

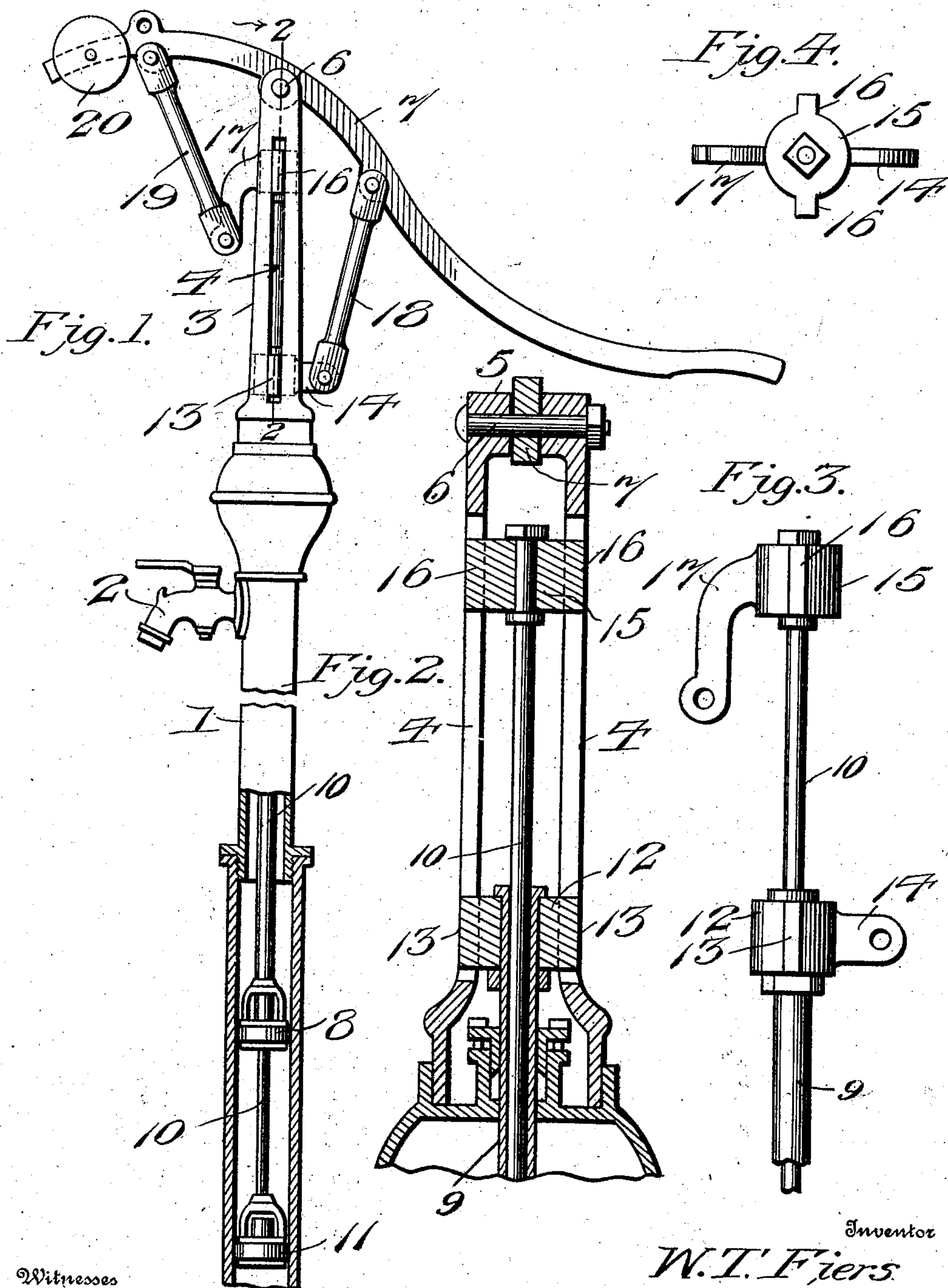
No. 815,082.

PATENTED MAR. 13, 1906.

W. T. FIERS.

PUMP.

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Witnesses

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# UNITED STATES PATENT OFFICE.

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## PUMP.

No. 815,082.

Specification of Letters Patent.

