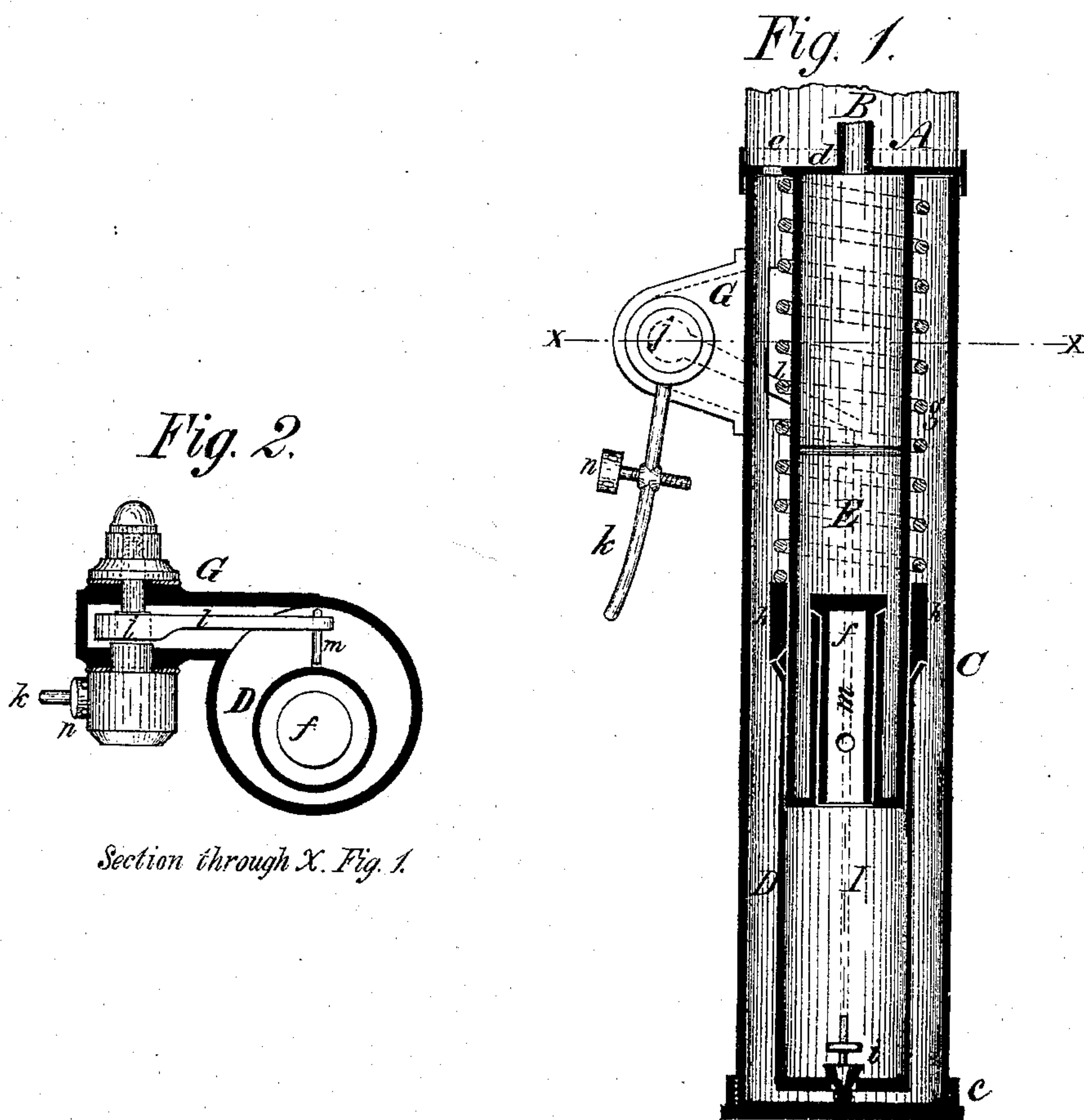


O. H. WARREN.
Oilers for Machinery.

No. 147,452.

Patented Feb. 10, 1874.



Witnesses.
J. J. Greenough.
D. C. L. Roy.

Inventor
O. H. Warren.

UNITED STATES PATENT OFFICE.

ORRIS H. WARREN, OF SYRACUSE, NEW YORK.

IMPROVEMENT IN OILERS FOR MACHINERY.

Specification forming part of Letters Patent No. **147,452**, dated February 10, 1874; application filed January 7, 1874.

