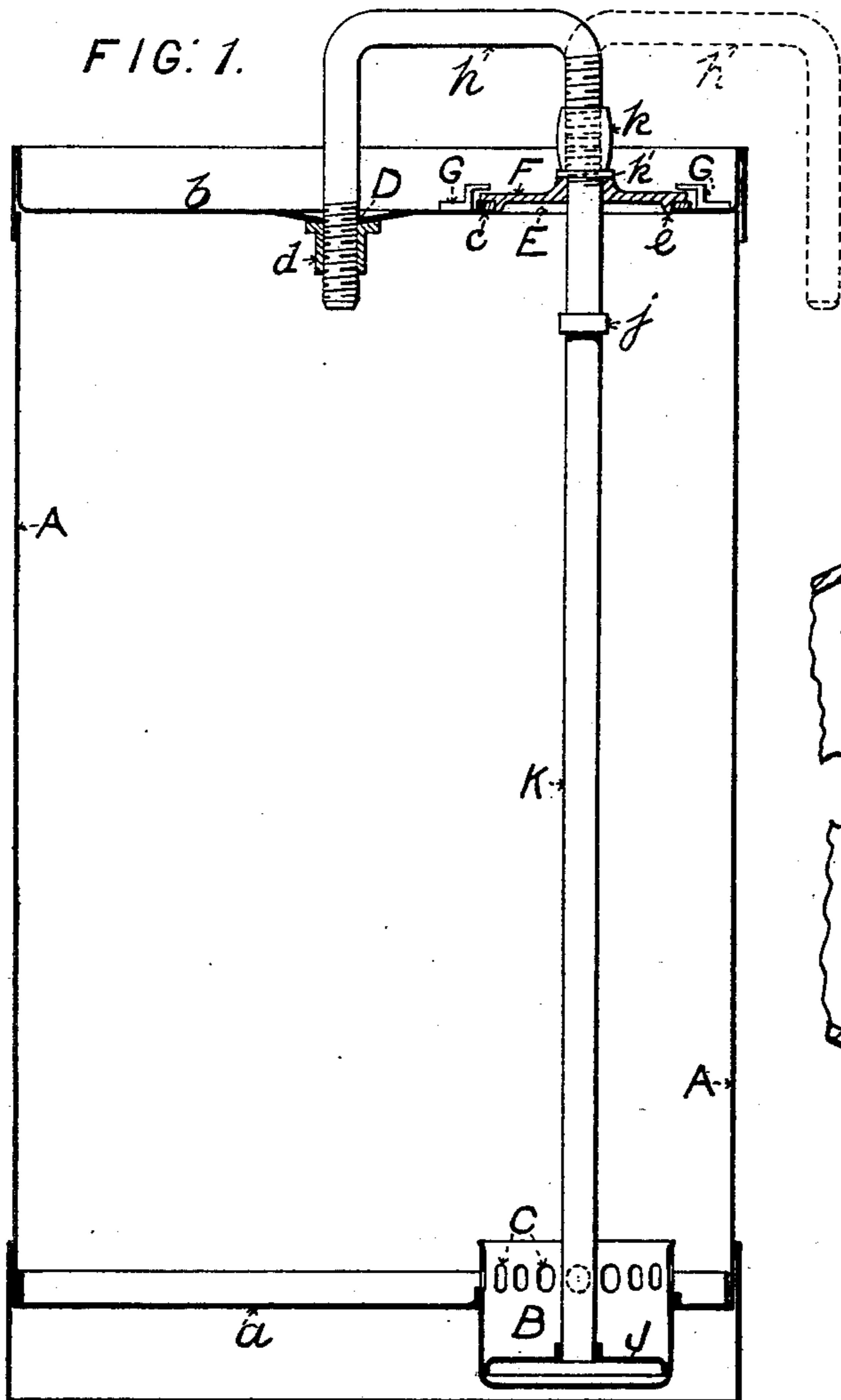
Patented May 23, 1899.