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*To all whom it may concern:*

Be it known that I, WILLIAM T. FIERS, a citizen of the United States, residing at Redkey, in the county of Jay and State of Indiana, have invented new and useful Improvements in Pumps, of which the following is a specification.

This invention relates to pumps of the reciprocatory plunger type, and has for its objects to produce a comparatively simple inexpensive device of this character in which a pair of plungers will be simultaneously actuated by a single handle and one wherein the plungers will be maintained in proper position within and guided in their movements through the pump-barrel or stand-pipe.

A further object of the invention is to provide simple and efficient connections between the plunger - rods and handle and means for balancing the latter to insure a steady even movement of the parts and minimize the power necessary for operating the pump.

With these and other objects in view the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of a pump embodying the invention. Fig. 2 is a vertical longitudinal section, on an enlarged scale, taken on the line 2 2 of Fig. 1. Fig. 3 is a detail elevation of the upper portion of the plunger-rods and their bearing members. Fig. 4 is a plan view of the parts shown in Fig. 3.

Referring to the drawings, 1 designates a tubular pump-barrel or stand-pipe provided with a discharge-nozzle 2 and having secured upon its upper end a vertical guide member or extension 3, provided with oppositely-disposed guide ways or slots 4 and at its upper end with bearings 5, which receive a horizontal bolt or axle 6, upon which is pivoted an operating-handle 7, these parts being all of the usual or any appropriate material.

Arranged for reciprocation within the barrel 1 is a primary upper plunger or bucket 8, carried by and attached to the lower end of a primary tubular plunger-rod 9, through which extends for reciprocation a secondary plunger-rod 10, carrying at its lower end a secondary plunger head or bucket 11, the rod 10 being of somewhat greater length than the

rod 9 and adapted in practice to project a suitable distance beyond the upper and lower ends of the latter.

Fixed upon the upper end of the primary plunger-rod 9 is a bearing member or head 12, provided with laterally-projecting body portions or flanges 13, adapted to fit movably between the guide ways or slots 4, there being formed upon the head 12 to project at right angles to the flanges 13 a horizontally-projecting perforated ear 14, while upon the upper end of the secondary rod 10 is fixed a similar bearing member or head 15, provided with guide portions or flanges 16, which likewise enter the guideways 4, and with a projecting vertically-depending member or ear 17, perforated at its lower end.

Pivotally connected at their upper ends to the handle 7 and at opposite sides of the extension 3 is a pair of coupling members or links 18 19, the lower ends of which are pivotally connected in turn with the ears 14 17, respectively, thus coupling the rods 9 and 10 to and for movement with the handle 7, upon the forward end of which latter is fixed a counterbalancing-weight 20.

In practice as the handle 7 is operated in the usual manner the plungers 9 and 10 will through the medium of their connections 18 and 19 be simultaneously reciprocated in relatively reverse directions, thus causing the plungers 8 and 11 upon one stroke of the handle to operate and upon the other stroke to recede from each other, or, in other words, imparting to the plungers a relatively reverse reciprocation, through the medium of which a continuous flow of water is maintained. It will be observed in this connection that lateral movement or tipping of the plungers during operation is obviated, owing to the heads 15 being guided in their movements longitudinally of the guide extension 3, and, further, that owing to the member 17 being extended downward from its head 15 the heads 13 and 15 may be spaced wider apart for obtaining a greater throw or stroke of the plungers comparative with the length of the links 18 19 and height of the extension 3. It will also be noted that by weighting the outer end of the handle 7 the latter is nicely balanced, thus insuring perfect operation and a minimization of the power necessary for operating the pump.

From the foregoing it is apparent that I



produce a simple efficient device admirably adapted for the attainment of the ends in view, it being understood that minor changes in the details herein set forth may be resorted to without departing from the spirit or scope of the invention.

Having thus fully described the invention, what is claimed as new is—

In a pump, a pair of plunger-rods equipped with plungers, heads fixed upon the upper ends of the rods and provided with vertically-disposed radially-projecting guide-flanges, said heads being each provided with a perforated ear projecting in a radial line at right angles to the flanges, a vertical extension car-

ried by the upper end of the pump and comprising relatively spaced side plates provided with longitudinal guide-slots designed to receive the guide-flanges, an operating-handle pivoted to the upper end of the extension between the side plates, and links pivoted respectively to the ears and pivotally connected with the handle.

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

WILLIAM T. FIERs.

Witnesses:

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