

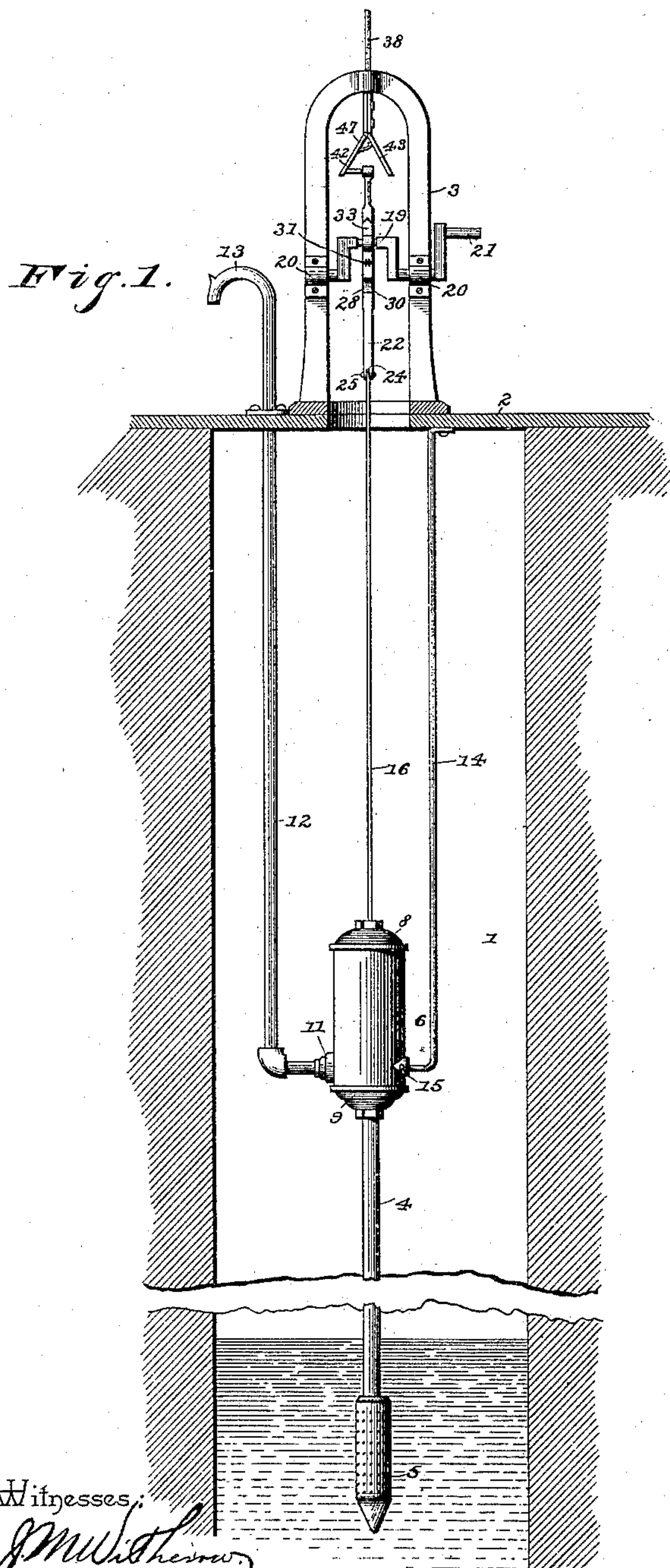
(No Model.)

2 Sheets—Sheet 1.

C. A. FROST.
MECHANISM FOR OPERATING PUMPS.

No. 445,990.

Patented Feb. 10, 1891.



