

No. 776,922.

PATENTED DEC. 6, 1904.

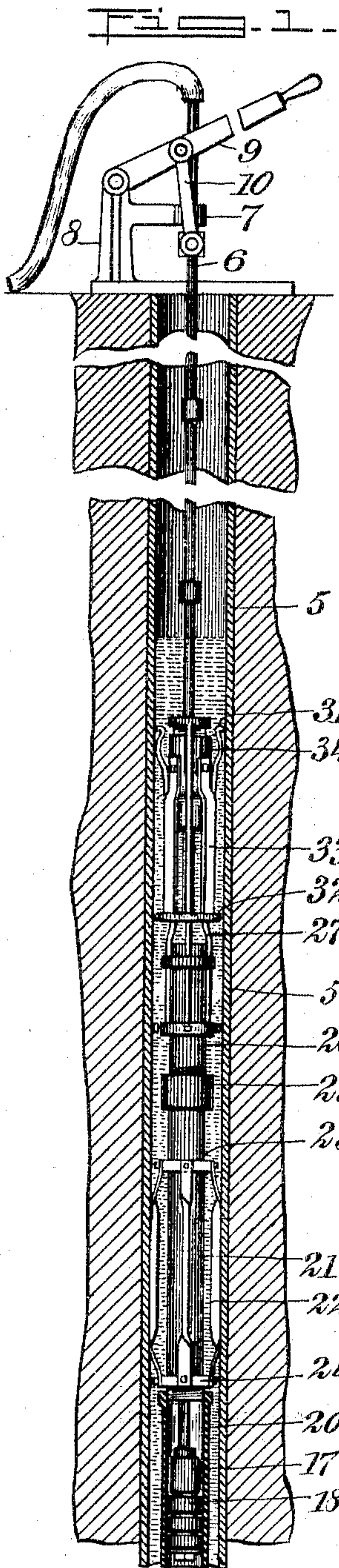
P. J. LEITHAUSER.

PUMP.

