

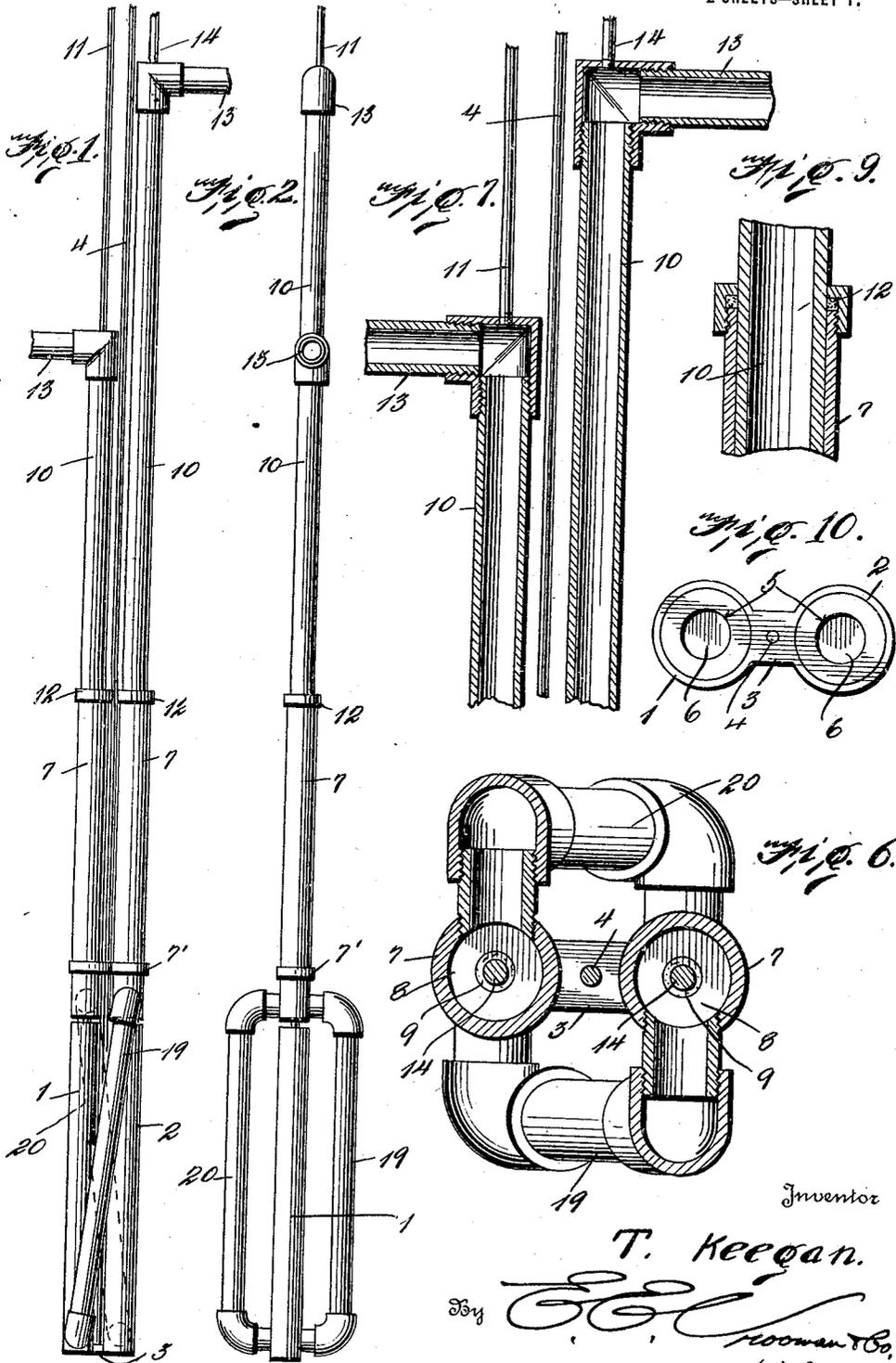
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PUMP.

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1,200,503.

Patented Oct. 10, 1916.

2 SHEETS—SHEET 1.



Inventor

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By

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UNITED STATES PATENT OFFICE.

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PUMP.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, THOMAS KEEGAN, a citizen of the United States of America, residing at Warden, in the county of Grant and State of Washington, have invented certain new and useful Improvements in Pumps, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to double acting pumps and has for its object the production of a simple and efficient means for producing a continuous stream of water by the actuation of the pump.

Another object of this invention is the production of a simple and efficient means for facilitating the reciprocation of the pump rods in order to efficiently raise the water from the well with the minimum amount of effort.