Witnesses:

J. M. Withers

Wm. Baggett

By *his* Attorneys,

Inventor

Charles A. Frost,

C. A. Snow & Co.

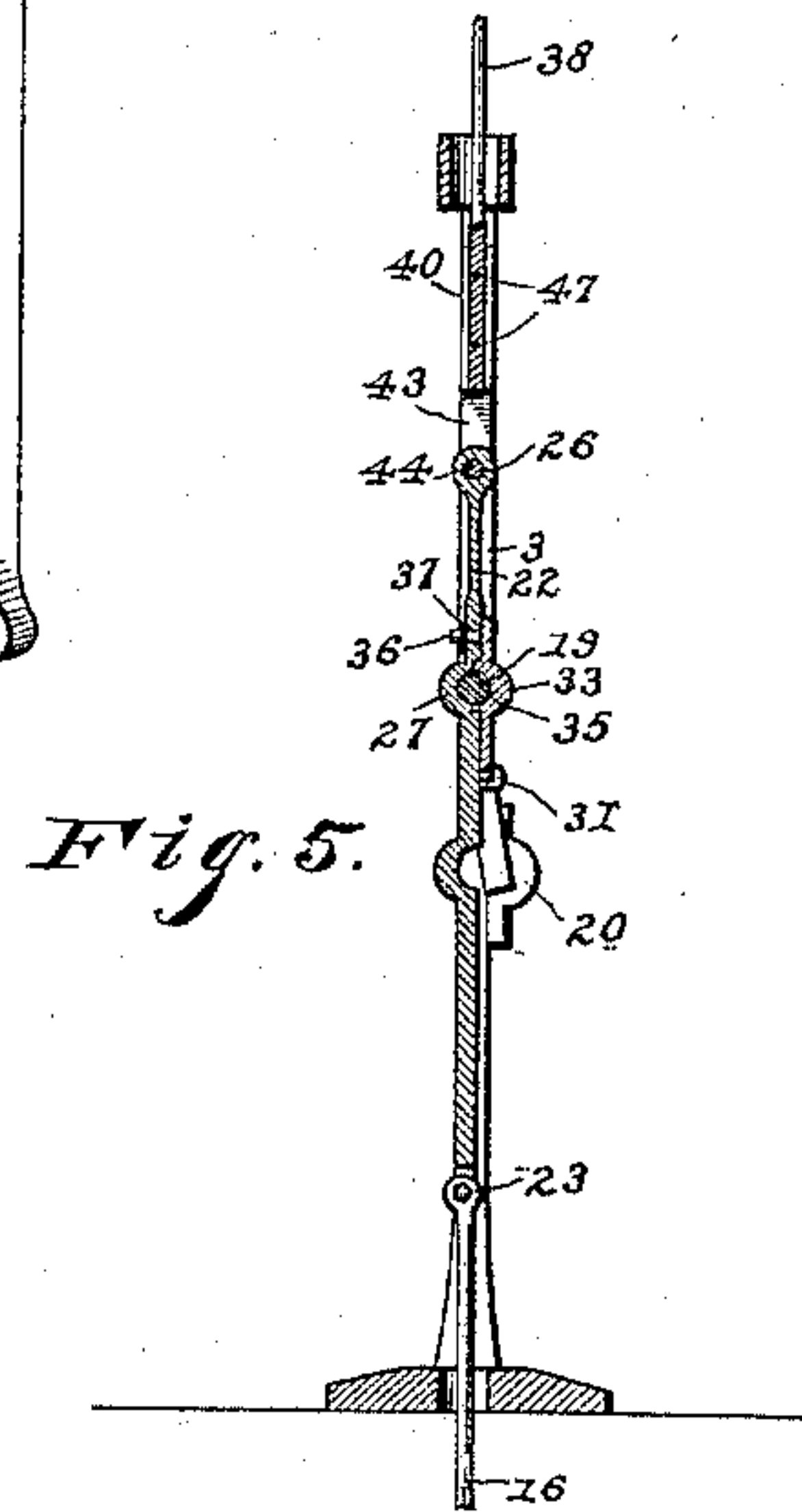
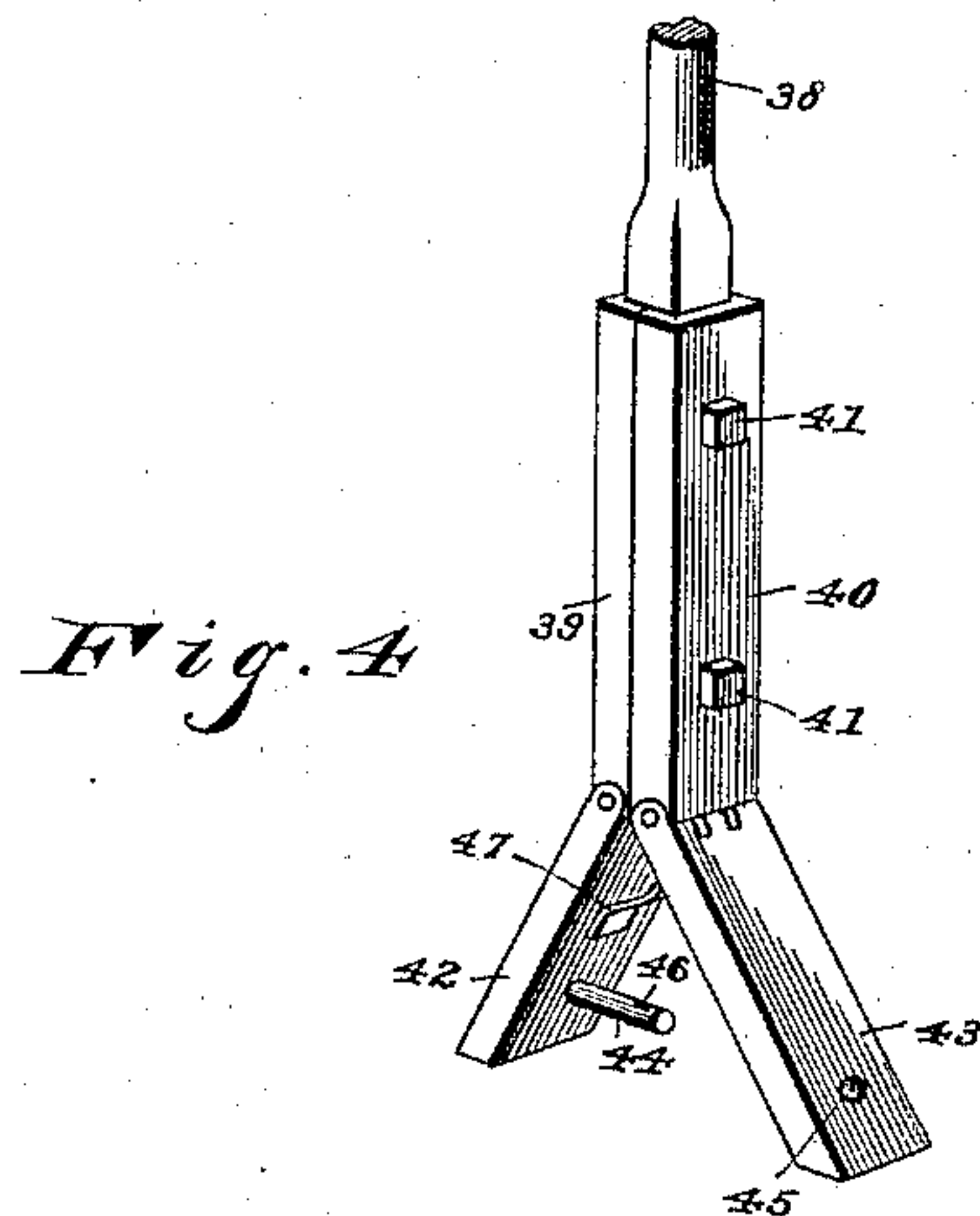
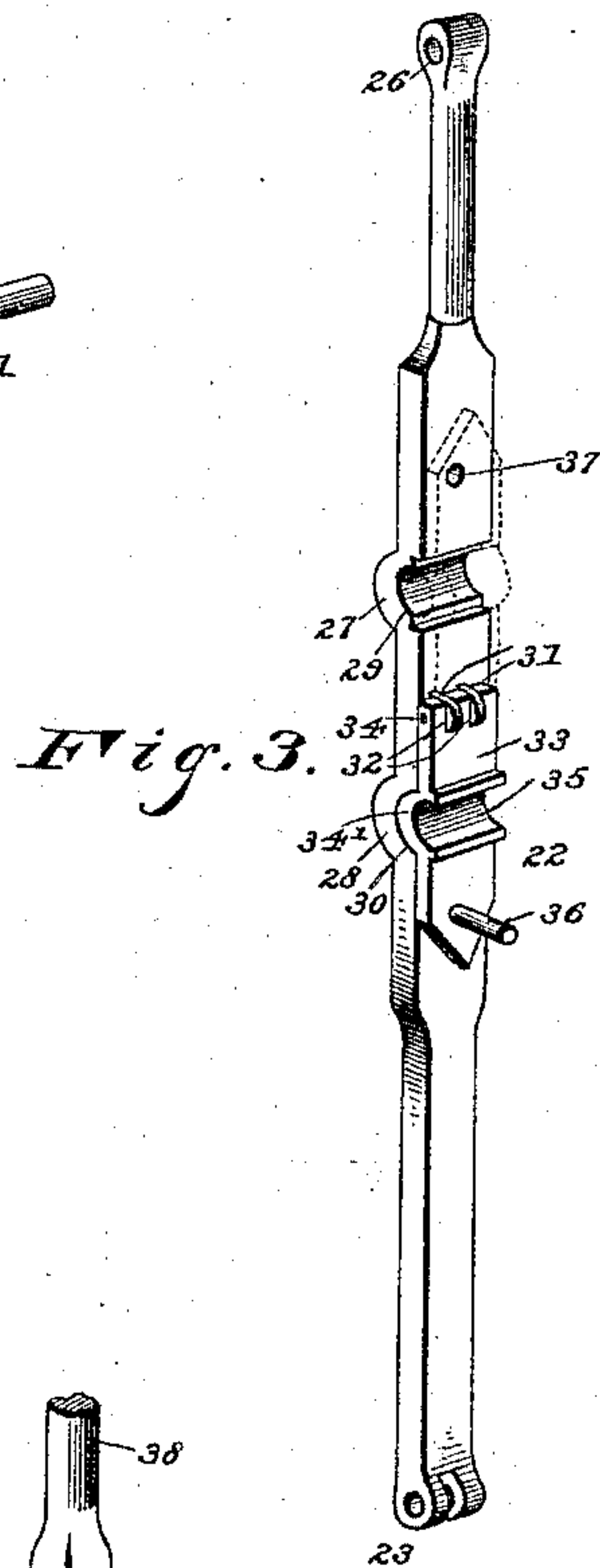