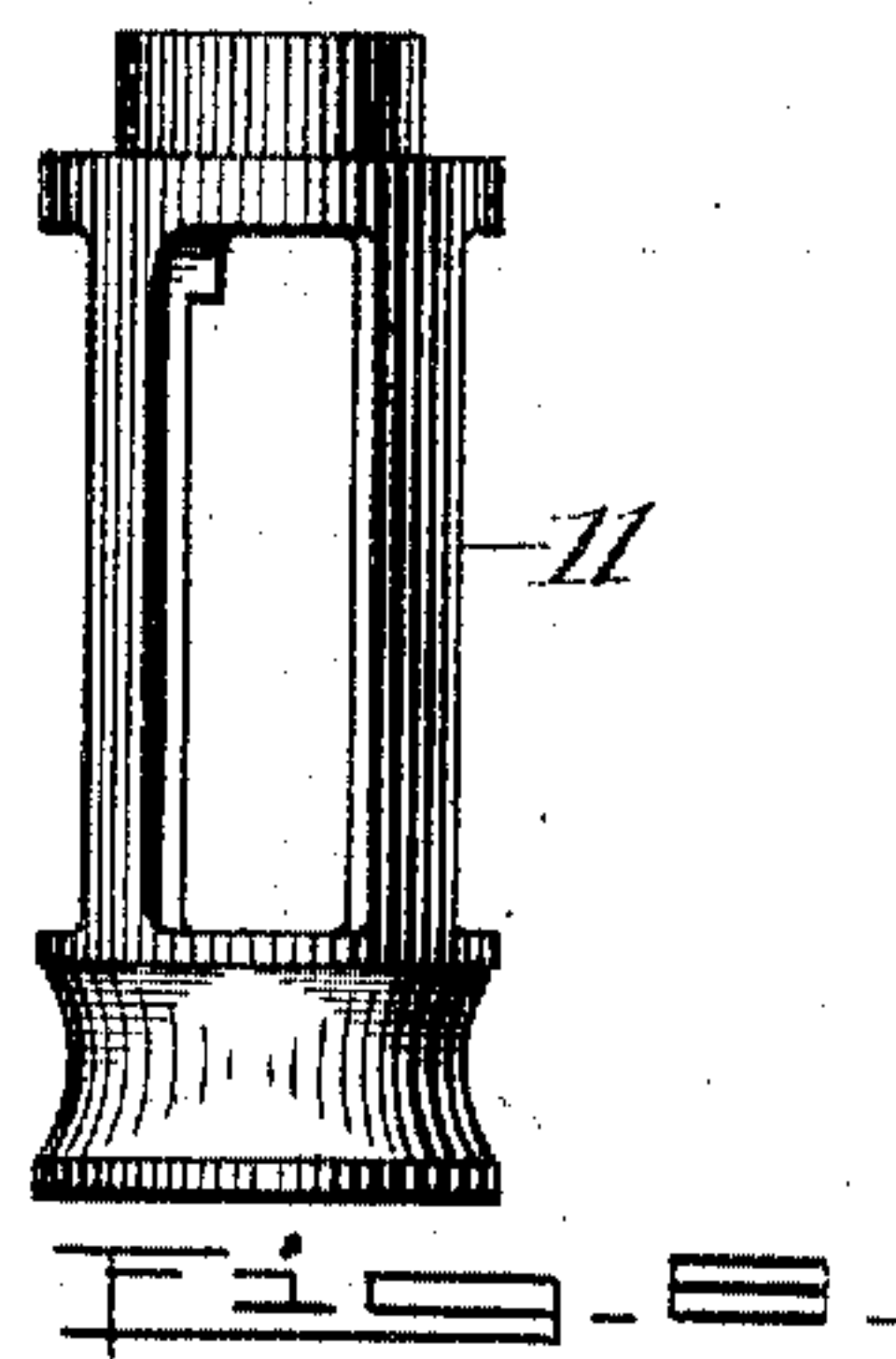
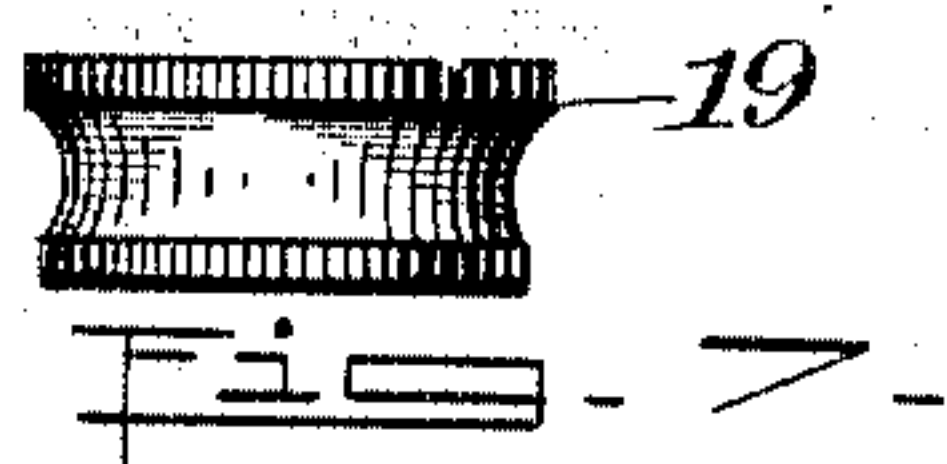