With these and other objects in view, this invention consists of certain novel combinations, constructions, and arrangements of parts as will be hereinafter fully described and claimed.

In the accompanying drawings:—Figure 1 is a side elevation of the pump. Fig. 2 is an edge view of the pump mechanism, shown at right angles to Fig. 1. Fig. 3 is an enlarged vertical sectional view through the pump mechanism. Fig. 4 is a section taken on line 4—4 of Fig. 3. Fig. 5 is a section taken on line 5—5 of Fig. 3. Fig. 6 is a section taken on line 6—6 of Fig. 3. Fig. 7 is an enlarged vertical section through the upper end of the discharge pipes or tubes of the pump. Fig. 8 is a detailed perspective of one of the plunger rods and plungers used in connection with the present invention. Fig. 9 is an enlarged vertical section showing the packing means carried by the upper tube which is adapted to fit snugly around the reciprocating tube. Fig. 10 is a bottom plan view of the means for holding the upper tubes in proper spaced relation.

Referring to the accompanying drawings by numerals it will be seen that 1 designates the primary suction tube and 2 designates the auxiliary suction tube. These suction tubes 1 and 2 are held in spaced relation by means of the spacing block 3. This spacing block 3 is engaged by means of a suspending rod 4 which extends longitudinally between the primary and auxiliary suction tubes, as illustrated clearly in Fig. 3 of the drawings. This suspending rod 4 will con-

stitute an efficient means for supporting the suction tubes 1 and 2.

The primary and auxiliary suction tubes 1 and 2 are provided with valves 5 upon the lower ends thereof which are normally closed by means of the flat valves 6, as clearly illustrated in Figs. 3 and 5 of the drawings.

The water containing tubes 7 are supported above each of the tubes 1 and 2 as clearly illustrated in Fig. 3 of the drawings and these water containing tubes 7 are provided with closed ends 8 within which closed ends 8 are placed packings 9, as illustrated in Fig. 3.

A reciprocating tube 10 is slidably mounted within each water containing tube 7 and these reciprocating tubes are in turn connected to the operating rods 11 as illustrated in Figs. 1 and 7, the rods 11 being operated in any suitable or desired manner. A packing 12 is carried by each of the water containing tubes 7 and is adapted to fit snugly in engagement with the side walls of the reciprocating tubes 10. These reciprocating tubes 10 are provided with discharge pipes or spouts 13, as indicated clearly in Fig. 7.

A plunger rod 14 is secured or suspended from each reciprocating tube 10 and these plunger rods 14 carry at their lower ends plunger heads 15. The upper ends 16 of the rods 14 are threaded into the aperture 17 formed in the spider end 18 of the tube 10. It should be understood that the plunger heads 15 are reciprocally mounted within the lower tubes 1 and 2.

The primary tube 1 is connected with the water receiving tube 7 placed above the auxiliary tube 2 by means of a diagonally extending communicating pipe 19. The lower end of the auxiliary suction tube 2 is likewise connected to the lower end of the water containing tube placed above the primary suction tube by means of the communicating pipe 20. A valve 21 is carried by the lower ends of the respective pipes 19 and 20 for controlling the inlet of water into these pipes 19 and 20 and preventing the return of the water from the pipes 19 and 20 to the respective pipes 1 and 2.

It should be understood that the upper ends of the tubes 1 and 2 are in spaced relation with respect to the lower ends of the pipes 7 so as to prevent any resistance from taking place against the upper face of the plunger heads 15.

The water containing tubes 7 are braced and held in spaced relation by means of the bracing brackets 7' as indicated in Figs. 3 and 10 of the drawings.

5 From the foregoing description it will be seen that a very simple and efficient device has been produced for facilitating the raising of water and keeping a continuous stream of water flowing from the discharge
10 spouts 13.

What I claim is:—

A pump of the class described comprising a plurality of suction tubes, means for controlling the admission of water therein,
15 water containing tubes supported above said suction tubes, means for forming a communication between the lower ends of said suction tubes and the lower ends of the opposite water containing tubes, reciprocating
20 tubes slidably mounted within said water containing tubes, a plunger rod carried by

said reciprocating tubes, plungers carried by said plunger rods and working in said suction tubes, means for forming a communication between the lower ends of said water containing tubes and said reciprocating tubes for facilitating the entrance of water into said reciprocating tubes, means for controlling the entrance of water into said reciprocating tubes, a suspending rod
30 positioned between said tubes, bracing brackets passing around said tubes and constituting a guide for said suspending rod, and said bracing brackets adapted to constitute an efficient means for rigidly reinforcing said tubes and holding the same in
35 proper spaced relation with respect to each other.

In testimony whereof I hereunto affix my signature.

THOMAS KEEGAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."