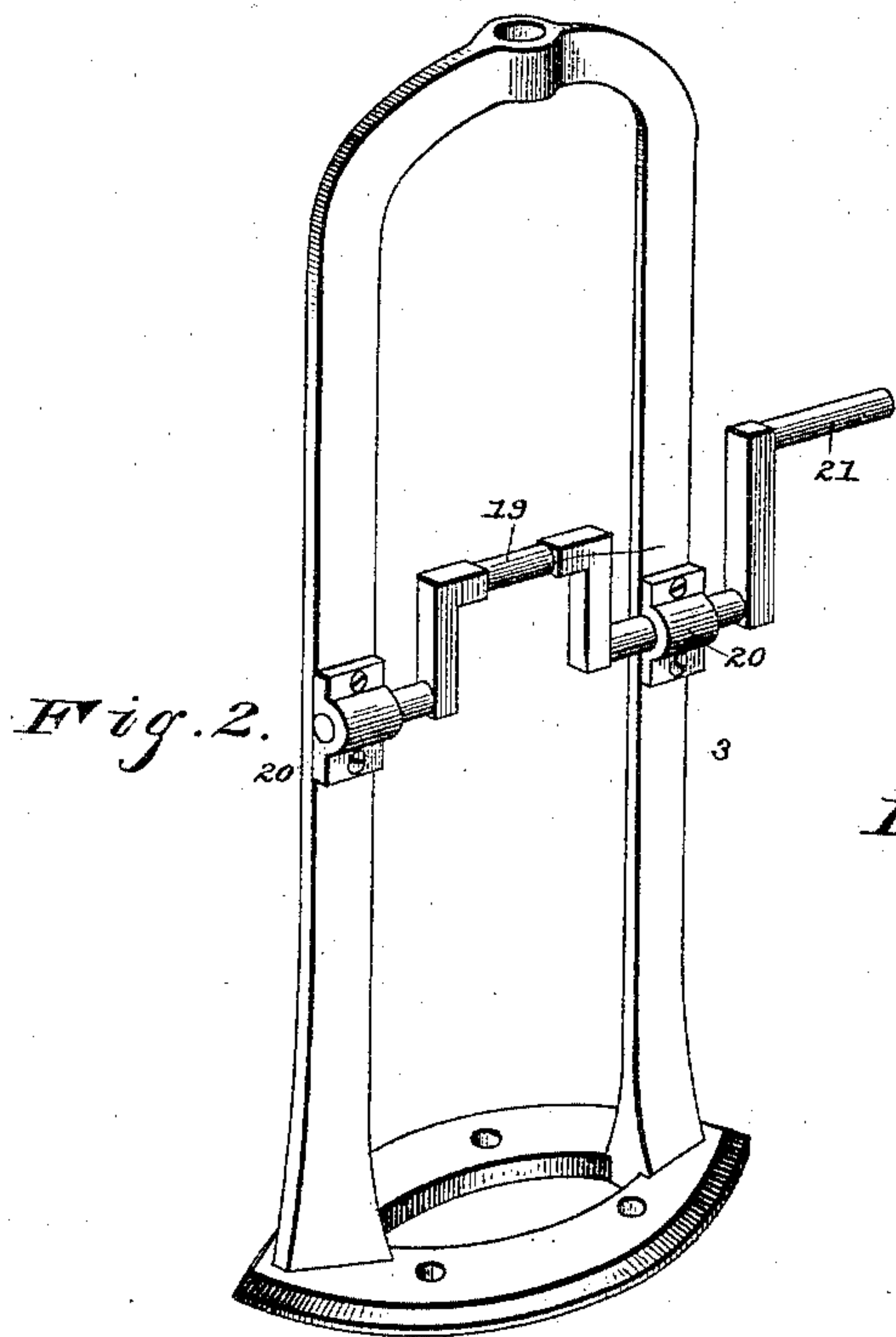
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2 Sheets—Sheet 2.

