

D. H. PIPER.

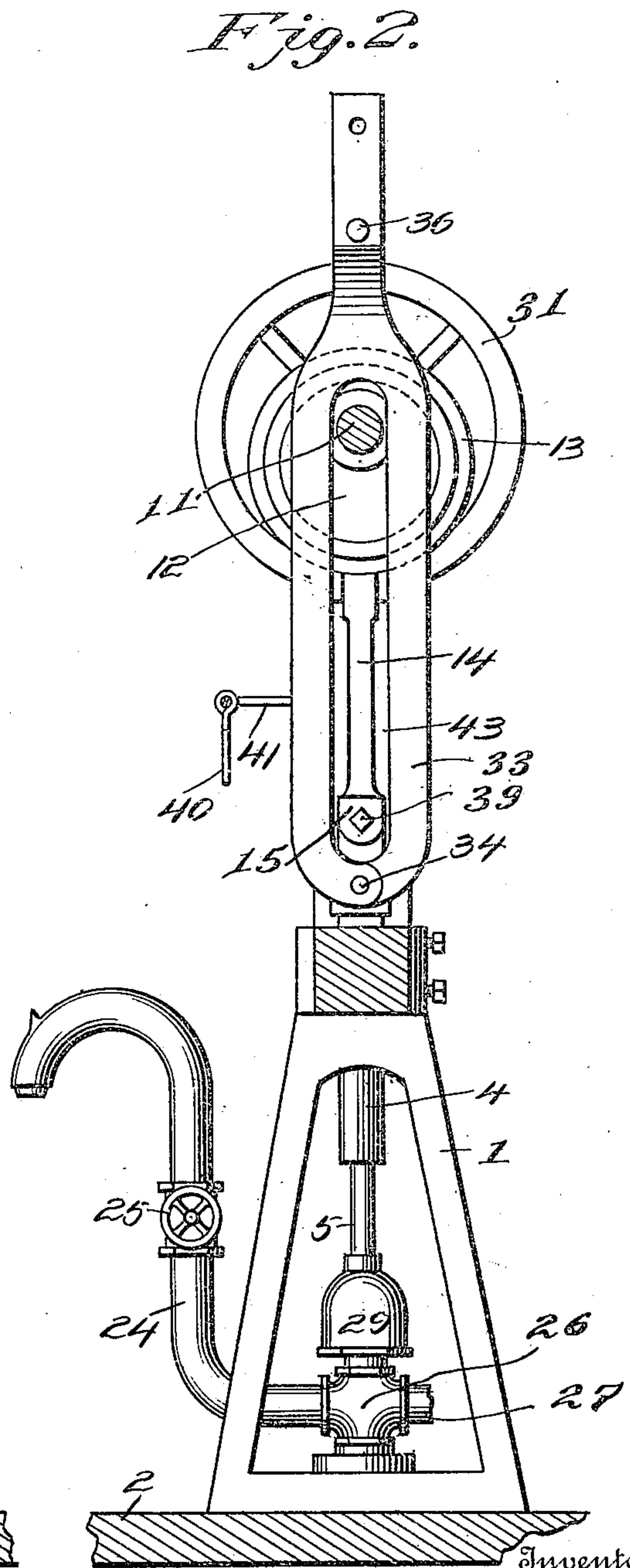
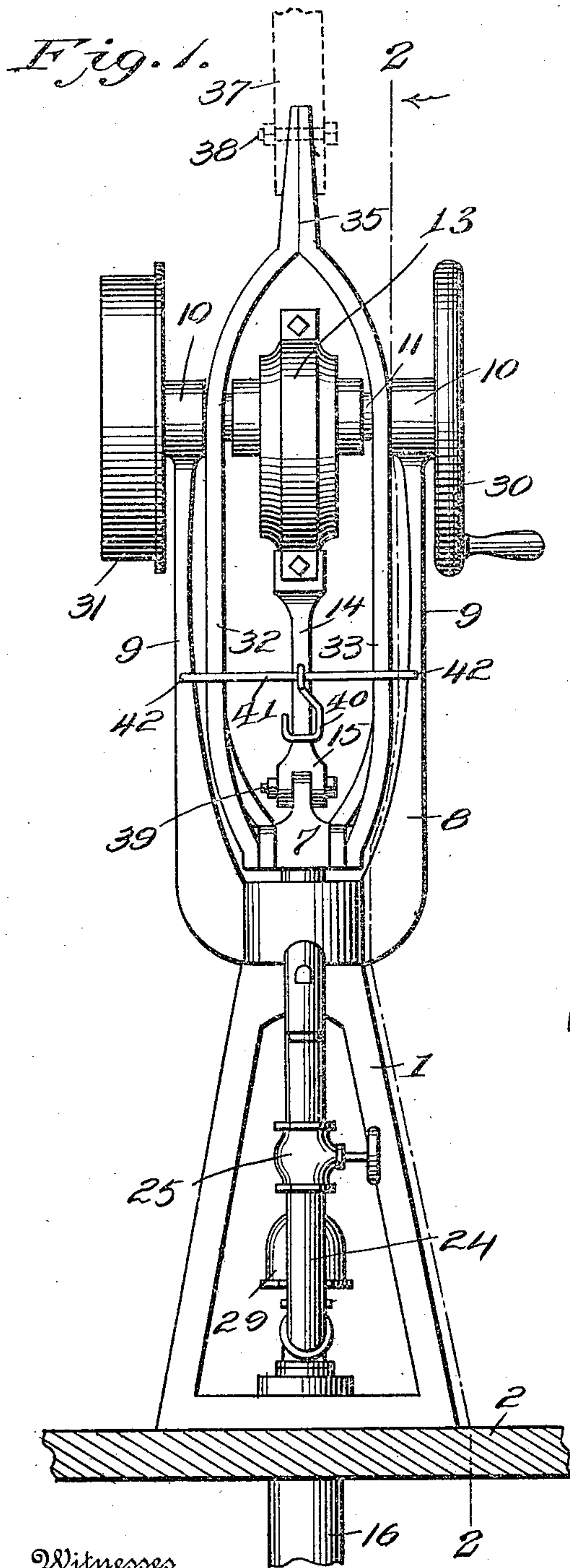
PUMP.

