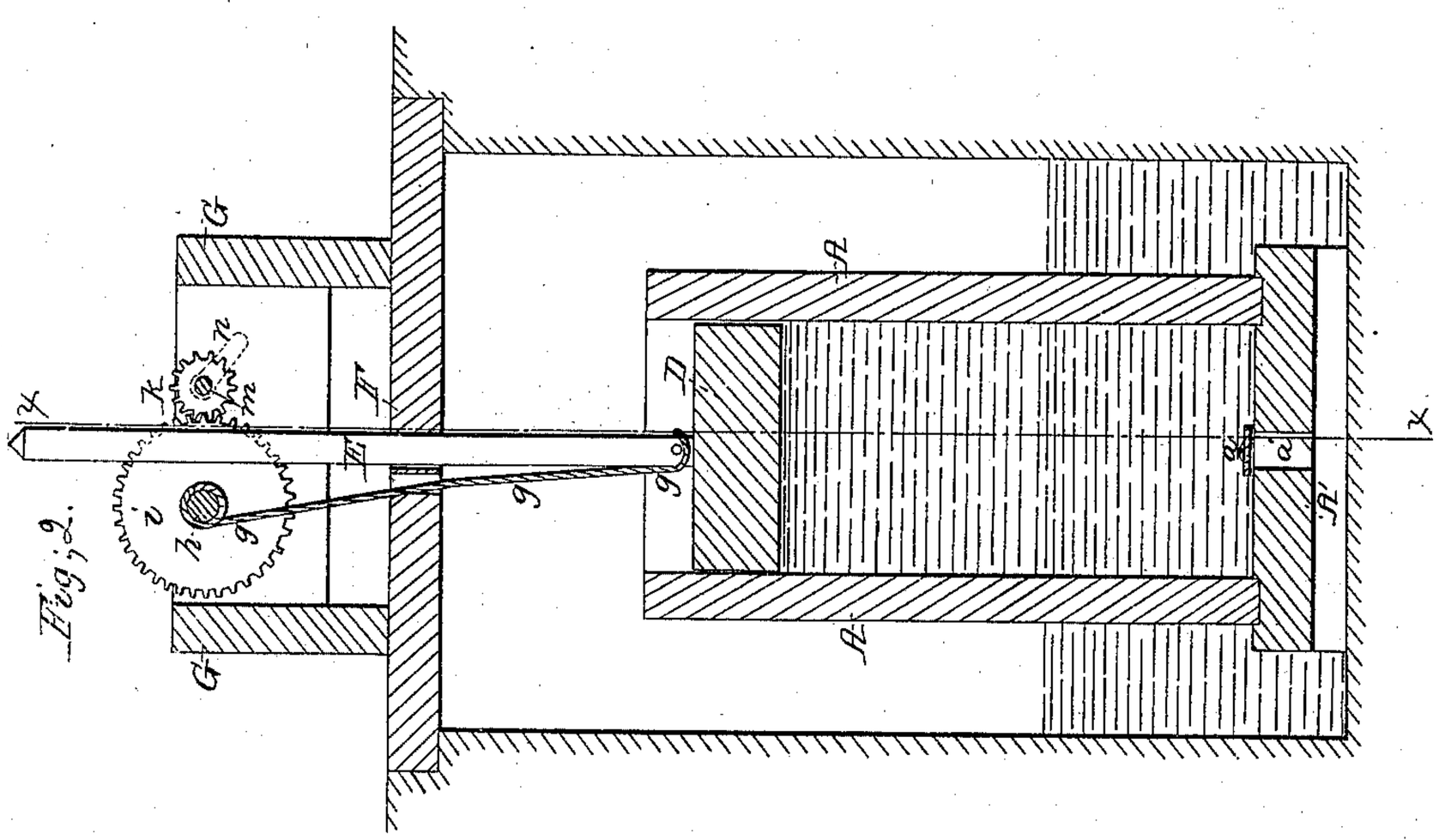
