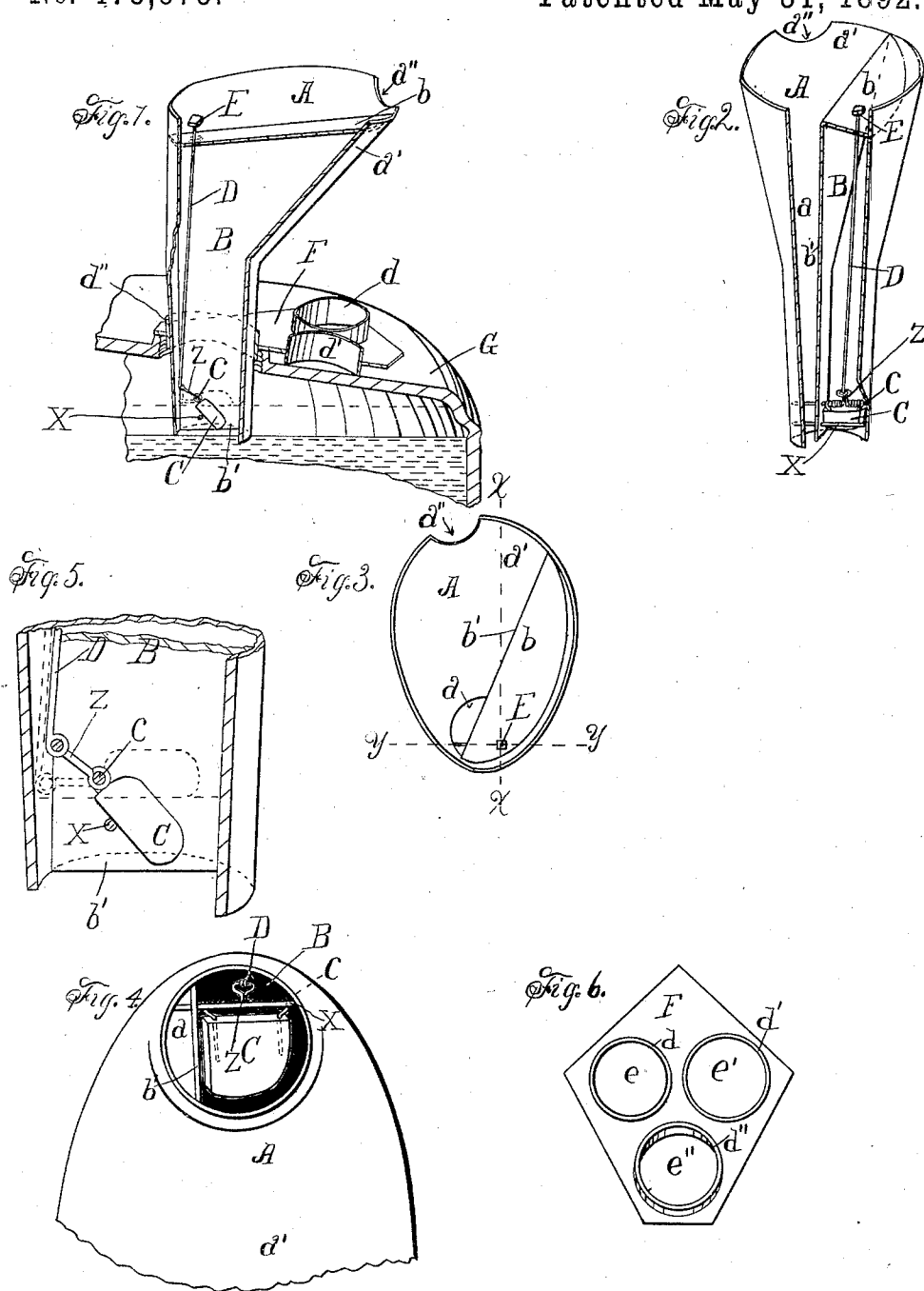


(No Model.)

I. W. LORD.
INDICATING FUNNEL.

No. 475,875.

Patented May 31, 1892.



Witnesses.

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UNITED STATES PATENT OFFICE.

ISAAC W. LORD, OF CUCAMONGA, CALIFORNIA.

INDICATING-FUNNEL.

SPECIFICATION forming part of Letters Patent No. 475,875, dated May 31, 1892.

Application filed March 9, 1892. Serial No. 424,276. (No model.)

To all whom it may concern:

Be it known that I, ISAAC W. LORD, a citizen of the United States, residing at Cucamonga, in the county of San Bernardino and State of California, have invented a new and useful Improvement in Indicating-Funnels, of which the following is a specification.

My invention relates to funnels or other devices used for filling lamps with oil or jugs, cans, or barrels with fluids, and in which a float is arranged to be operated upon by the rising fluid within the lamp or other receptacle to actuate an indicator arranged in plain view to indicate when the fluid has reached the desired level.

The object of my invention is to produce a device which will be cheap and simple and will be extremely sensitive to the action of the fluid upon the float.

A further object of my invention is to provide means whereby the funnel may be supported in an upright position when the lamp is being filled and whereby the height of the filler within the lamp may be adjusted, so as to accommodate the filler to lamps having different height of rim around the opening used for filling them.

The accompanying drawings illustrate my invention.

