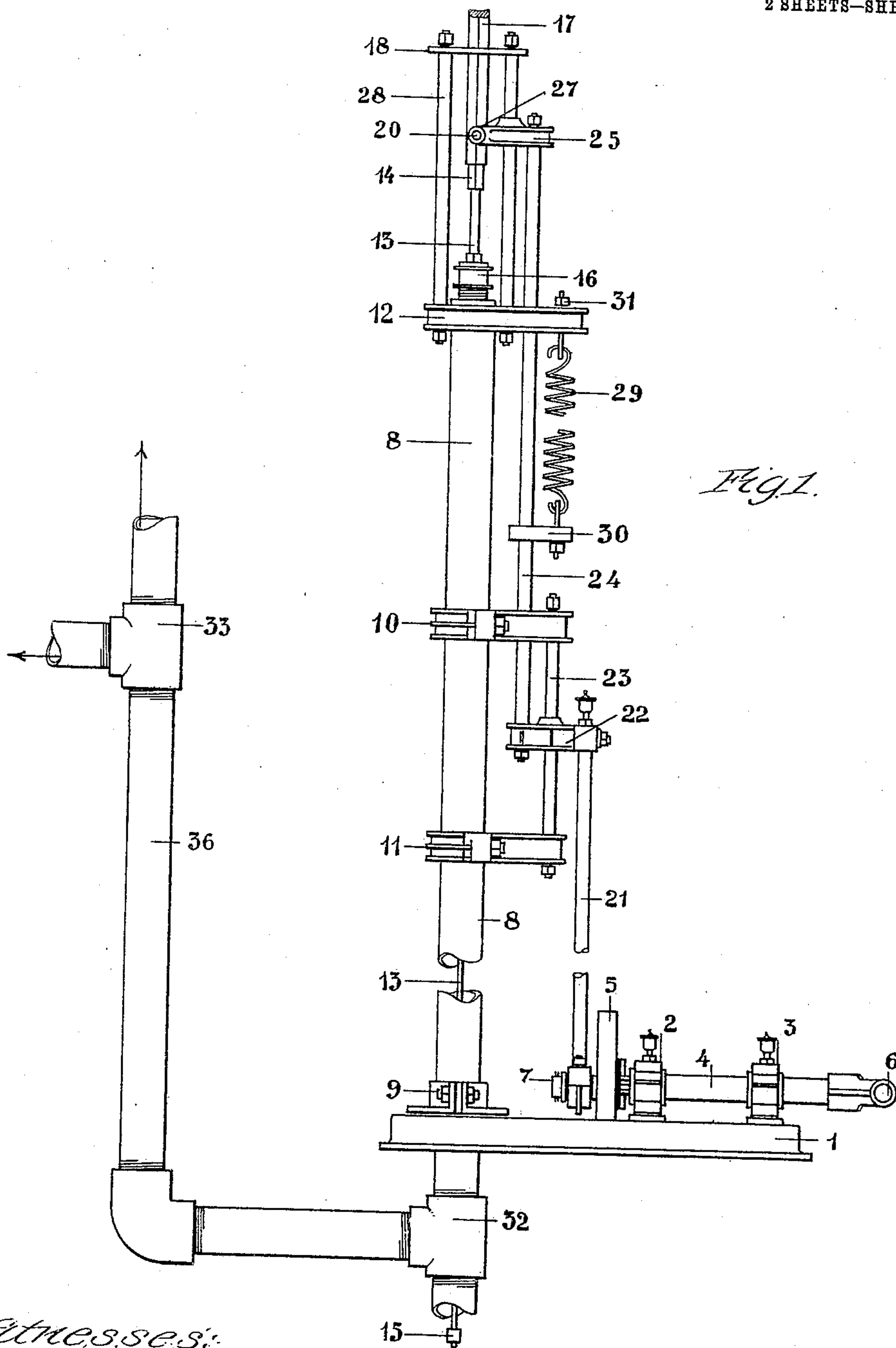


F. G. BASCOLO.
PUMP OPERATING MECHANISM.
APPLICATION FILED FEB. 21, 1908.

907,452.

Patented Dec. 22, 1908.

2 SHEETS—SHEET 1.



Witnesses:

C. M. Crawford
C. Schallinger

Inventor:-

Francisco Giuseppe Bascolo

by

B. Simpson

Attorney

907,452.