To all whom it may concern:

Be it known that I, ORRIS H. WARREN, of Syracuse, New York, have invented certain Improvements in Oilers for oiling elevated shafting and other machinery to be reached at a distance, of which the following is a specification:

My present improvement consists in substituting a direct-acting force-pump for raising the oil in long oil-tubes, where the reservoir is in or near the hand, for the atmospheric apparatus I have heretofore employed in a former patented invention, together with the peculiar construction of the apparatus for effecting the same, the action of which is much more certain and less liable to derangement.

The apparatus is represented in the accompanying drawing, in which—

Figure 1 is a longitudinal section through the center. Fig. 2 is a plan showing the trigger on section cut at *x x*, Fig. 1.

The oiling-tube B, together with the conical supporting and bracing tube A, are constructed as in my former patent, No. 143,107. The lower part of the large tube A is an oil-reservoir, which is filled with oil for use. Connected with the bottom of this chamber and in line with it there is another tube, C, of about the same diameter that contains the forcing apparatus. This tube C is separated from the reservoir A by a diaphragm, *d*, in which there is an opening, *e*, through which the oil descends from reservoir A to fill the tube C, which is closed tight at the bottom. The lower end of the tube B is affixed into the diaphragm *d*, and opens through it into a tube, E, of larger diameter than tube B, of which it forms a continuation, which is also firmly affixed to diaphragm *d*, and extends down inside chamber C about two-thirds its length, more or less, sufficient to support and guide the moving parts. A coiled spring, *g*, is put over the tube E, bearing against the under side of diaphragm *d*, and with its lower end resting on a collar, *h*, that slides up and down on tube E. The lower end of this collar is expanded and recessed on the inner edge to receive the packing, consisting of the ring of leather or other suitable material between it and a tube, I, that slides over the

tube E, so as to make a tight joint between tubes E and I. Tube I is closed at the bottom with a valve, *i*, of any convenient form, opening upward from its valve-seat. The tube has a valve, *f*, opening upward at its lower end or other convenient point. The tube I is forced downward by a spring, *g*, and is raised against its action by means of a trigger or arm, *k*, outside of the tube C. (See Fig. 1.) Within the chamber C an arm, *l*, radiates from an axis, *j*, and is connected by a rod, *m*. (Seen in dotted lines, Fig. 1.) This axis *j* projects out through the side of projecting chamber C through an oil-tight joint, and on its outer end the trigger *k* is affixed. A set-screw, *n*, determines the length of the vibration of the trigger *k*. Thus constructed, it is obvious that when the lower end of the trigger *k* is pressed toward the tube C the tube I will be raised, sliding up over the tube E, and when it is relieved the spring forces the parts back again, the range of the motion being regulated by screw *n*.

When the reservoir A and tube C connecting therewith are filled with oil it will fill the tube I through valve *i*, and then, if the trigger *k* be pressed inward and tube I elevated, the oil in tube I will be forced up through valve *f* into tubes E and B. By repeated impulses this elevating-tube is filled, and the oil is carried from the reservoir below to the desired height. When tube B is filled any quantity of oil can be discharged from its orifice regulated by the set-screw *n* in trigger *k*, and I am enabled to discharge positively a determined quantity of oil, a thing unattainable by the employment of air as an intermediate. The bottom *c* of the chamber C, which contains the pumping apparatus, is removable, and is affixed with an oil-tight joint by a screw or bayonet fastening, so that it can be readily removed if the interior works need repair or cleaning, which is very important in an apparatus of this kind.

It is obvious that the tube C can be used as a handle to carry and direct the apparatus, or an additional handle may be appended. It is also obvious that other well-known forms of force-pump may be substituted for the one described.

Having thus fully described my improved

oilier for elevated bearings and machinery, I claim—

1. The combination of the extended elevating-tube B, direct-action force-pump and oil-reservoir, constructed and operating substantially as herein set forth, for raising the oil from the reservoir below, as and for the purposes herein described.

2. The force-pump, consisting of the spring *g*, collar *h*, sliding tube I, and packing, constructed and arranged with the elevating-tube B, as above specified.

3. Regulating the quantity of oil discharged by means of the regulating device connected with the pumping apparatus.

4. The collar *h* and tube I, arranged and combined as herein described, for securing the packing sliding on the tube and making a tight joint.

5. The force-pump working within the oil-chamber forming the handle and combined with the elevating oil-tube, and connected, through an oil-tight joint, with a thumb-piece outside the handle, by means of which said pump is actuated.

O. H. WARREN.

Witnesses:

J. J. GREENOUGH,
D. C. LE ROY.