A. J. DEWHURST & E. B. SMITH.

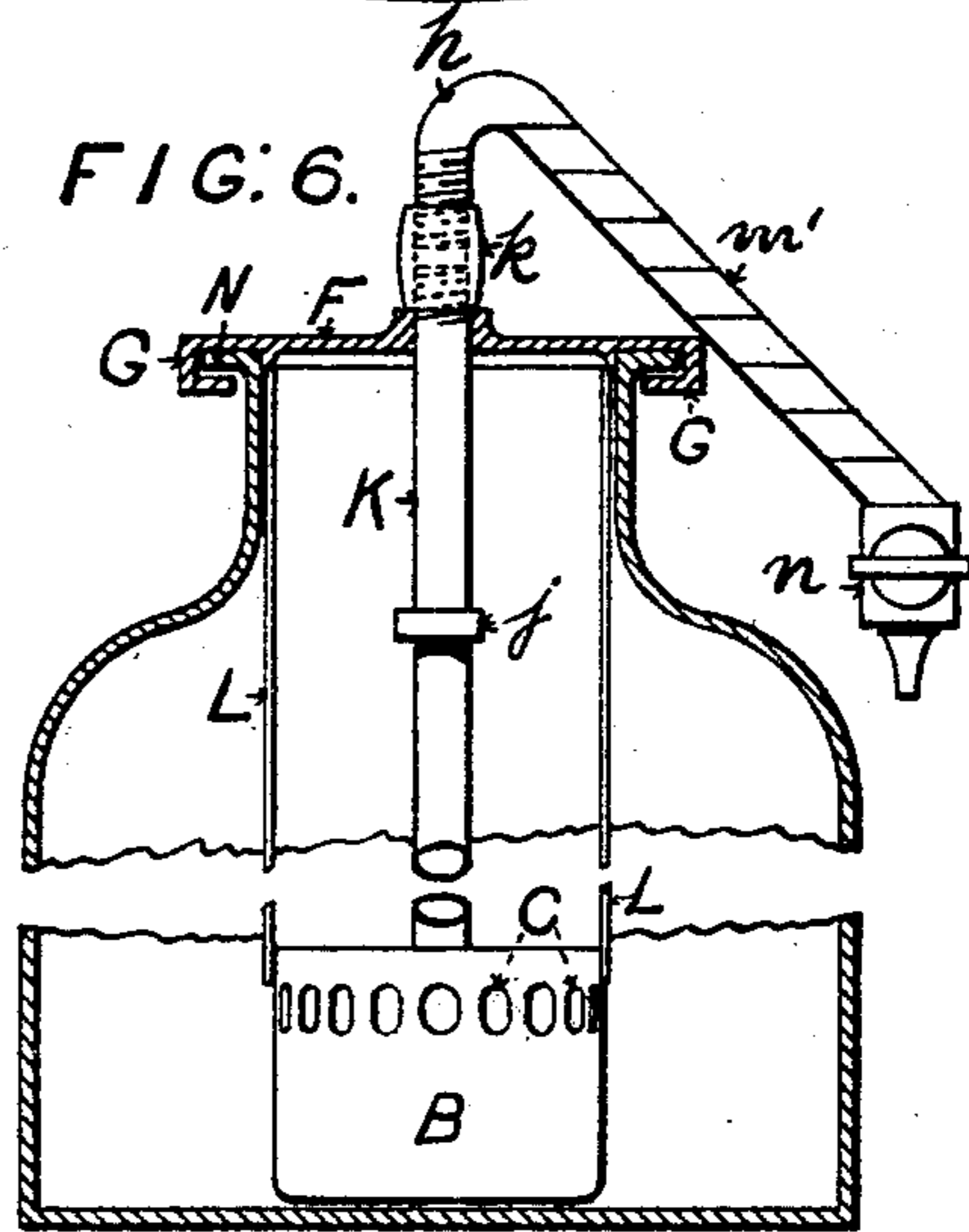
