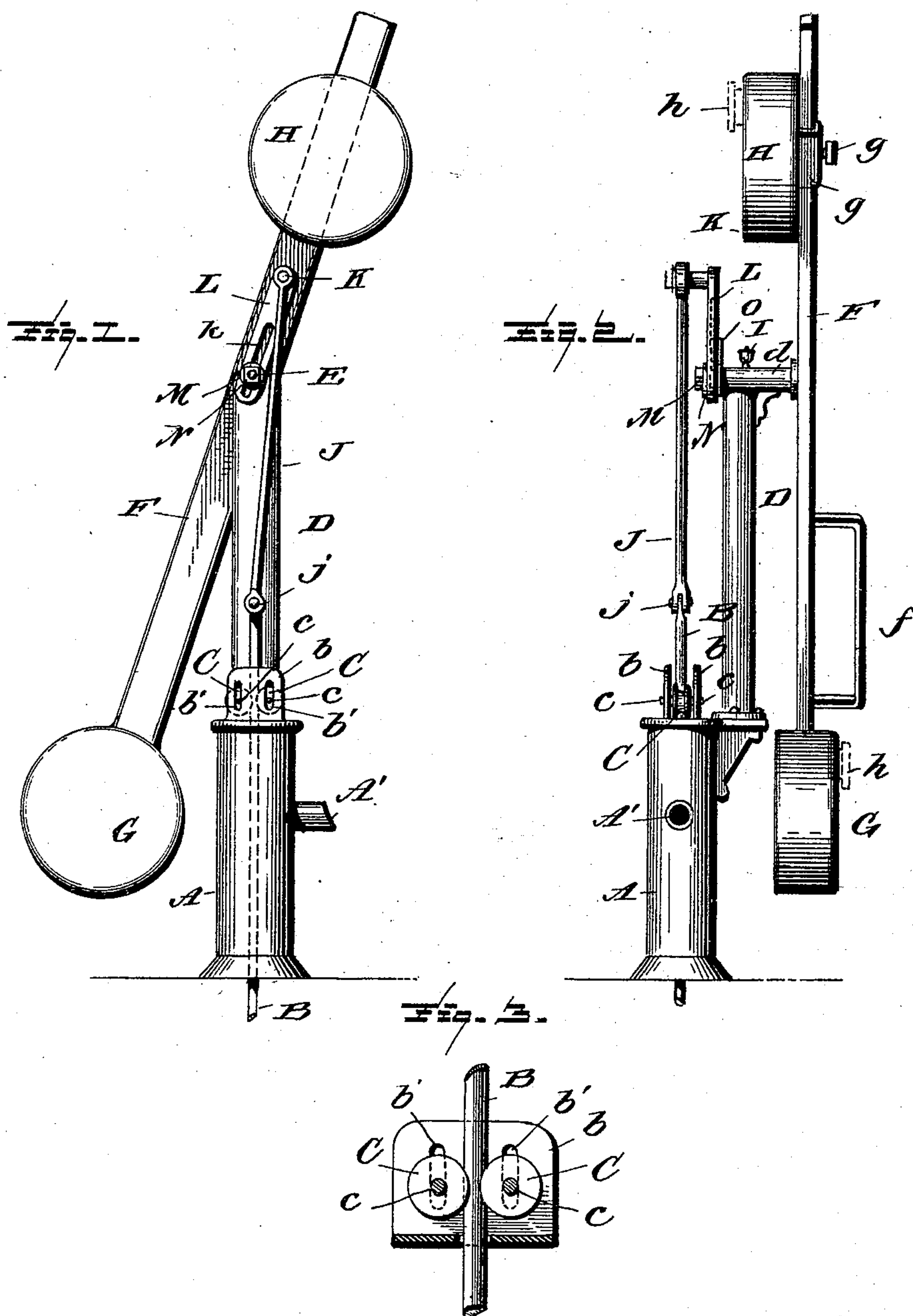


(No Model.)

A. KROLL.
PUMP.

No. 497,670.

Patented May 16, 1893.



Witnesses
L. C. Hills
E. H. Bond

Inventor:
August Kroll.
By E. B. Stocking
Attorney

UNITED STATES PATENT OFFICE.

AUGUST KROLL, OF LEOPOLIS, WISCONSIN.

PUMP.