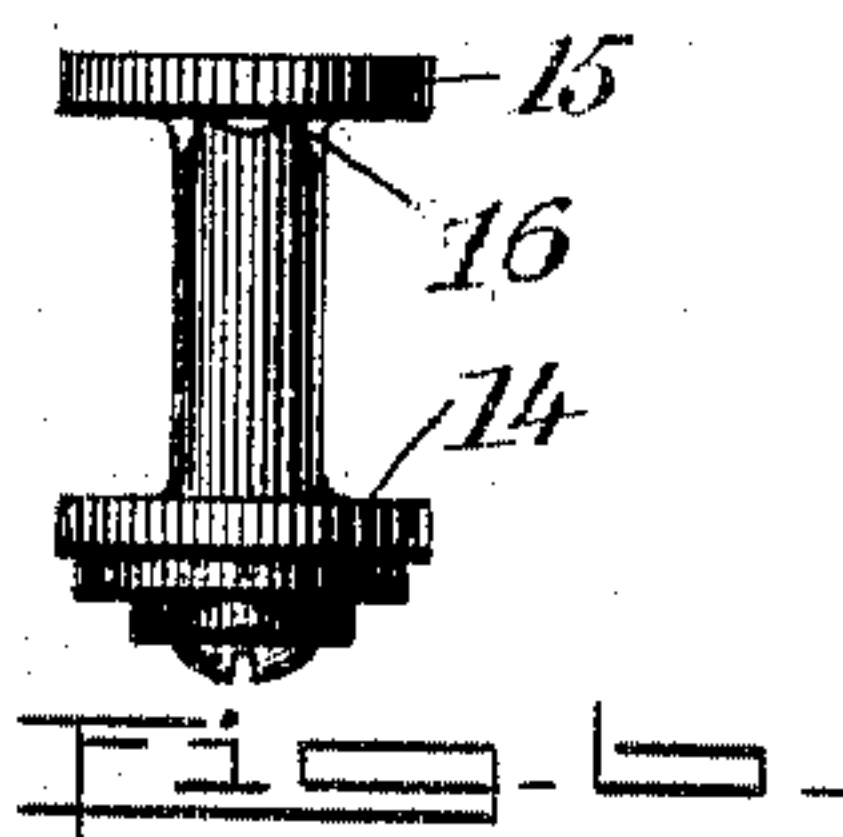
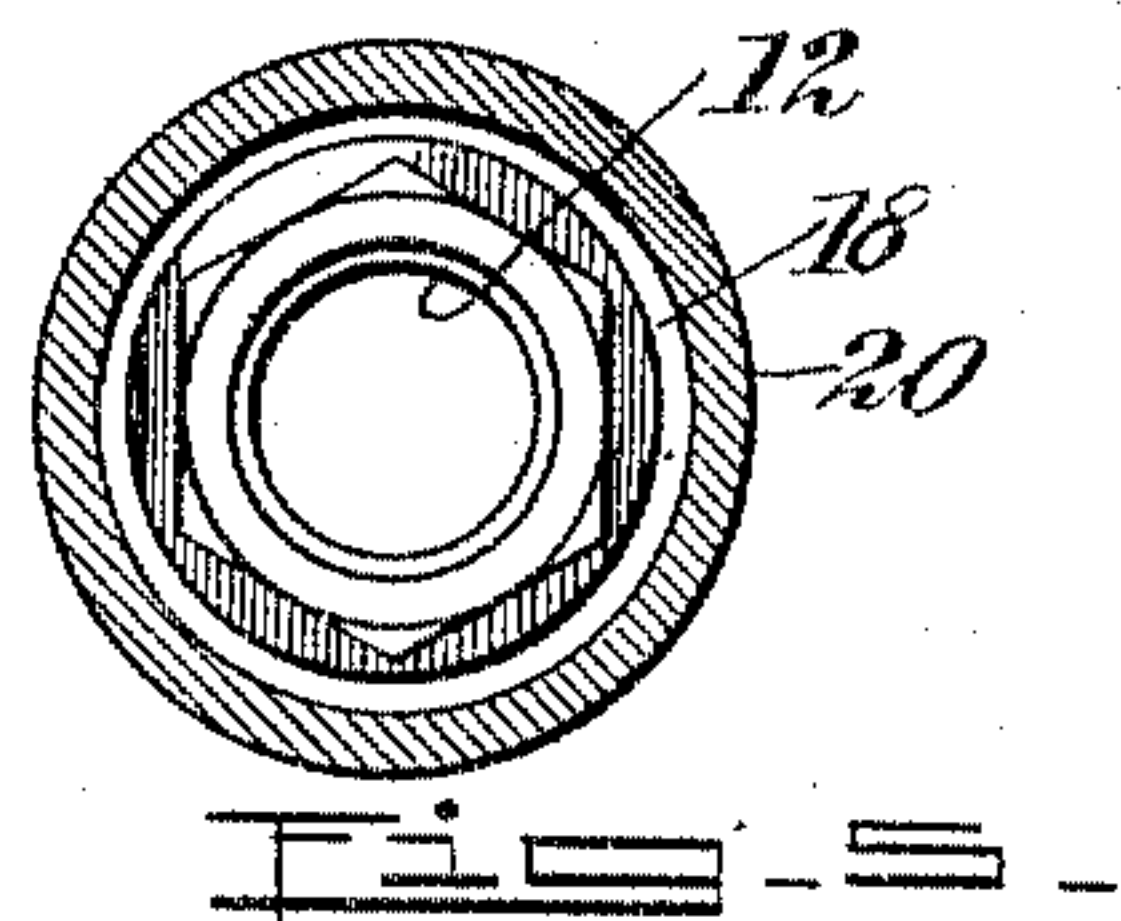
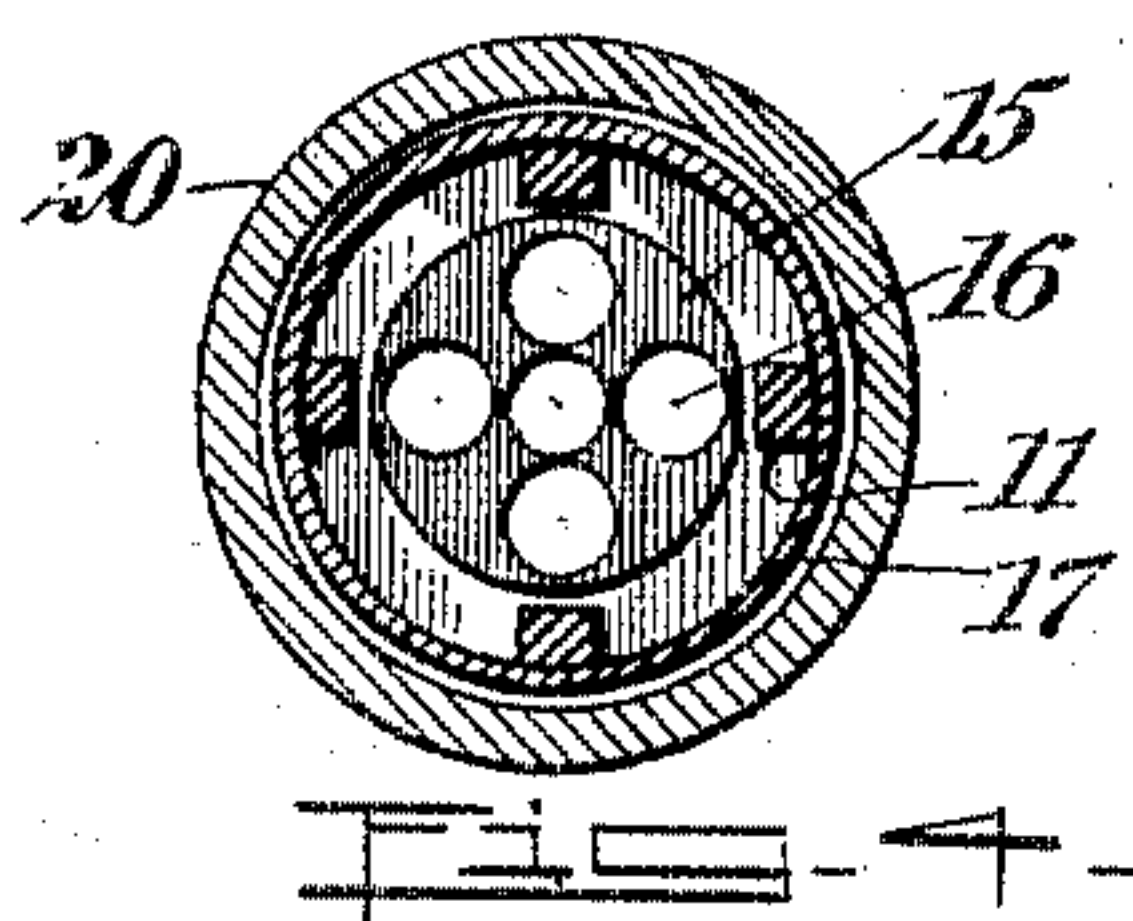