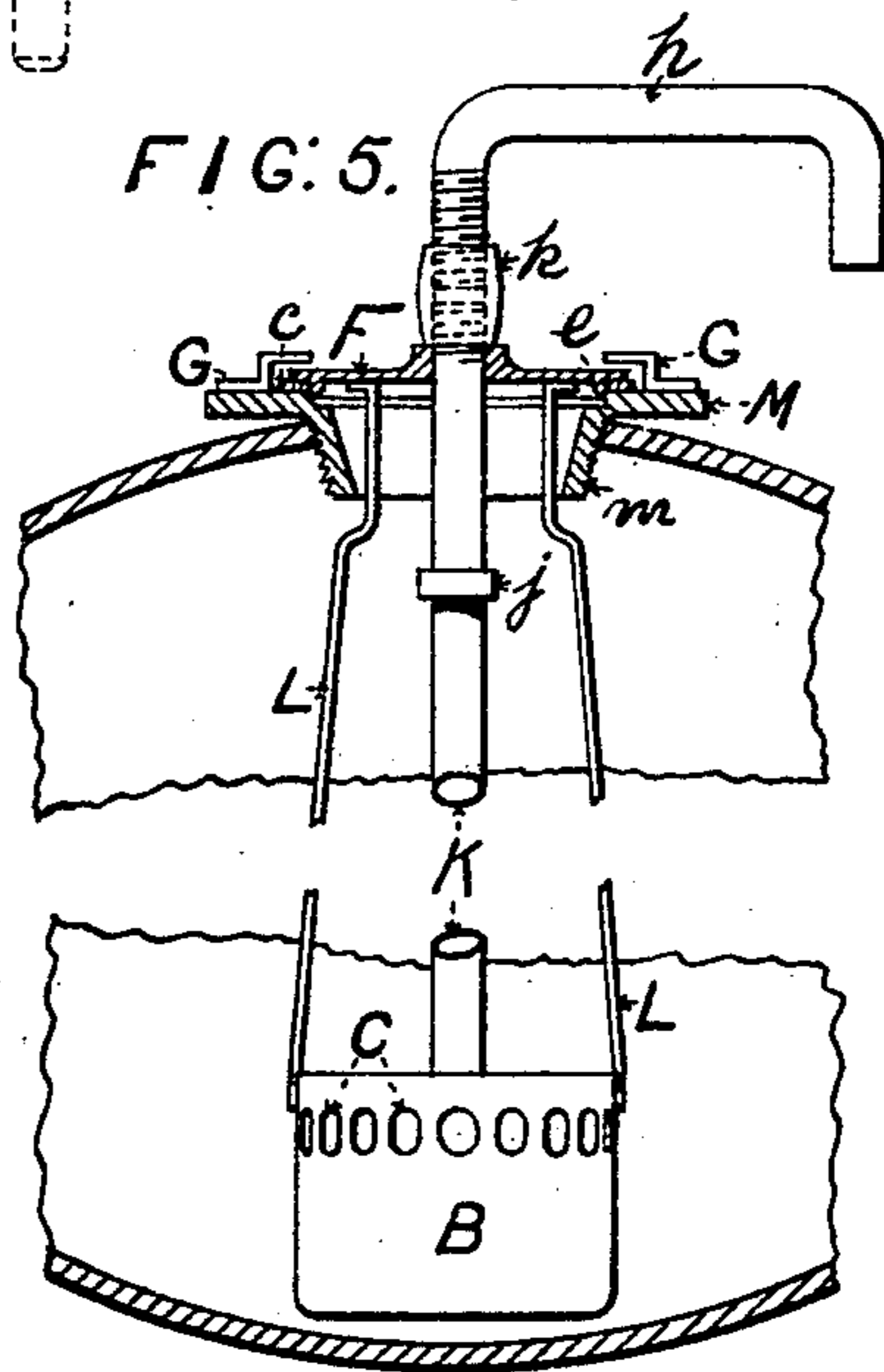
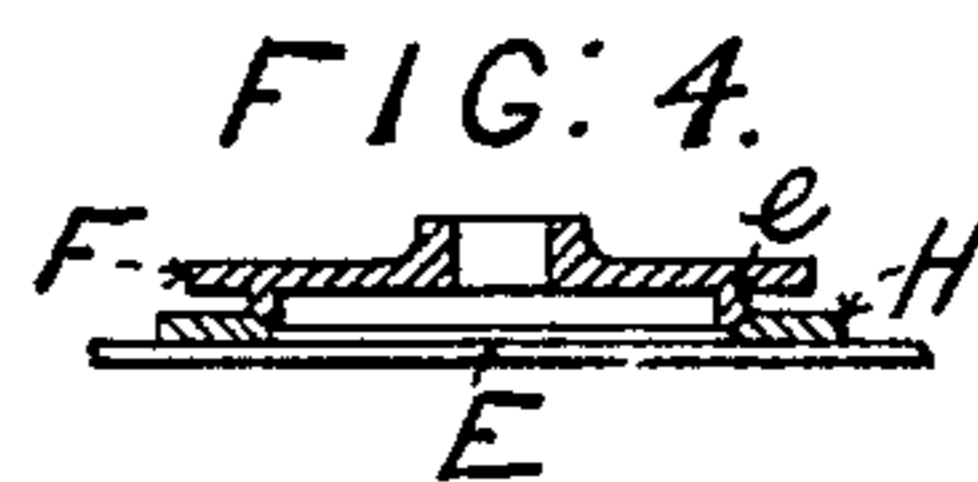
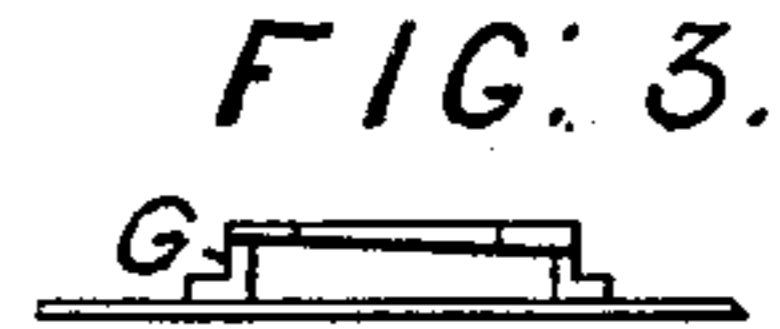
MEANS FOR SEALING LIQUID CONTAINING VESSELS AND REMOVING CONTENTS THEREFROM.