APPLICATION FILED SEPT. 3, 1909.

953,548.

Patented Mar. 29, 1910.

2 SHEETS—SHEET 1.



Witnesses

E. G. McKee,
R. M. Smith.

Inventor

David H. Piper

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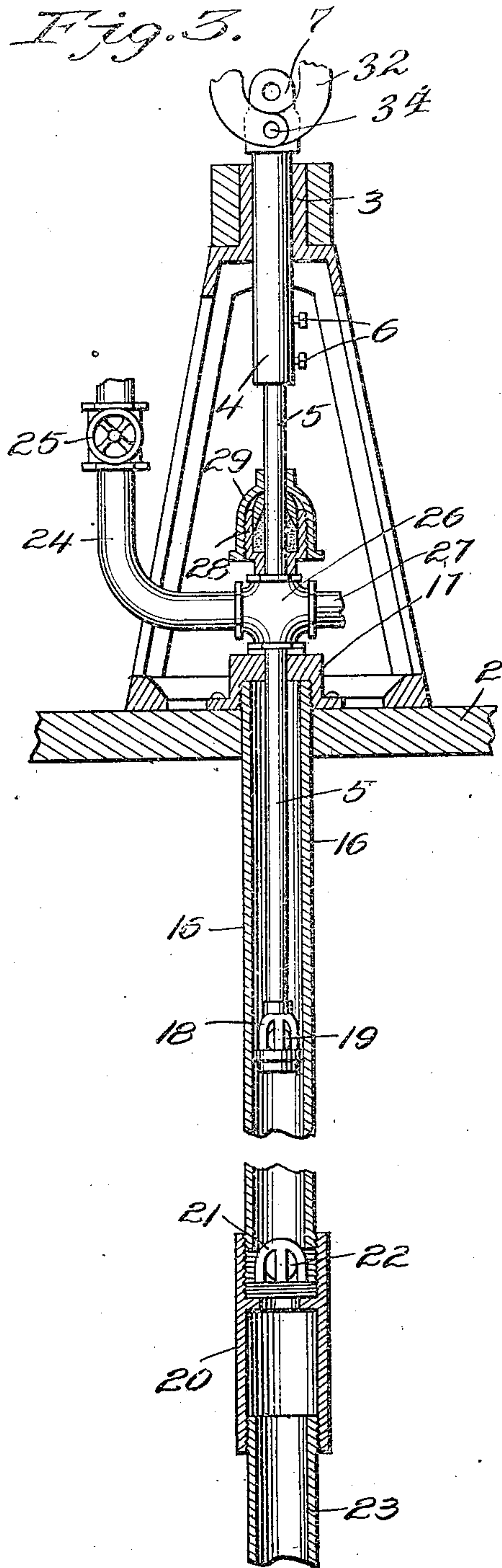
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2 SHEETS—SHEET 2.