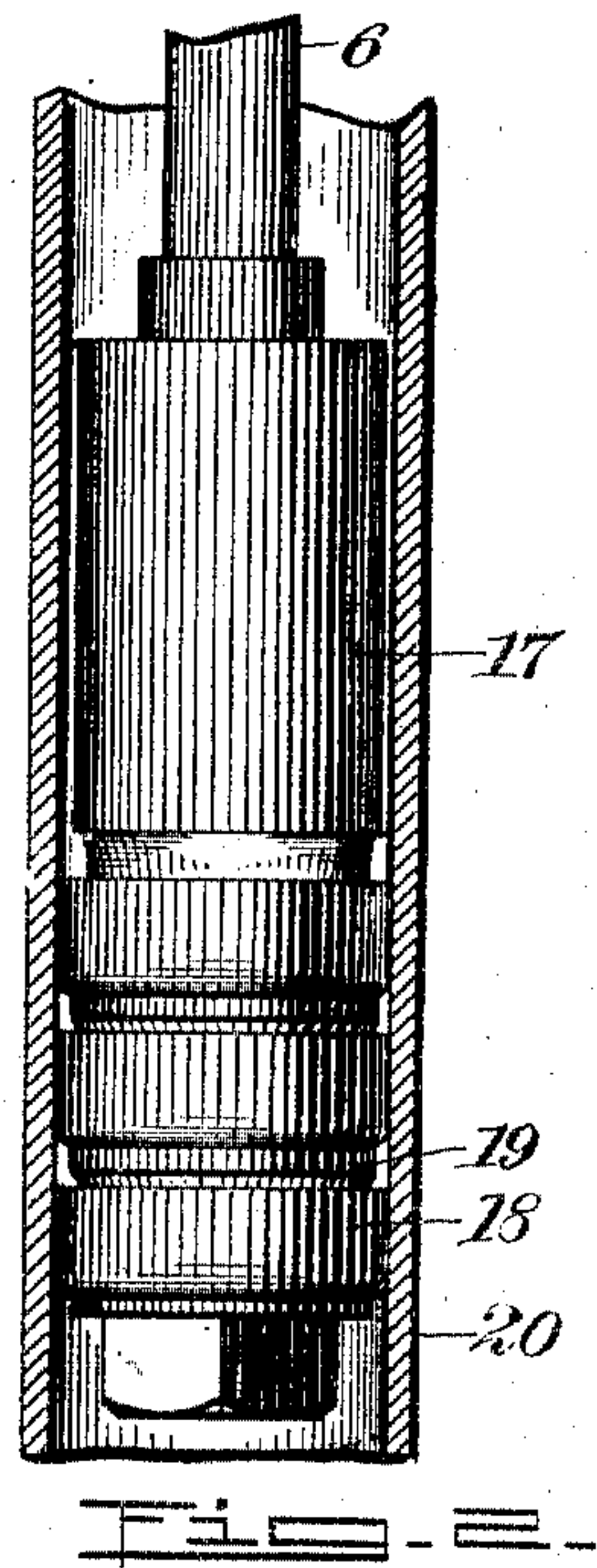
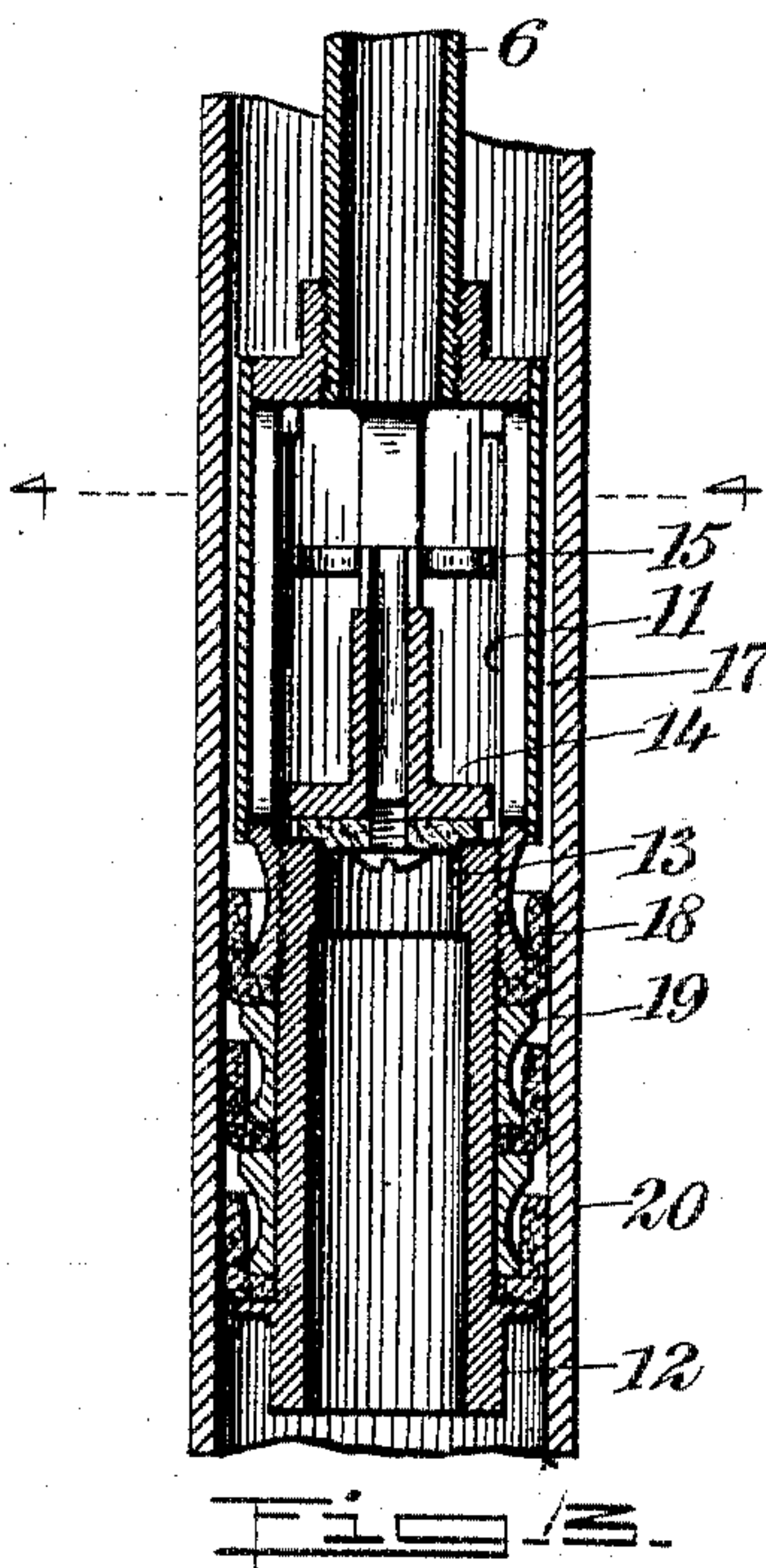
APPLICATION FILED MAY 4, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:  
*C. A. Jarvis*  
*C. R. Ferguson*



