

No. 672,537.

Patented Apr. 23, 1901.

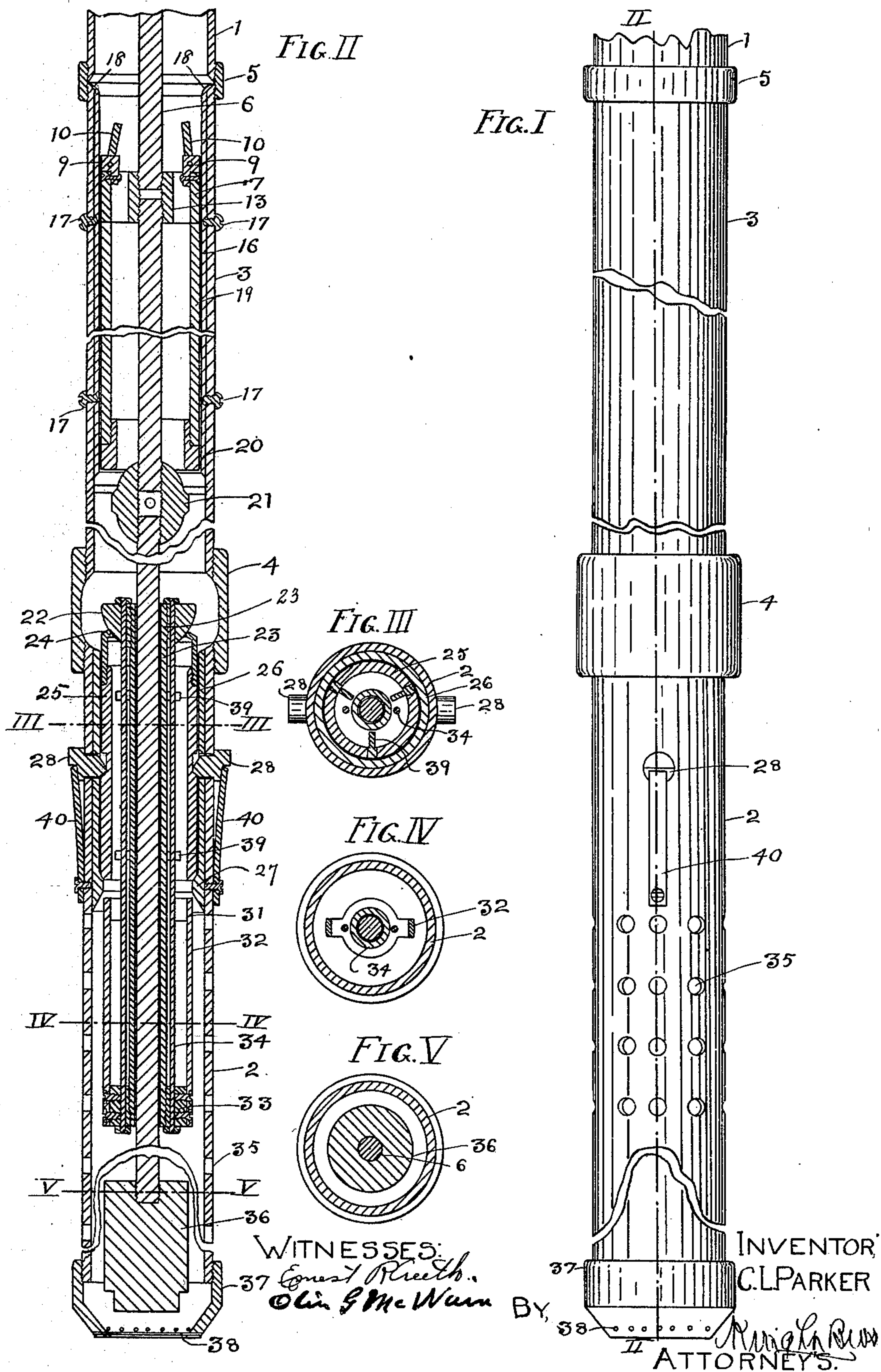
C. L. PARKER.

PUMP.