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Fig. 3.

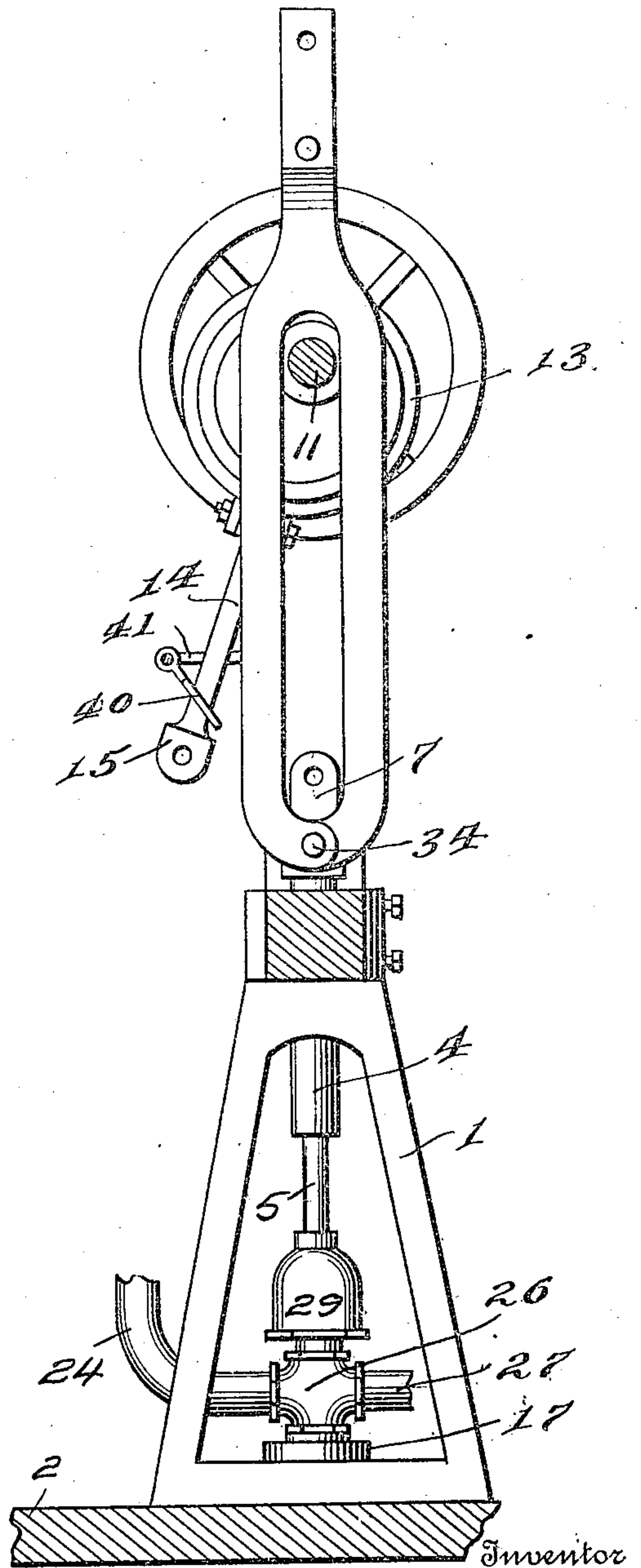


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Fig. 4.



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UNITED STATES PATENT OFFICE.

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PUMP.

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To all whom it may concern:

Be it known that I, DAVID H. PIPER, a citizen of the United States, residing at Celina, in the county of Mercer and State of Ohio, have invented new and useful Improvements in Pumps, of which the following is a specification.

This invention relates to pumps, the object of the invention being to provide simple and effective pump mechanism adapting the polish rod and working valve to be connected with and operated by anyone of several powers such as a stationary engine, a wind mill engine or a hand-operated element, the said operating means embodying a construction which will obviate any interference on the part of the several connections when arranged to be driven by either of the expedients referred to.

With the above and other objects in view, the invention consists in the novel construction, combination and arrangement of parts as herein fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a front elevation of a pump, embodying the present invention, illustrating by dotted lines the manner of connecting the same to the pump rod of a wind mill. Fig. 2 is a vertical section on the line 2—2 of Fig. 1. Fig. 3 is a central vertical section through the supporting base and well tubing, including the pump barrel. Fig. 4 is a view similar to Fig. 2, showing the pitman or connecting rod disconnected and supported by the retainer hook.