2 SHEETS—SHEET 2.

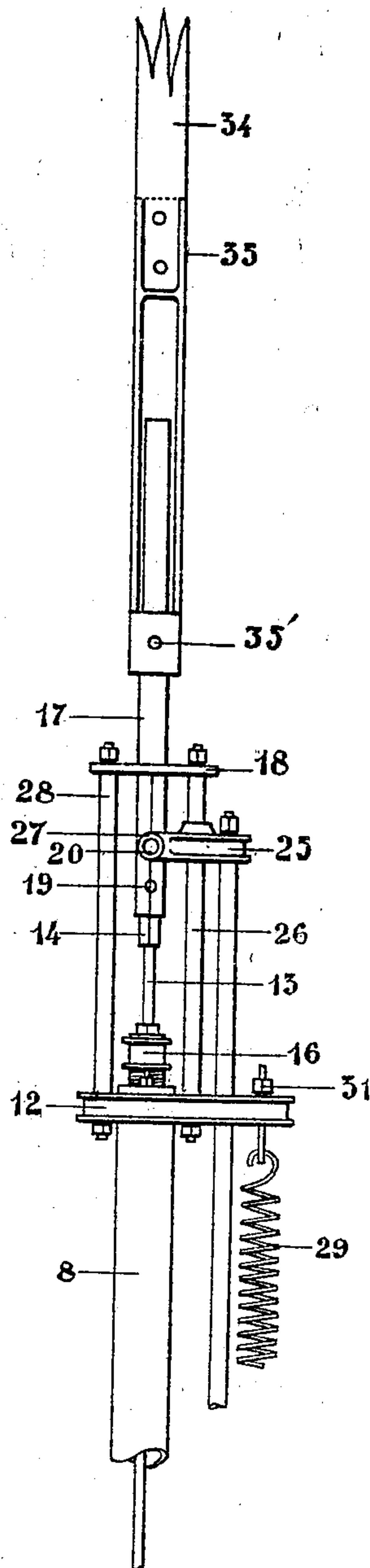


Fig. 2.

Inventor:-

Francisco Giuseppe Bascolo
by B. Singer
Attorney

UNITED STATES PATENT OFFICE.

FRANCISCO GIUSEPPE BASCOLO, OF BUENOS AYRES, ARGENTINA.

PUMP-OPERATING MECHANISM.

No. 907,452.

Specification of Letters Patent.

Patented Dec. 22, 1908.

Application filed February 21, 1908. Serial No. 417,213.

To all whom it may concern:

Be it known that I, FRANCISCO GIUSEPPE BASCOLO, a subject of the King of Italy, and resident of 329 Cangallo, in the city of Buenos Ayres, Argentina, have invented certain new and useful Improvements in Pump-Operating Mechanism, of which the following is a specification.

The present invention relates to a novel and simple apparatus for effecting the intermediary working of single cylinder pumps, and which is particularly adapted for use in connection with wind mills for the purpose of permitting the extraction of water by means of the pump of the same when they are not going, by employing other mechanical or any other source of power.

For the better understanding of the invention I shall now proceed to describe the same by making reference to the accompanying drawings which show an embodiment of the device, and wherein—

Figures 1 and 2 are side elevations of the same.

1 indicates a base plate of metal, of any convenient shape, and 2 and 3 are the bearings, fixed by means of screws to said base plate 1, for supporting the horizontal rotary shaft 4, of cylindrical shape.

5 is a disk keyed upon one end of the axle 4, and on the opposite end of this latter, a coupling sleeve 6 has been provided.

7 indicates an eccentric stud, securely fixed to the disk 5 by means of a pin, nut and counter nut, or in any other convenient manner.

8 is a pipe of galvanized iron or other adequate material which serves as supporting frame for the device, while forming at the same time part of the suction pipe of the pump to which it has been attached.

9 is a flanged collar by means of which the supporting pipe 8 and the base plate 1 are so connected together, that the latter will be maintained in a perpendicular position with regard to the former, the collar 9 being clamped around said pipe 8 by means of a screw bolt and nuts, as shown, or in any other way.

10 and 11 show suitably shaped brackets, secured in place around the pipe 8 by means of collars or other clamping devices, as will be shown in the drawings.

12 is the head of the apparatus, screwed on to the upper end of the support 8, and generally arranged as shown in the drawings.

13 is a metallic rod which descends inside the supporting pipe 8 and is connected to the piston rod of the pump, and 14 and 15 show jointing pieces of the rod 13.