(Application filed July 3, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

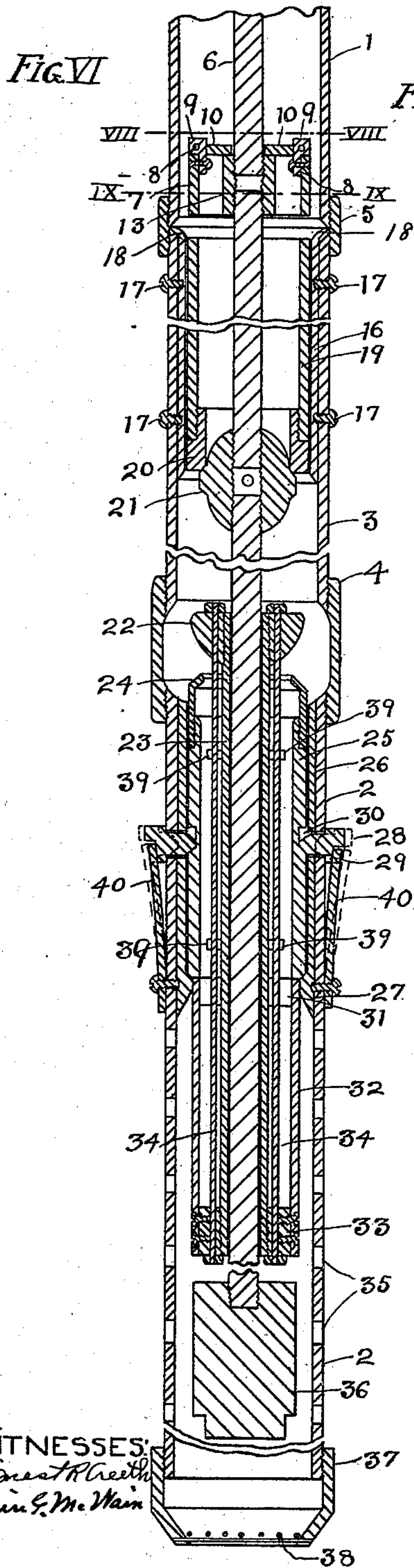


FIG. VII

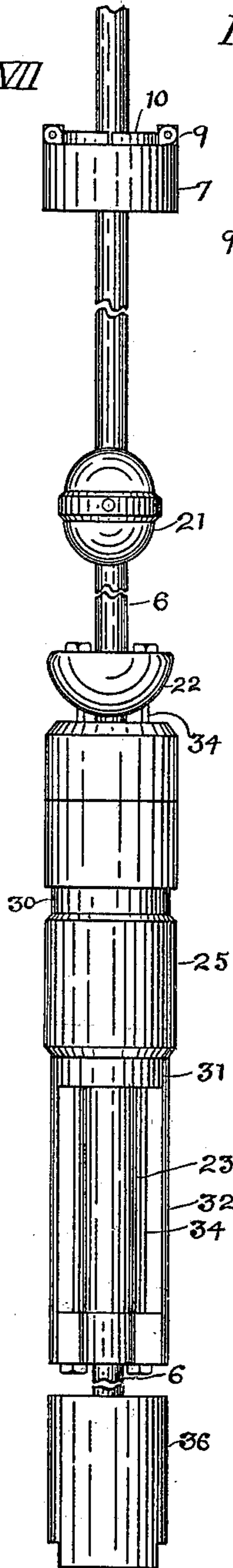