(Application filed Jan. 20, 1899.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

ALBERT JAMES DEWHURST, OF MELLOR, AND EDWIN BLAKE SMITH, OF  
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MEANS FOR SEALING LIQUID-CONTAINING VESSELS AND REMOVING CONTENTS THEREFROM.

SPECIFICATION forming part of Letters Patent No. 625,384, dated May 23, 1899.

Application filed January 20, 1899. Serial No. 702,801. (No model.)

*To all whom it may concern:*

Be it known that we, ALBERT JAMES DEWHURST, varnish manufacturer, residing at Rose Cottage, Tarden, Mellor, in the county of Derby, and EDWIN BLAKE SMITH, engineer, residing at 2 John Dalton street, Manchester, in the county of Lancaster, England, subjects of the Queen of Great Britain and Ireland, have invented certain new and useful Improved Means for Sealing Liquid-Containing Vessels and Removing the Contents Therefrom, of which the following is a specification.

This invention relates principally to vessels or drums for containing oil and similar liquids, though the improvements may be applied to vessels containing other liquids, such as spirits, or, in fact, to vessels containing any kind of liquid that may be removed therefrom by pumping, the object being to provide simple means for sealing the contents of such vessels and for removing such contents as and when required.

Our invention consists, essentially, in the combination, with oil-drums, casks, decanters, or the like, of a novel form of simple force-pump for removing the contents of the vessels, together with an improved bung and other means designed to hold the pump in position and to seal the contents of such vessels when required.

The improvements will be fully described with reference to the accompanying drawings, in which—

Figure 1 shows their application to drums for containing oil or the like; Fig. 2, a plan of same, and Figs. 3 and 4 views of details afterward referred to. Fig. 5 shows the improvements applied to a cask, while Fig. 6 indicates their application to a decanter containing spirits or wine.

In carrying out our invention and referring principally to Figs. 1 to 4, A is the oil-drum, provided with a bottom *a* and top *b*, which may be attached to the shell A in any suitable way. The bottom *a* has formed in or attached to it, as shown, a short tubular chamber B, which really forms the barrel of a simple force-pump. It projects outwardly from the bottom *a*, but is preferably within the end of the shell A, and also projects inwardly a short distance, the latter portion having formed in it a suitable number and shape of holes C, through which the liquid in the ves-

sel may flow into the chamber B. The bottom of the holes is a little distance above the bottom *a*, so that any sediment settling on the latter is kept out of the chamber B. The top *b* of the drum is provided with two holes D and E, the metal around the former, or vent-hole, being dished slightly and having secured thereto inside the drum an internally-screwed collar or boss *d*. Hole E is larger than D and is sealed by a plate F, provided with projecting arms or lugs *f*, by which it may be turned around to secure or release it from the drum. The plate is preferably circular and underneath has a rim *e*, fitting the hole E, while between the rim and the edge of the plate is placed a ring of suitable packing material *c*. In order to cause the plate to press tightly against the ring *c* and so make a tight joint between it and the top *b* of the drum, one or more, preferably two, brackets G are attached to top *b*. These brackets are inclined at their undersides, as shown in Fig. 3, and the plate F is provided with projecting portions *g*, slightly inclined at their forward edges *g'*, so that when the plate F is turned around by lugs *f* the portions *g* wedge themselves against the undersides of brackets G and so make a tight joint. Instead of a packing-ring *c* a metal ring H may be secured to top *b* and the rim *e* be inclined to make a joint with the ring H, as shown in Fig. 4.

The piston J of the pump may be made in any suitable way, but preferably consists of a dished plate fixed to the tube K, forming the rod and fitting the chamber or barrel B. Tube K is open at the lower end to chamber B, extends upwardly through plate F, and is screwed at the upper end to enable it to be attached to a screwed coupling *k*. Screwed also into the coupling is the short end of an extension of the tube K, forming a handle *h*, the other and longer end of the latter being screwed into the boss *d*. Coupling *k* forms a stop to limit the downward movement of the tube K, while *j* is a collar secured to K to limit its upward movement. To make a tight joint between coupling *k* and plate F, a packing-ring *k'* is placed between them.

The parts in Figs. 1 and 2 are shown as they appear when the piston is at the bottom of the stroke and when the holes D and E are sealed by the long end of handle *h* and plate F, respectively. In such position no liquid can

escape or be extracted without uncoupling the parts, while the drum may be carried or wheeled about by the handle *h*. In order to unseal the contents of the drum and to raise liquor therefrom, coupling *k* is unscrewed from tube K and screwed farther on the short end of handle *h*. The latter may now be unscrewed from the boss *d*. If it is required to pump the liquid to a vessel at the side of the drum, the handle *h* is turned to the position indicated by dotted lines and the short end of handle coupled to tube K. The latter may now be vertically operated. As the piston rises above the holes C in chamber B the liquid flows into the latter, and when the piston descends the liquid is forced upwardly through the tube K and out through the handle *h*. When it is required to fill a vessel, such as an oil-can, placed upon the top of the drum, the short end of handle *h* is unscrewed from the coupling *k* and the long end substituted, thus leaving ample room beneath the short end and top of drum for the oil-can. Any oil overflowing from the latter or from the tube *h* flows back to the drum through the hole D, the dished top facilitating this.