INVENTOR  
*Peter J. Leithauser*

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ATTORNEYS.



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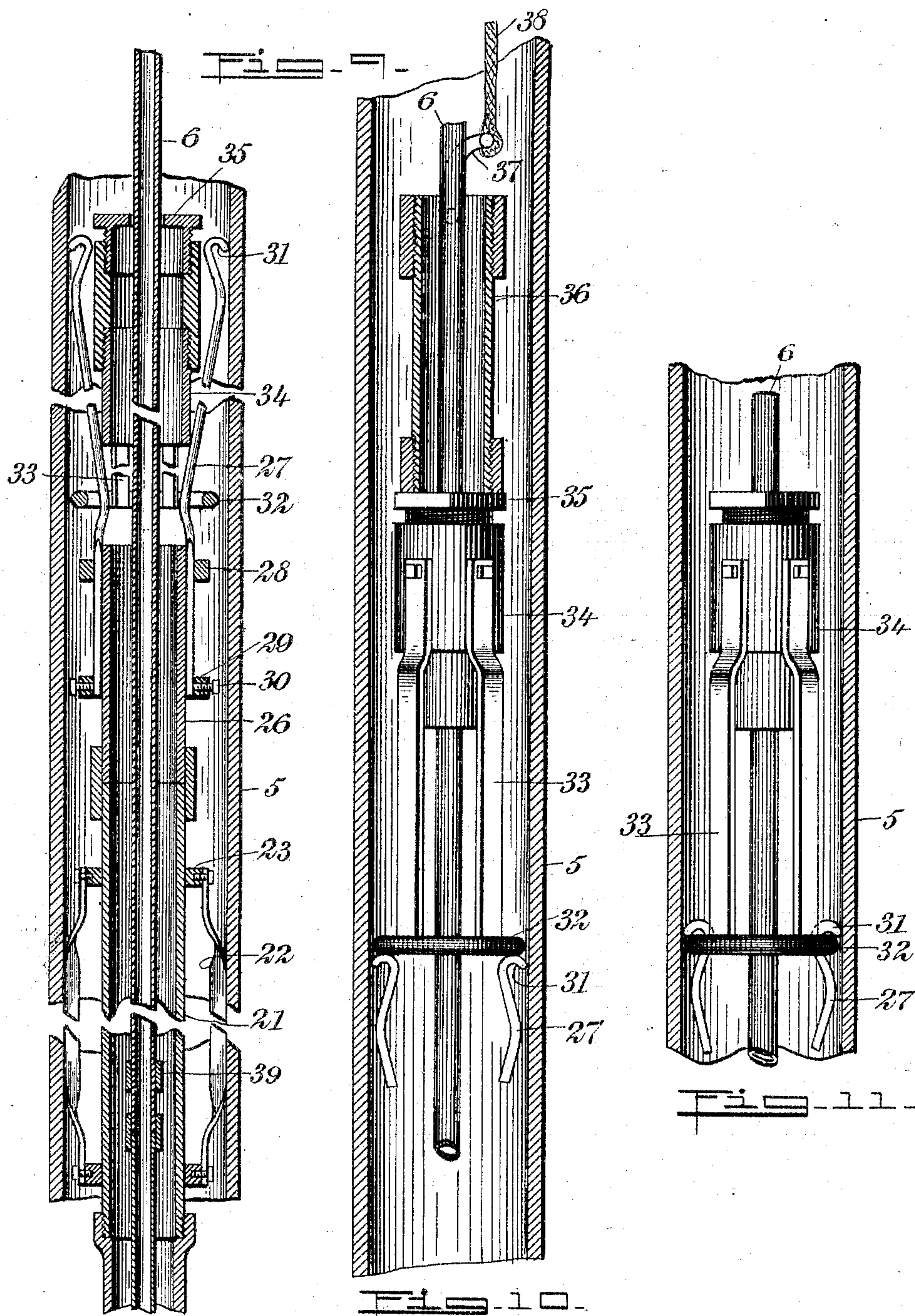
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# UNITED STATES PATENT OFFICE.