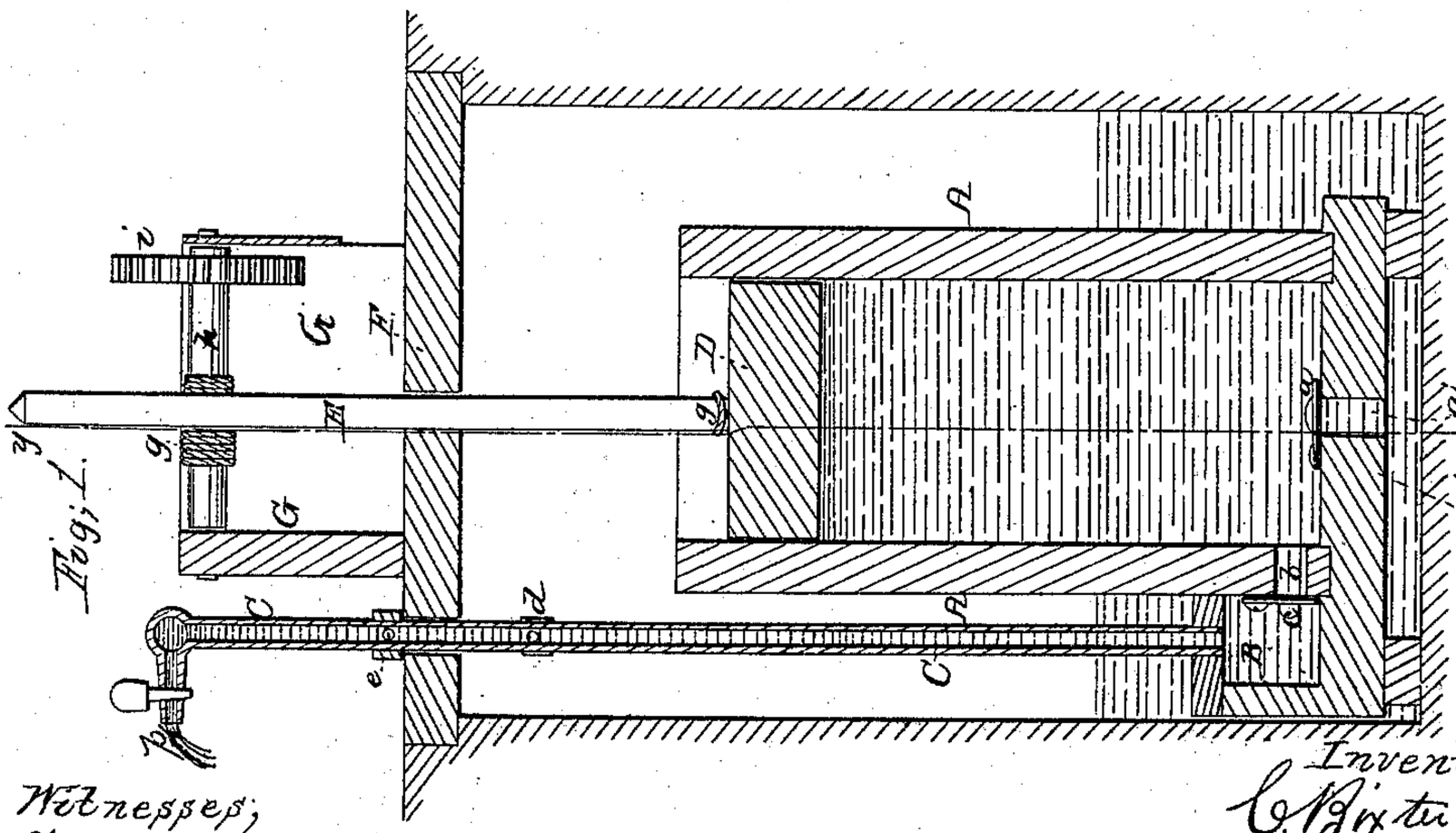
C. BIXLER.