In Fig. 5, which shows the application of the improvements to casks and in which like parts to those in Figs. 1 to 4 are indicated by similar letters, the chamber B is connected to two or more stays L, the upper ends of which are attached to plate F. The clamping devices in this case are exactly the same as in the former figures; but in order to hold the plate F in a central position about the bung-hole of the cask the clamps or brackets are attached to a second plate M, provided on the under side with a tapering boss *m*, provided externally with a suitable screw-thread, whereby the plate may be secured in position in the bung-hole. The operation of the arrangement is the same as before.

Fig. 6 shows the improvements applied to a decanter the neck of which has a flange N, to which the plate F is clamped. In this case the clamps or brackets G form part of the plate F, and they may be inclined, as in Fig. 3, or the flange of the decanter may have two or more inclined strips where the brackets come. Similar strips may be used on the plate in Fig. 1. To allow the pump to be removed, the flange N is cut out at two or more places to enable the brackets or clamps to be lifted up. Fig. 6 also shows the combination, with the pump, of means for measuring the liquid pumped. In this case the longer end of the handle *h* or the whole of the handle is replaced by a glass tube *m'*. The end is graduated, as shown, and also provided with a tap *n*. When the tap is closed, the liquor may be pumped into the end *m'* and withdrawn in definite quantities by opening the tap.

In all the cases shown the hole in the top end of the vessels is large enough to allow of the pump being entirely withdrawn, if required, for cleaning purposes, and although

it is shown covered by a plate, such as F, it will be obvious that a cork bung may be placed therein to hold the pump in position, similar means being adopted in the case of the cask or decanter.

It will be obvious that the plate F may be attached to the end *b* of the drum in such a way that it will slide into position, or it may be fixed by screws, and that other details of the invention may be altered without affecting the general character of the arrangement.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In a drum for containing oil or other liquids the combination with the shell A and bottom *a*, of a chamber B forming a pump-barrel and provided with perforations such as C, piston J, tubular piston-rod K provided with a stop *j* and combined stop and coupling *k*, packing-ring *k'*, tubular handle *h*, screwed at both ends, forming a continuation of rod K and engaging with screwed boss *d*, rotatable plate F provided with lugs *f* and with parts *g* and *g'* to engage with brackets G having inclined under sides, and brackets G with inclined under sides all constructed, arranged and operating substantially as described.

2. In a drum for containing oil or other liquids the combination with the tubular piston-rod K and handle *h* screwed at both ends and engaging with coupling *k* and screwed boss *d*, of the means for holding the piston-rod in position vertically and for sealing the hole E in said drum, said means consisting of a plate F, rotatable about the piston-rod and provided with rim *e*, lugs *f*, and with parts *g* and *g'* engaging with brackets G having inclined under sides and packing-ring *c* all constructed, arranged and operating substantially as described.

3. In a drum for containing oil or other liquids the means for raising liquid therefrom, for sealing the vent-hole D and means for carrying or moving such drum about from place to place consisting in the combination with the drum, of chamber B, piston J, tubular piston-rod K, tubular extension *h*, screw-threaded at either end, coupling *k*, screwed boss *d*, all arranged and operating substantially as described.

4. The means for raising oil from oil drums, casks or the like consisting in the combination of a chamber B, provided with perforations C, piston J, tubular piston-rod K with stop *j* and combined stop and coupling *k*, tubular extension *h*, plate F, brackets G, packing-ring *c*, stays L, and plate M, with screwed boss *m*, all constructed, arranged and operating substantially as described.

In witness whereof we have set our hands in the presence of two witnesses.

ALBERT JAMES DEWHURST.  
EDWIN BLAKE SMITH.

Witnesses:

WILLIAM H. TAYLOR,  
JAS. STEWART BROADFOOT.