FIG. VIII

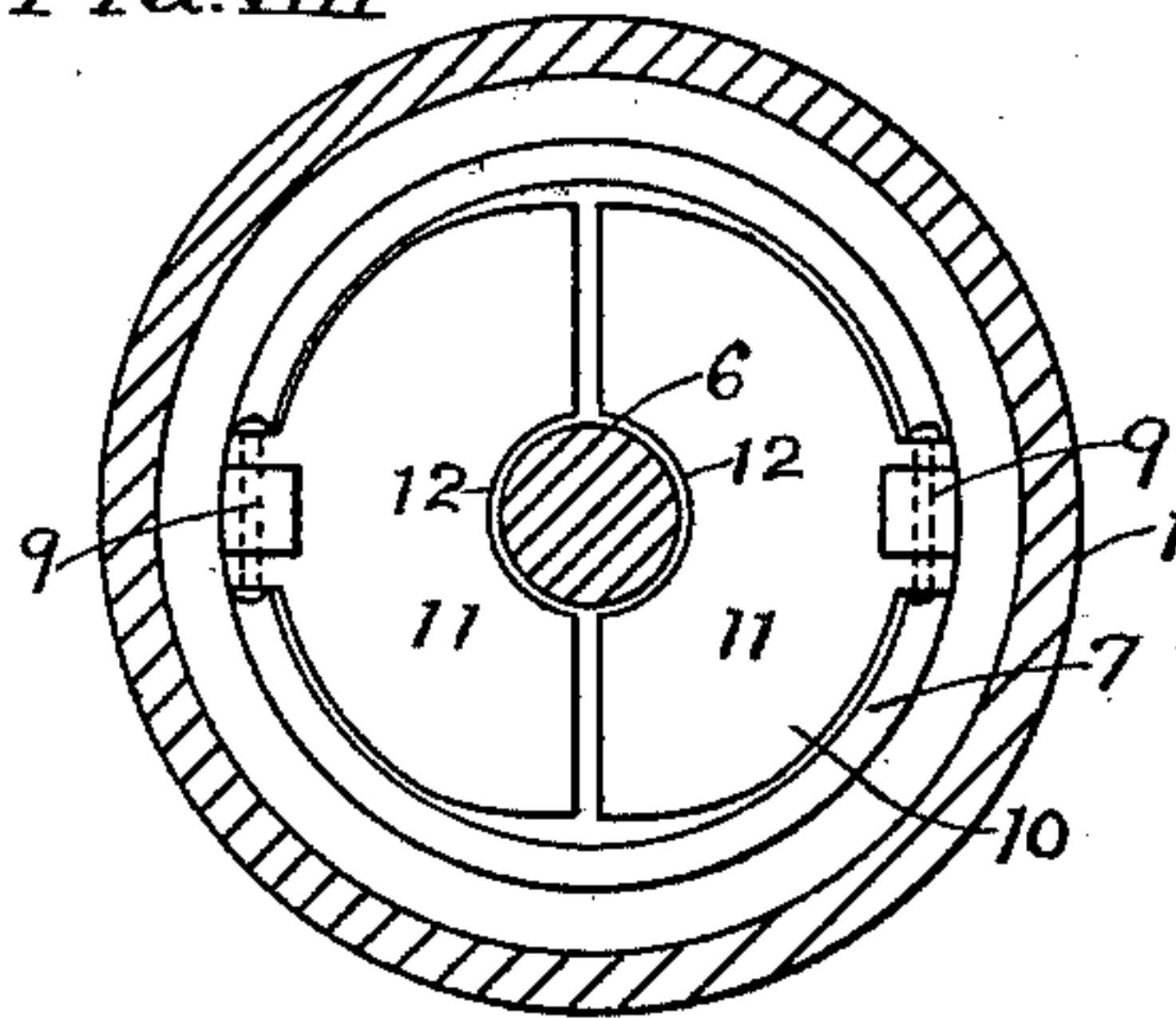
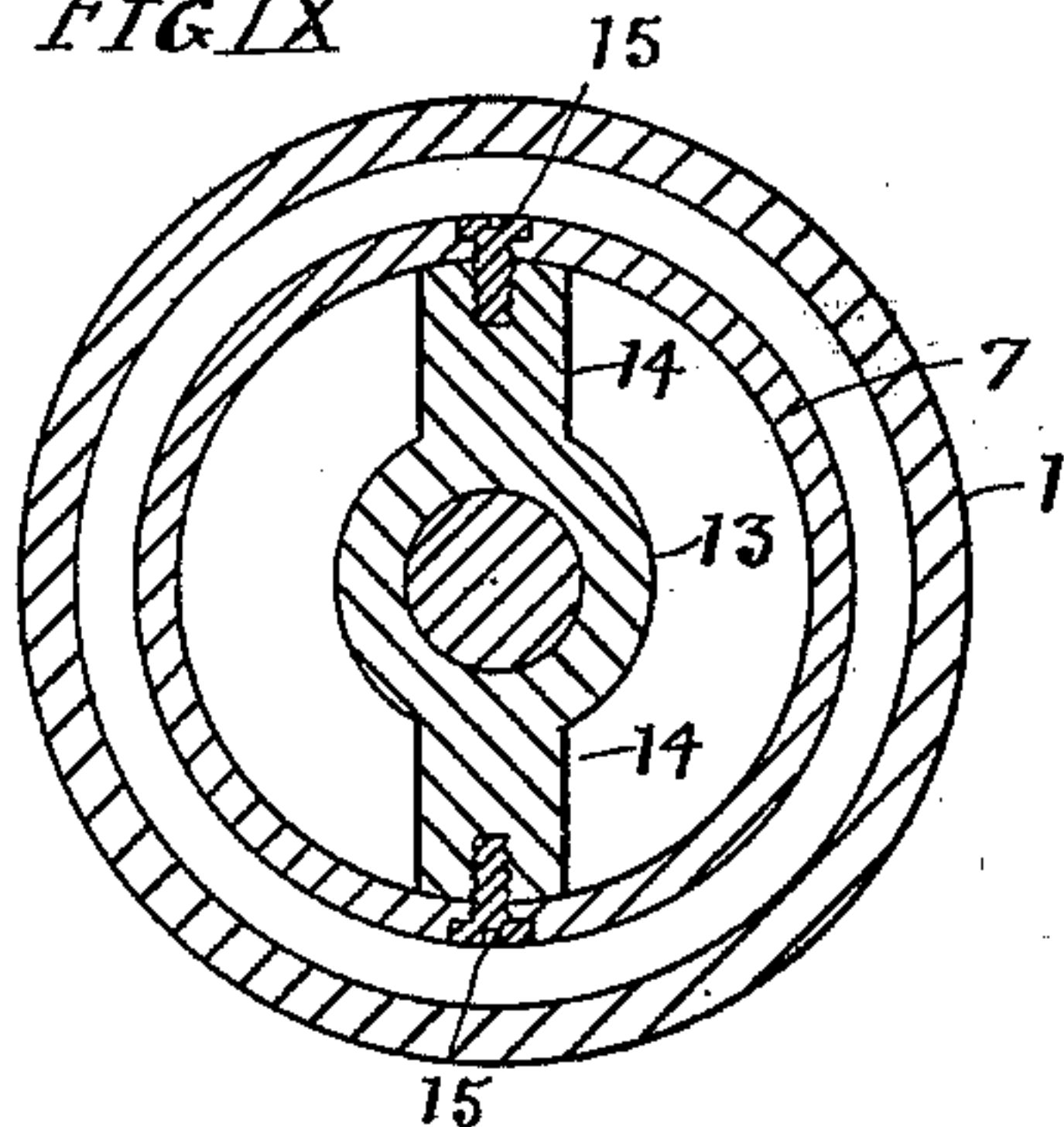