C. A. FROST.
MECHANISM FOR OPERATING PUMPS.

No. 445,990.

Patented Feb. 10, 1891.



Witnesses:

Wm. L. Theron
Wm. Bagger

By his Attorneys,

C. A. Snow & Co.

Inventor
Charles A. Frost

UNITED STATES PATENT OFFICE.

CHARLES A. FROST, OF WESTERN, NEBRASKA.

MECHANISM FOR OPERATING PUMPS.

SPECIFICATION forming part of Letters Patent No. 445,990, dated February 10, 1891.

Application filed October 3, 1890. Serial No. 366,920. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. FROST, a citizen of the United States, residing at Western, in the county of Saline and State of Nebraska, have invented a new and useful Pump-Operating Mechanism, of which the following is a specification.

My invention relates to improvements in mechanism for operating pumps, the objects of which are to provide a mechanism which may be operated by a windmill, or which can be adapted for use in house wells and cisterns; and with these main objects in view my invention consists in certain features of construction to be hereinafter described, and then pointed out in the claims.

In the accompanying drawings, Figure 1 is a section taken through a well, showing a pump in position in the same and my improved operating mechanism in connection therewith. Fig. 2 is a detail view of the frame for supporting the operative parts. Fig. 3 is a detail view of the link connecting the operating-crank with the piston-rod. Fig. 4 is a detail view of the clamp-coupling for connecting the pump with a windmill. Fig. 5 is a vertical sectional view taken through the standard and the pump-rod.