PETER JEROME LEITHAUSER, OF CLARENDON, TEXAS.

## PUMP.

SPECIFICATION forming part of Letters Patent No. 776,922, dated December 6, 1904.

Application filed May 4, 1904. Serial No. 206,353. (No model.)

*To all whom it may concern:*

Be it known that I, PETER JEROME LEITHAUSER, a citizen of the United States, and a resident of Clarendon, in the county of Donley and State of Texas, have invented a new and Improved Pump, of which the following is a full, clear, and exact description.

This invention relates particularly to improvements in pumps for raising water from deep wells, an object being to provide a pump of this character with novel means for centering and yieldingly holding the pump at any desired position in a well-casing and also to provide a simple means whereby the working parts of the pump may be readily raised from the well when it is necessary to make repairs.

Other objects of the invention will appear in the general description.

I will describe a pump embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is an elevation, partly in section, of a pump embodying my invention. Fig. 2 is a side view of the piston and valve mechanism employed. Fig. 3 is a longitudinal section thereof. Fig. 4 is a section on the line 4 4 of Fig. 3. Fig. 5 is a bottom view of the construction shown in Fig. 2. Fig. 6 is a side view of the valve employed. Fig. 7 shows a spacing-ring employed. Fig. 8 indicates the valve-casing, and Figs. 9, 10, and 11 indicate the positions of parts when inserting or removing the pump.

Referring to the drawings, 5 designates a well-casing designed to be secured in the well in any suitable manner. Extended downward in the casing and movable vertically therein is a tubular pump-rod 6, which at the upper end is connected to any suitable actuating mechanism. It is here shown as having a bearing in a bracket 7, attached to a standard 8 on the well-platform, and it is connected to a hand-lever 9, mounted to swing on the standard by means of links 10.

Attached to the lower end of the tubular pump-rod 6 is a valve-casing 11, with the lower

end of which an extension-tube 12 has screw-thread connection. The upper end of the tube 12 forms a seat 13 for the spool-like valve 14, the upper flange-like end 15 of which is provided with perforations 16 to permit of the upward flow of water. The valve-casing 11 is surrounded by a shell 17, which is water-tight. Mounted on the extension-tube 12 are the suction devices, consisting of leather cups 18, held and clamped on the extension by means of clamping-rings 19. The valve and suction devices operate in a tube 20, the upper end of which is removably connected to a pipe-section 21 and through which the pump-rod passes, and on this pipe-section 21 are secured springs 22, which engage with the inner surface of the casing 5 and serve to center the parts and also to hold the parts yieldingly in place. As here shown, the upper ends of these springs are bolted to a collar 23 on the pipe-section 21, and the lower ends are bolted to a collar 24, also secured to said pipe-section. Secured to the pipe-section 21 by means of a coupling 25 is a dog-carrying section 26. The dogs carried by the section 26 consist of upwardly-extended spring-rods 27, the upper ends of which are turned outward at 31 to form hooks to engage against the inner surface of the casing 5 and to serve another purpose, as will be hereinafter described.

