(No Model.)

W. R. SMITH & N. H. BIGGER.

PUMP.

No. 272,343. Patented Feb. 13, 1883.

Fig. 1.

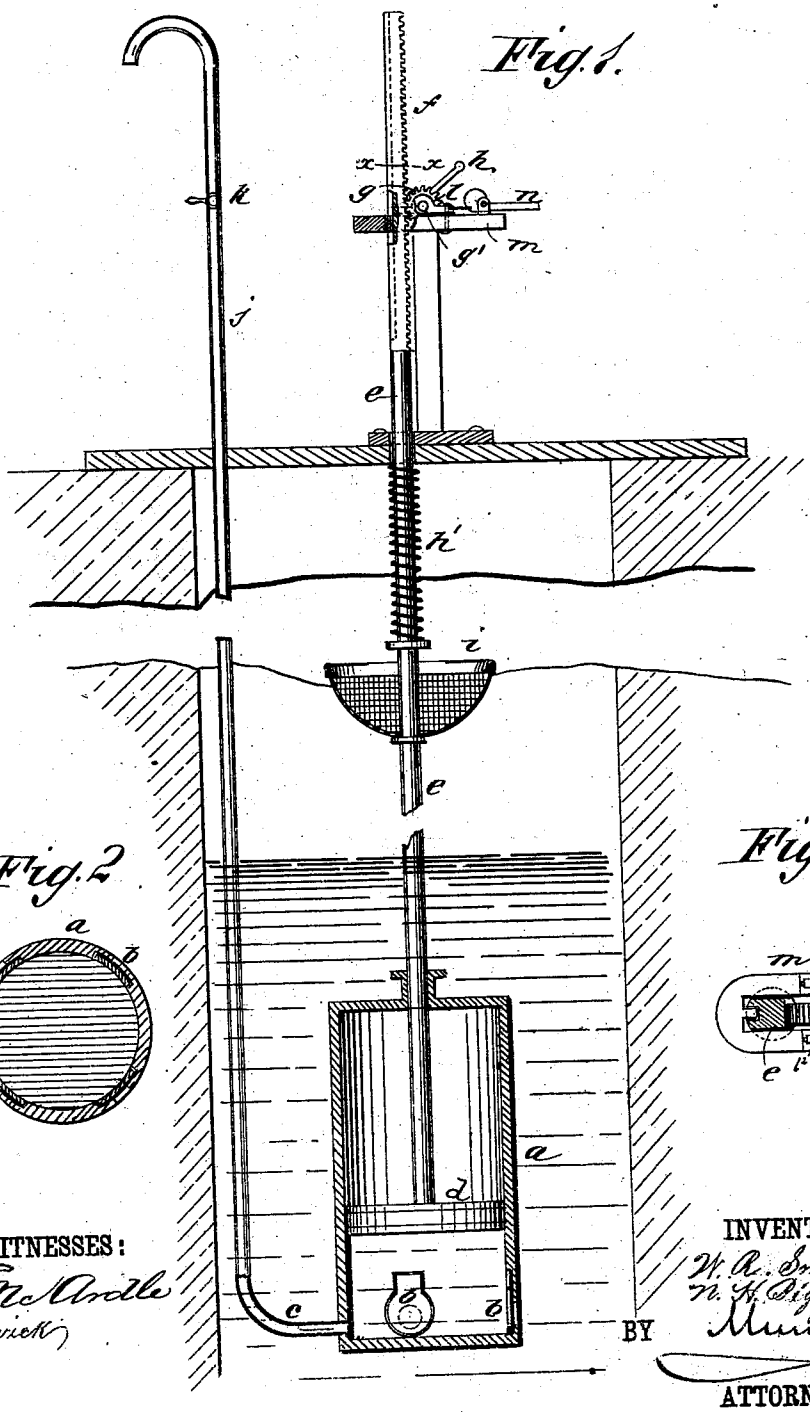
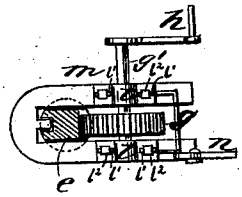


Fig. 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM R. SMITH AND NEIL H. BIGGER, OF BENTONVILLE, ARKANSAS.

PUMP.

SPECIFICATION forming part of Letters Patent No. 272,343, dated February 13, 1883.

Application filed September 18, 1882. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM R. SMITH and NEIL H. BIGGER, of Bentonville, in the county of Benton and State of Arkansas, have invented a new and Improved Pump, of which the following is a full, clear, and exact description.

Our invention relates to improvements in pumps; and it consists in the peculiar construction and arrangement of parts, as hereinafter described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional elevation of our improved pump. Fig. 2 is a horizontal section of the cylinder, and Fig. 3 is a horizontal section of the piston-rod on the line *x x* of Fig. 1.

The cylinder *a* is made large to contain a sufficient supply of water in a charge for the supply of the user for a time, and is placed upright in the cistern or well, or sufficiently near the water therein for suction, and is provided with suction-valves *b* and a delivery-pipe, *c*, connected thereto at the bottom. The piston *d* has a rod, *e*, extending up through the top of the well, and has a toothed rack, *f*, on the upper part, with which a pinion, *g*, gears, which pinion is operated by a crank, *h*, on its shaft. By this means the piston, with the weights to be placed in the basket *i*, is raised and the spring *h'* compressed so that when the pinion is disengaged from the rack on the piston-rod the piston *d* will be forced down by the combined action of the weights and spring, and cause the discharge of the water out of the pipe *j*, the said weights and spring (one or both) being employed to expel the water as it is wanted out of the pipe *j*, from which it may be allowed to escape when wanted by a cock, *k*.

The pinion *g* is mounted on a shaft, *g'*, journaled in boxes *l*, which are provided with slots *l'*, through which the bolts *l²*, by which the boxes are secured to the bracket, pass. The boxes are connected together and to a cam-lever. By this construction the boxes can be moved on the bracket by the said lever to throw the pinion into gear with the rack of the piston when it is desired to raise the same, and out of gear when the piston is to be allowed to descend.

With a pumping device of this contrivance water may be supplied to circulating-pipes, basins, and tubs throughout a house substantially as well as from a cistern overhead, into which the water is pumped from time to time, thus saving the expensive construction of an overhead cistern.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination, with the cylinder *a* and the discharge-pipe *c j*, of the piston *d*, the weight and spring-pressed piston-rod *e*, and means for elevating said rod and disengaging it from its elevating mechanism, substantially as herein shown and described, whereby the piston will be forced down by the combined action of the spring and weight, as set forth.

2. The combination, with the cylinder *a* and the discharge-pipe *c j*, provided with the stop-cock *k*, of the piston *d*, piston-rod *e*, provided with the basket *i* and the spring *h'*, surrounding the said rod, and means for elevating the said rod and disengaging it from its elevating mechanism, substantially as herein shown and described.

3. The combination of the rack *f*, pinion *g*, crank *h*, sliding box *l*, and the eccentric lever *n*, substantially as described.

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Witnesses:
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