MACHINE FOR RAISING WATER.

No. 32,348. Patented May 21, 1861.





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UNITED STATES PATENT OFFICE.

C. BIXLER, OF ROGERSVILLE, OHIO.

WATER-ELEVATOR.

Specification of Letters Patent No. 32,348, dated May 21, 1861.

To all whom it may concern:

Be it known that I, C. BIXLER, of Rogersville, in the county of Tuscarawas and State of Ohio, have invented a new and Improved Machine for Raising Water; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, is a vertical section through my improved apparatus for raising water, representing it arranged at the bottom of a well. Fig. 2, is a cross section through the apparatus in the vertical plane in.

Similar letters of reference indicate corresponding parts in both figures.

This invention relates to a method of raising water and keeping the same under a pressure or head whereby it is forced through pipes to any convenient place for service where it can be used at pleasure.

The object of my invention is to apply to a common deep well or other natural reservoir of water an apparatus, by means of which water can be drawn up into a chamber of large capacity and kept under a constant pressure sufficient to supply a building or other place through which pipes are carried communicating with the bottom of the chamber of the apparatus in the well as will be hereinafter fully explained.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction.

A represents a perpendicular box which is open at the top and closed at the bottom. This box may be made the full size of the well, and if desirable it may be made cylindrical and as deep as the well itself. The bottom A′ of the box or chamber A has a valve *a* in it which opens upward for allowing water to enter through the hole *a′* into the chamber A, from which chamber the water is forced through orifice *b*, into a side chamber B. The orifice *b* is furnished with a valve *c* which opens into the chamber B and which will not allow water to escape back into chamber A.

C is a pipe which leads from chamber B up to the top of the well and to this pipe C, branch pipes *d* and *e* are attached leading off to a building which is to be supplied with water.

D is a piston which is made solid—that is, without a valve in it; and E is the piston rod which is of a suitable length to allow the piston D to have a full play from the bottom to the top of chamber A. This rod E passes up through floor F, which guides it and keeps it in a vertical position in its up and down motion. A rope or chain *g* is attached at one end to the lower end of piston rod E and at the other end to a horizontal shaft *h* which has its end bearings in the well curb G. On this shaft *h* a large spur wheel *i* is keyed,—the teeth of which engage with those on a pinion K; which is keyed to the crank shaft *m* carrying on one end a hand crank *n* Fig. 2.

The apparatus consisting of box A and chamber B is arranged at the bottom of a well of water and suitably secured therein, and the device for elevating the piston is arranged on the floor or well cover F and covered over. The pipe C is carried up through floor F and it may have a cock or nozzle *p* on or near its upper end for drawing water at the well. The service or branch pipes may be connected with the vertical pipe C either above or below the floor.

The operation of the apparatus is as follows: The piston D is raised to its highest point in box A by turning crank *n* and winding rope or chain *g* upon the shaft *h*. This operation draws water into the box A through valve opening *a′* which water is prevented from escaping through this opening again in consequence of its valve *a* opening upward. A weight is now put upon the piston rod E which by its gravity will force the water in chamber A through valve opening *b* into chamber B and thence up through pipe C and through the service pipes. As the water is drawn from the service pipes the piston D will descend until all or nearly all the water has been exhausted from chamber A. This weighted piston D must now be again elevated so as to refill chamber A and give a head or pressure on the water contained in it as before. It will be understood that the chain *g*, is either detached from shaft *h* or else this shaft is allowed to turn freely so that the weight put upon the piston D will act with full force until this piston sinks to the bottom of the well or chamber A. The weight which is made to act upon the piston D may be put directly upon this piston or it may be attached to the piston rod E or the piston itself may be made of a solid block of metal properly

packed at the edge or sides which are in contact with the box A, so that it will work tightly within this box A. Where a very heavy weight is used or where the water is to be forced to some height, it will be necessary to add large and small gear wheels, to those which are represented in Figs. 1 and 2, in order to obtain the power which will be required to raise the increased weight which must be put upon the piston.

It will now be seen from the foregoing description of my improved water raising apparatus that such an apparatus will be found very convenient for persons residing in the country who cannot obtain a natural head of water, and who desire to have their buildings supplied constantly with water forced artificially through pipes from a common reservoir.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is,

The combination of box A, chamber B, and valves *a*, and *c*, pipe C, with the weighted piston D, rod E, rope or chain *g*, shaft *h* gear wheels *i* and *k* and crank shaft *m* all arranged in the manner, and operating as a whole for the purposes herein described and shown.

C. BIXLER.

Witnesses:
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