The rods 27 are secured to the section 26 by means of a ring 28 near the upper end of the section and a collar 29 near the lower end, secured by set-bolts 30. The hook ends 31 of the rods 27 are designed to be engaged by a ring 32, attached to arms 33, depending from a lifting-sleeve 34, which of course surrounds the pump-rod, and has removably engaged with its upper end a cap 35, having an opening through which the pump-rod may loosely slide.

In the operation when the pump is to be inserted in the casing the parts are to be lowered or pushed downward by forcing downward the pump-rod 6, to which new sections may be connected to get the required depth. After the pump is placed at the desired position a tubular striker 36 is to be lowered around the pump-rod. This tubular striker is provided with a bail 37, from which a rope



38 extends upward to be grasped by the operator. By raising the striker a few times and permitting it to drop on the cap 35 the part carrying the ring 32 will be forced downward, causing the hook ends of the rods 27 to swing inward and pass through the inner side of the ring. The parts will then remain substantially in the position indicated in Fig. 9. Of course after placing the parts the striker 36 is to be removed. When it is desired to remove the pump for the purpose of repairs, an upward drawing movement of the pump-rod after disconnecting it from its actuating devices will engage one of its joint-collars 39 against the inner side of the cap 35. Then by a continued upward movement the ring-carrying device will be moved upward until the hooks 31 engage with said ring, as indicated in Fig. 11, after which the whole pump mechanism may be readily raised in the well-casing. If by chance the pump should be forced too far down by the operation of the striker, it may be readily drawn up to proper position through the medium of the pump-rod.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with a pump-casing and a pump-rod operating therein, of spring-rods attached to said casing and having hook upper ends, and a device movable along the pump-rod and adapted to engage with said hook ends.

2. The combination with a pump-casing and a pump-rod therein, of spring-rods connected to the casing and having hook upper ends, a sleeve movable along the pump-rod, and a ring carried by said sleeve for engaging said hook ends.

3. A well-casing, a tubular pump-rod operating in the casing, a valve mechanism carried on the lower end of said rod, a fixed tube in which the valve mechanism operates, a spring-carrier section attached to said tube and surrounding the rod, springs attached to said section and engaging against the inner surface of the well-casing, a lifting-rod-carrying section surrounding the pump-rod, spring-yielding rods on said rod-section and having hook upper ends, a sleeve movable relatively to the pump-rod, and a ring carried by said sleeve for engaging with said rods.

4. A pump-casing, a tubular rod for operating therein, a valve mechanism carried by said rod, a tube in which the valve mechanism

operates, a draw-rod section having connection with said tube, spring draw-rods extended upward from said section and having hooked upper ends, a ring-carrying sleeve movable relatively to the tubular rod, a ring depending from said sleeve and adapted to engage around the outer sides of said spring draw-rod, and a movable cap on said sleeve having an opening through the top through which the pump-rod may slide.

5. A pump-casing, a tubular rod for operating therein, a valve mechanism carried by said rod, a tube in which the valve mechanism operates, a draw-rod section having connection with said tube, spring draw-rods extended upward from said section and having hooked upper ends, a ring-carrying sleeve movable relatively to the tubular rod, a ring depending from said sleeve and adapted to engage around the outer sides of said spring draw-rod, a movable cap on said sleeve having an opening through the top through which the pump-rod may slide, and a collar on said pump-rod for engaging against the inner side of said cap.

6. In a pump, a well-casing, a tubular pump-rod operating in the casing, a valve mechanism carried by the lower end of said rod, a tube in which the valve mechanism operates, a spring-carrying section extended from said tube, springs attached to said section and engaging yieldingly against the inner surface of the casing, a draw-rod section extended from the spring-carrying section, spring-yielding draw-rods on said section and having hooked ends, a sleeve movable relatively to the pump-rod, a ring carried by said sleeve for engaging with said draw-rods, a tubular striker for engaging the upper end of said sleeve, and means for connecting a rope to said striker.

7. The combination with a pump-casing and a pump-rod therein, of spring-rods secured to the casing and having hook upper ends, a sleeve movable along the pump-rod, a ring carried by said sleeve, and a striker adapted to be lowered around the pump-rod and to force said ring into engagement with said hook ends.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PETER JEROME LEITHAUSER.

Witnesses:

W. B. WARE,  
H. B. WHITE.