SPECIFICATION forming part of Letters Patent No. 497,670, dated May 16, 1893.

Application filed December 6, 1892. Serial No. 454,259. (No model.)

To all whom it may concern:

Be it known that I, AUGUST KROLL, a citizen of the United States, residing at Leopolis, in the county of Shawano, State of Wisconsin, have invented certain new and useful Improvements in Pumps, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in pumps and more particularly to the operating means, and it has for its objects among others to provide a simple yet cheap and efficient mechanism for operating a pump by which ease of movement is secured and which may be operated by a weak person or boy as well as by a stronger person. The operating lever is journaled upon a horizontal axis and is provided with adjustable weights by which the leverage may be varied as occasion may require, and upon the axis is adjustably supported or attached a crank arm which is pivotally connected with the pump rod, which latter reciprocates between and is guided by balls or rollers which are mounted for free vertical play or movement within specified or fixed limits. The weights upon the operating handle or lever may be adjustably mounted thereon, or they may be hollow and adapted to be filled with or receive any suitable filling the quantity of which can be increased or diminished as may be desired to vary the weight. The weights on the handle or lever are arranged upon opposite sides of the pivot thereof and aid materially in the operation of pumping.

Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be specifically defined by the appended claim.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a side elevation of my improvements. Fig. 2 is a view looking at right angles to Fig. 1. Fig. 3 is a detail on an enlarged scale, with portions in section and parts in side elevation, showing the guiding rollers between which the pump rod passes.

Like letters of reference indicate like parts throughout the several views in which they appear.

Referring now to the details of the drawings by letter, A designates a pump stock and A' its spout and B the pump rod arranged to reciprocate within the stock, upon which latter is mounted, or it may be integral therewith, the lugs or ears *b* provided with vertical slots *b'* as seen in Figs. 1 and 3, in which slots ride loosely the pintles or axles *c* of the rollers C which are preferably grooved as seen in Fig. 2 and between which the pump rod is designed to work; these rollers, it will be observed, have a limited free vertical play between the ears or lugs and thus are not so liable to become inoperative as if they were upon fixed pintles.

D is an upright or standard rising from the pump stock and supported thereon in any suitable manner. This standard has at its upper end a horizontal tubular portion *d* in which is supported the shaft or journal E which at one end carries the handle or lever F which is held thereon in any suitable manner, and this lever is provided with a suitable device as a hand-hold *f* as seen in Fig. 2 by which it may be moved. At the lower end of this lever or handle is affixed a weight G and near the upper end is another weight H; these weights, one or both, may be adjustably mounted upon the lever or handle in any suitable manner, as by a clip or clasp *g* and set screw *g'* as seen at the upper end of the lever in Fig. 2, or the weights may be hollow and provided with a suitable opening closed by a cap or analogous device *h* by which they may be filled with any suitable material the quantity of which may be varied to vary the weight for different leverage when occasion may require.

A suitable oil cup I may be provided upon the tubular portion *d* as seen in Fig. 2 so that the same may be lubricated.

To the upper end of the pump rod is pivotally connected as at *j* in any suitable manner, the rod or link J the upper end of which is connected with the crank pin K on the crank arm L which has a longitudinal slot *k* as seen best in Fig. 1 through which passes the end of the journal E which is screw threaded and receives a nut M as seen in Figs. 1 and 2, a suitable washer N being employed as seen in said views. The crank arm L has upon its inner face a longitudinal groove as seen by

dotted lines in Fig. 2, in which is fitted a piece O fast on the journal and which aids in keeping the parts in their proper relative position.

5 The length of stroke of the pump rod can be readily varied by adjustment of the crank arm by means of the nut upon the end of the journal.

The operation will be readily understood from the foregoing description when taken in
10 connection with the annexed drawings, and a further detailed description thereof is not deemed necessary.

What I claim as new is—

15 The combination with the pump stock, standard and pump rod, of the tubular por-

tion on the standard, the journal therein, the lever on one end of the journal and having adjustable weights, the crank arm with groove and slot on the other end of the journal, the nut on the end of the journal, the piece on the
20 journal fitted to said groove, and the pivotal connection between the pump rod and the crank pin on the crank arm, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

AUGUST KROLL.

Witnesses:

C. E. KUBENROLL,
JOHN SCHMAHL.