16 is the stuffing box of the rod 13 and 17 indicates the connecting rod or plate by which the rod 13 is connected to the driving rod of the wind mill, said rod being guided by the guide plate 18. This latter plate is supported by means of the rod 28.

19 is a connection hole by which the rod 17 is joined to the driving rod of the auxiliary driving mechanism (see Fig. 2), by means of the pin 20.

21 is the connecting rod, which connects the disk 5 to the sliding piece 22, mounted on the guide rod 23. On the other hand, said sliding piece 22 is connected by the driving rod 24, to another sliding piece or collar 25, guided on the rod 26, said sliding piece 25 being fixed at its other end to the rod 17, and the guide rod 26 is reinforced by the rod 28, mounted on the opposite side thereof.

29 indicates the coiled spring for maintaining the equilibrium of the motion, connected at its lower end to a bracket 30 and at its upper end to the head 12 of the device, by means of the adjusting screw 31, which serves to adjust the tension of said spring.

32 and 33 are tubular connections, forming outlets for the water elevated by the pump to which the device is applied.

34 is the transmission rod of the windmill and 35 is the connection applied to the end of the rod 34.

36 shows the pipe by which the water is led to the respective tank for storage.

All these parts are substantially connected and arranged as shown in the drawings, and the working of the device takes place in the following manner:—The rotary continuous movement of the axle 4 and in consequence of the disk 5, is transmitted through the connecting rod 21 to the sliding piece 22, which will execute a vertical reciprocal movement on the guide rod 23, and such movement is transmitted, by means of the connecting rod 24 to the other sliding piece 25 on the guide rod 26, which sliding piece 25, being connected also to the connecting bar 17 by the pin 20, will impart a reciprocating motion to the rod 13, which latter by working the piston of the pump, will perform the extraction of the water and lift the same in order to lead it to the storage tank or other reservoir through the pipe 36.

The pump to which reference has been made in the foregoing description, may be that of a windmill used for the extraction of water from a well, and in such case, by means of my apparatus the pump may be made to work alternately by the wind motor, or by any different motor; an arrangement, however, which constitutes an essential feature of my invention, is the following:—When it is desired to operate the pump by wind power the pin 20 (Fig. 1) is removed, thereby disconnecting the parts 17 and 25, and said pin is inserted through the openings 35' in the part 35 and through a suitable registering opening in the part 17, (not shown) thereby connecting the part 35 with the part 17. When placing the pin 20 in the position shown in Fig. 1, the rod 34 of the windmill is disconnected from the rod 13, and the sliding piece 25 of the apparatus is connected to the piston rod 13 of the pump, which may then be made to work by means of animal power, or by any mechanical motor driving the axle 4 of the apparatus.

25 A further essential feature of my invention consists in the fact that, in spite of the variable resistance inherent to the working of single cylinder single acting pumps, such as are generally used in connection with wind mills, their working is rendered perfectly smooth and uniform, owing to the efficient action of the balancing spring 29, which, by stretching itself when the piston descends and contracting on the rising of the same, transforms the variable motion of the piston into a uniform one.

Having thus clearly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. Pump operating mechanism comprising

in combination, a well pipe provided with a packing box, a pump rod disposed in said pipe and passing through said packing box, a branch for said pipe leading to a supply tank, a supporting base secured to said pipe, a driven shaft mounted on said base and provided with a crank disk, a crank rod secured to said disk at one end, a crank rod cross head secured to opposite end of said crank rod, a guiding rod on which said cross head is slidably mounted, brackets secured to said pipe and supporting said guiding rod, a driving rod secured to said crank cross head and guided by one of said brackets, a driving rod cross head secured to the upper end of said driving rod, means for removably securing said driving rod cross head to said pump rod, and a mill rod adapted for connection with said pump rod.

2. Pump operating mechanism comprising in combination, a well pipe, a pump rod disposed in said pipe, a branch for said pipe leading to a tank, a supporting base, a driven shaft mounted on said base and provided with a crank disk, a crank rod secured to said disk at one end, a crank rod cross head secured to the opposite end of said crank rod, a guide on which said cross head is slidably mounted, a driving rod secured to said crank cross head, a driving rod cross head secured to the upper end of said driving rod, means for removably securing said driving rod cross head to said pump head, and a mill rod adapted for connection with said pump rod.

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

FRANCISCO GIUSEPPE BASCOLO.

Witnesses:

JOSÉ IGNACIO GAUARDO,
JOSÉ ROBLES.