Figure 1 is a perspective longitudinal sectional view on line *x x*, Fig. 3. A portion of a lamp is shown in this view to illustrate the position occupied by the filler when in use. A fragment of the funnel-supporting plate is shown in perspective in this view. Fig. 2 is a perspective sectional view on line *y y*, Fig. 3. Fig. 3 is a top view of my invention. Fig. 4 is an enlarged bottom view of the same, a part being broken away to contract the view. Fig. 5 is an enlarged detail of the pivoted float. Fig. 6 is a plan view of my height-adjusting and funnel-supporting plate.

My invention comprises the combination of a funnel A, provided with the funnel-passage *a* and with the float-chamber B, closed at the top and sides and open at the bottom and extending from the bottom or discharge end of the funnel to near the top or mouth thereof, a float C, provided with a projecting arm *z* and pivoted inside the chamber to the walls of such chamber near the bottom thereof by a pivot *c*, arranged substantially at the side of

the float from which the arm projects, a vertically-moving indicator-rod D, pivoted to the arm and extending upward through the chamber B and through the top *b* thereof and having a suitable indicator E, attached to the upper end of such rod, the same being arranged to be lowered by the rising of the float.

My invention also comprises the combination of a device of the class set forth and a height-adjusting and filler-supporting plate F, having a series of different-sized openings provided therethrough, each opening having a supporting-collar *d d' d''*, arranged therein to receive the stem of the funnel and hold it in position on the lamp.

In practice, I prefer to make the funnel with one side approximately straight from bottom to top of the funnel, as is illustrated in the drawings. By this construction the stem of the funnel may be inserted into a lamp provided with a filling-hole so near to the lamp-burner that an ordinary funnel would strike against the burner and necessitate its removal in order to successfully operate the filler.

The funnel-stem throat is divided into the funnel-passage *a*, and the chamber B by a partition *b'*, which is soldered or otherwise secured to the funnel A to prevent the entrance into the chamber B of any of the fluid passing through the funnel A.

In the drawings the indicator-rod D is shown attached to the float C by an arm *z*, which extends to the rear of the float from the pivotal point of the float, which point is arranged at one side of the float; but it is easily understood that the pivot may be arranged at a point nearer the center of the float, the object being to make the main or lifting portion of the float slightly heavier than the indicator-operating side of the float, the indicator-rod, and indicator combined, thus causing the weight of the indicator and indicator-rod to aid in raising the float. The great difficulty in former devices of this kind has been that the force necessary to raise the indicator and indicator-rod, together with the weight of the float, has caused the indicator to respond very slowly to the action of the fluid upon the float, and often results in causing the lamp to overflow before the indicator shows that the fluid has reached the float. My invention avoids this difficulty and also enables me to use a

smaller float than could be used if the indicator-rod had to be raised.

In order to support the filler while being used in filling a lamp without the operator holding the same, I provide the height adjusting and filler-supporting plate F, having a series of different-sized holes e e' e'' there-through, provided, respectively, with collars d d' d'' , surrounding the holes and corresponding in size therewith, which collars project outward from the top and bottom of such plate to form supports for the tapering stem of the funnel when inserted therein. The collars taper at the same angle as the stem. When the plate is in place upon the top of the lamp, as shown in Fig. 1, the annular flange formed by the under portion of the collar d'' is inserted into the opening in the top of the lamp and the annular flanges formed by the lower portion of the collars d d' rest upon the lamp, and thus hold the plate from tipping. The hole e is smaller than the hole e' and the hole e' is smaller than the hole e'' . When it is not desired to fill the lamp very full, the stem of the funnel is inserted in the hole e'' , which allows the funnel to project into the lamp, as shown in Fig. 1. The holes e e' may be used when desired to fill the lamp to a greater depth. It will of course be understood that the stem of the funnel is tapering toward the bottom, as is customary in such devices, and that the taper of the stem will hold the funnel at a greater or less height, according to the size of the hole in which it is placed.

In practice the plate F is placed in position upon the top of the lamp, as shown in Fig. 1, and the stem of the funnel is inserted in the opening through the plate and through the opening in the top of the lamp. The body or lip a' of the funnel projects over the plate E, as shown, which plate, resting upon the top of the lamp G, supports the filler through the medium of the collar which surrounds the opening. The front or lip of the funnel is

provided with a notch a'' , which receives the spout of the can and prevents it from slipping off of the edge of the funnel. The fluid is poured into the lamp and rises until it reaches the float C, which it raises, and thus lowers the indicator-rod and indicator to indicate to the operator that the lamp is full. The axis of the hole e'' being oblique to the plane of the plate E will also cause the filler to stand upright when the plate is placed upon a lamp with a sloping top.

X indicates a stop to prevent the float from dropping down too far.

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

1. The combination of the funnel, the float provided with a projecting arm and pivoted to the funnel, and an indicator-rod pivoted to such arm and arranged to be lowered by the rising of the float.

2. The combination of the funnel provided with the funnel-passage a and with the float-chamber B, closed at the top and sides and open at the bottom, the float provided with the projecting arm and pivoted inside the chamber to the walls of such chamber, substantially at the side of the float from which the arm projects, and a vertically-moving indicator-rod pivoted to the arm and extending upward through the top of the float-chamber and having a suitable indicator attached to the upper end of such rod.

3. The combination of the funnel provided with a pivoted float and indicator-rod and the height-adjusting and filler-supporting plate F, having a series of different-sized holes and a series of different-sized collars, respectively, surrounding the holes.

ISAAC W. LORD.

Witnesses:

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