Referring to the drawings, 1 designates the supporting base frame which rests upon the well platform or cover 2, the said frame being substantially square in cross section in the preferred form and being pyramidal in its general shape. This supporting standard or base is provided with a tubular boss 3 at the top thereof which forms a bearing for a sleeve 4 bored out to receive the upper end of the polish rod 5, the latter being held in the sleeve by means of one or more set screws 6 and said sleeve being provided at its upper end with a coupling eye 7.

Superimposed upon the supporting base 1 is a bearing yoke 8 having the upstanding substantially parallel arms 9 provided at their upper ends with bearings 10 in which is journaled a driving shaft 11. This driving shaft is provided about centrally with

an eccentric 12 which is embraced by an eccentric strap 13 on the upper end of a pitman or connecting rod 14 the lower end of which is bifurcated as at 15 and straddles the coupling eye 7 above referred to. It will, therefore, be seen that in the rotation of the shaft 11, reciprocatory movement is imparted to the polish rod 5. The polish rod 5 extends downward into the pump barrel 16, the upper end of which is supported by a barrel cap 17 secured to the well platform 2, as shown in Fig. 3, said polish rod carrying at its lower end a working valve comprising a valve cage 18 and a ball valve 19 therein and working against a suitable valve seat. Connected at the lower end of the pump barrel 16 is a coupling sleeve 20 provided with a suitable valve seat and a valve cage 21 in which is arranged a ball valve 22. The coupling 20 connects with the upper end of a pump tube 23 of any suitable size and length.

The operation of the valves just described is well understood, said valves being similar in relation and operation to valves employed for this purpose in other pumping outfits.

24 designates the discharge nozzle controlled by a stop cock 25 and communicating with a central chamber or head 26 from which a branch service pipe 27 extends. Just above the chamber 26 is arranged a stuffing box 28 which is preferably covered by a hemispherical cap 29 the upper end of which fits closely around the polish rod 5, as shown in Fig. 3. The shaft 11 is provided on one end with a hand operating wheel 30, so that the pump mechanism may be operated manually. At the opposite end of the shaft 11 is a power wheel 31 adapted to receive a belt from any suitable motive power.

In order to adapt the pump to be driven by a wind mill, I provide a slotted yoke embodying two oppositely arranged arms 32 and 33 the lower ends of which are connected to the upper end of the sleeve 4 by means of a pin 34. At their upper ends the arms 32 and 33 meet on a vertical central dividing line 35, the upper ends of said arms being bolted together as shown at 36 and connected to the lower extremity of a pump rod indicated at 37 by dotted lines in Fig. 1 by means of a bolt 38 or its equivalent. When the pump is operated by a wind engine, the shaft 11 is not needed and, there-

fore, the connecting rod or pitman 14 is disconnected at its lower end from the sleeve 4 by removing the pin or bolt 39 and swinging said pitman laterally to one side and
5 placing the same in engagement with the supporting hook 40 which is pivotally suspended on the laterally projecting bracket 41 consisting of a rod having the opposite ends thereof bent inward in substantially
10 parallel relation to each other and inserted in sockets 42 in the arms 9 of the bearing frame 8 hereinabove described.

By reference to Fig. 2, it will be observed that the arms 32 and 33 of the connecting
15 yoke are slotted as shown at 43 to straddle and embrace the shaft 11 thereby admitting of the necessary vertical movements of said connecting yoke.

I claim:—

20 1. Pump driving mechanism comprising a supporting standard, a bearing frame on the upper end of said standard, a polish rod, a coupling sleeve on the upper end of said rod, a horizontal driving shaft, an eccentric
25 on said shaft, a pitman interposed between said eccentric and said coupling sleeve, a slotted connecting yoke embracing said driving shaft and adapted to reciprocate verti-

cally upon said shaft, and means for detachably connecting said pitman to said sleeve. 30

2. The herein described pump driving mechanism embodying a standard or supporting base having a tubular boss at its upper end, a coupling sleeve mounted to slide vertically through said boss and connecting with the polish rod of the pump, a bearing frame mounted on said hollow boss, a horizontal shaft journaled in said bearing frame, driving connections between said shaft and coupling sleeve including a pitman having a detachable connection at one end with said coupling sleeve, means for supporting said pitman out of working
35 alinement with the coupling sleeve when disconnected from said sleeve, and a connecting
40 yoke attached to said coupling sleeve and provided with slotted side portions which embrace and are adapted to slide upon said driving shaft, substantially as described.

In testimony whereof I affix my signature 50 in presence of two witnesses.

DAVID H. PIPER.

Witnesses:

HENRY SEALSCHOTT,
WILLIAM FISHER.