1 is a well, above which is supported on the platform 2 the frame 3, which carries the operative parts.

4 is a tube that is sunk within the well and is provided at its lower end with a head 5, provided with perforations to admit the water. At the top of the tube is a cylinder 6, provided with upper and lower heads 8 and 9, respectively. At the lower end of the cylinder is a nozzle 11, to which is attached the tube 12 of spout 13, which projects above the well, and the cylinder is supported in position within the well by means of a rod or brace 14, the brace being secured to the cylinder at 15. The piston-rod, which is designated by 16, is extended into the pump-cylinder and carries a piston. (Not shown.) Suitable valves are likewise to be properly arranged in the cylinder or in the inlet and exit tubes of the latter, as will be readily understood.

19 is a crank-shaft journaled in boxes 20, secured to frame 3 and provided with a hand-crank 21. The link 22 is provided at its

lower end with eyes 23, between which fits the eye 24 at the upper end of the piston-rod 16, and through said eyes pivot-pin 25 passes. The upper end of said link or pitman 22 has an eye 26, for the purpose hereinafter referred to.

27 and 28 represent curved portions of the link 22, said curved portions providing concavities or semicircular recesses 29 and 30. Between the recesses 29 and 30 the link is provided with lugs 31, which fit in notches 32 of a flap 33, and through the flap and said lugs a pivot-pin 34 passes to provide a hinged joint. Said flap 33 is provided between its ends with a convex portion 34', providing a concavity or semicircular recess 35, and said link is also provided at its outer end with a pin 36 on its inner face. As shown in Fig. 1 in full lines and in dotted lines in Fig. 2, said flap is brought up so that its pin 36 will engage or take into perforation 37 above the recess 29, thus providing a boxing for the crank-shaft 19, which is received within the concavities 29 and 35, which together constitute a circular journal. By constituting the boxing, as shown, with a hinged flap, the link may be separated very readily from the crank 19, the convex portion 35 of said flap when thrown down, as shown in full lines in Fig. 3, being received by the concavity 30. This manner of constructing the link with a two-part boxing enables the ready repair of the parts of the pump.

As above described, the pump may be used in a house well or cistern, but may be readily adapted for use in connection with a windmill by the employment of the device shown in Fig. 4. At the lower end of the pump-rod 38 of the windmill is a socket-piece or box consisting of two parts 39 and 40, secured to the pump-rod by means of bolts 41 passed therethrough. The lower ends of the parts 39 and 40 are provided, respectively, with hinged flaps or links 42 and 43, said paired links constituting a clasp-coupling. The inner side of the lower end of link 42 is provided with a pin 44, that is adapted to pass through the eye 26 at the upper end of the pitman 22 and into a perforation 45 in the lower end of the opposing link 43, thus coupling the pump to a windmill. The outer end of the pin 44 is provided with a perforation

46 to receive a suitable key. (Not shown.)
Between the upper hinged ends of the paired
links 42 and 43 is placed a spring 47, which
is adapted when the windmill is disconnected
5 from the pump—the aforesaid key having
been removed—to throw apart said links to
allow room for the free movement of the pit-
man 22.

What I claim is—

- 10 1. The combination, with a pitman having
an eye at its upper end, of paired flaps or links
hinged at the lower end of a vertically-recip-
rocating rod, one of said flaps carrying a pin
adapted to pass through the eye of said pit-
15 man and to enter a perforation in the other
flap, substantially as and for the purpose set
forth.

2. The combination, with a pitman for op-
erating a piston-rod, of a reciprocating rod
provided at its lower end with a pair of hinged 2
flaps or links, said flaps or links being pro-
vided with means for connecting them with
the upper end of said pitman, and a spring
for separating said flaps or links when dis-
connected from the pitman, substantially as 2
set forth.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
presence of two witnesses.

CHARLES A. FROST.

Witnesses:

GEO. F. SAWYER,
J. F. BLEMDIN.