FIG. IX



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UNITED STATES PATENT OFFICE.

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PUMP.

SPECIFICATION forming part of Letters Patent No. 672,537, dated April 23, 1901.

Application filed July 3, 1900. Serial No. 22,427. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE L. PARKER, a citizen of the United States, with post-office address and residence at 643 North Main street, city of Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Pumps, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to certain new and useful improvements in pumps intended more especially for pumping crude oil, but which may be used generally for pumping liquids, and I do not desire to confine myself to its use as an "oil-pump," but for the purpose of brevity and convenience will refer to that term in the specification; and my invention consists in certain features of novelty hereinafter described and claimed.

Figure I is a side elevation of the exterior of my improved pump. Fig. II is a longitudinal section taken on line II II, Fig. I, showing double hinged valve and the plunger-valve open. Fig. III is a transverse section taken on line III III, Fig. II. Fig. IV is a transverse section taken on line IV IV, Fig. II. Fig. V is a transverse section taken on line V V, Fig. II. Fig. VI is a longitudinal section showing the double hinged valve and plunger-valve closed. Fig. VII is a side elevation showing the interior operating devices of the pump. Fig. VIII is a transverse section, enlarged, taken on line VIII VIII, Fig. VI. Fig. IX is a transverse section taken on line IX IX, Fig. VI.

Referring to the drawings, 1 and 2 represent sections of the outer casing with the interposed barrel 3, the lower end of the barrel being connected with the section 2 of the casing by means of a screw-threaded coupling-ring 4, the upper end of the barrel being connected with the section 1 of the casing by means of a screw-threaded coupling-ring 5.

6 represents the pump rod or shaft formed into convenient sections and having adjustable means for coupling the sections together.

7 represents a valve-supporting ring and pump-rod coupling for lifting the column of liquid above the plunger, having lugs 8 on

its upper edge, to which is pivoted at 9 a double valve 10. The plates 11 of the double valve are recessed, as shown at 12, in order to embrace the pump-rod 6 and are adapted to rise and fall during the process of pumping.

13 represents a hub connecting two sections of the rod 6, which are screw-threaded therein, said hub being connected by arms 14 to the valve-ring 7 either by screws 15 or any other well-known means, the hub 13, together with the ring 7, serving as a seat for said double or hinged valve.

16 represents a bushing placed within the barrel 3. Said bushing may be attached to the barrel by means of screws 17 or may be pressed in, if found desirable. The upper end of the bushing 16 is provided with a tapering flange 18, that overlaps the upper end of the barrel 3.

19 represents the plunger, having a valve-seat 20 secured to its lower end.

21 represents an oval valve adapted to close against the seat 20 and is screw-threaded to form a coupling for sections of the pump-rod, said valve 21 being adapted to raise the plunger on the upper stroke of the pump-rod, the plunger being depressed by the valve-ring 7 when the pump-rod makes its downward stroke.

22 represents a valve which is screwed fast to the upper end of the hollow bushing or tube 23, said valve closing against the seat 24, said seat being in the form of a frustum of a hollow cone and being located on the upper end of a cylinder 25, said parts being known as the "standing valve."

26 represents a bushing surrounding the cylinder 25 and having a boss or inwardly-projecting enlargement 27 at its lower end. The cylinder coming in contact with said boss its downward movement is arrested.

28 represents a catch extending through orifices 29 in the casing and bushing and extending into an annular recess 30 in the cylinder 25, the catch thus holding the standing valve from withdrawal.

31 represents a ring or stop having legs 32, said legs being connected at their lower end to a ring 33 and also to the bushing 23, surrounding the pump-rod. Said stop coming in contact with the lower end of the standing-

valve cylinder limits the upward movement of said valve, the valve and stop being connected to each other by means of rods 34.

35 represents perforations in section 2 of the casing for the inward flow of the oil.

36 represents an agitating-block secured to the lower end of the pump-rod.

37 represents a cap on the lower end of the casing, which is provided with perforations 38 for the flow of oil.

39 represents guide-wings for guiding the bushing or tube 23.

40 represents springs for holding the catches 28 in position.

15 I claim as my invention—

1. In a pump, the combination of a casing, a pump-rod, a plunger, a valve-supporting ring, a hub on the valve-ring, means for connecting the hub with sections of the pump-rod carrying a plunger-valve and a double plate-valve hinged to the valve-ring, substantially as set forth.

2. In a pump, the combination of a casing, a pump-rod carrying a plunger-valve, a plunger, a valve-supporting ring, valve-plates hinged to each side of the ring and being recessed to embrace the pump-rod and a hub on the valve-ring for securing the valve to the pump-rod, substantially as set forth.

3. In a pump, the combination of a casing, a pump-rod carrying a plunger-valve, a plunger, a valve-supporting ring, a screw-threaded hub on the valve-ring, lugs on the valve-ring and a valve formed of flat plates hinged to said lugs and being recessed to embrace the pump-rod, substantially as set forth.

4. In a pump the combination of a casing,

a pump-rod, a plunger, a valve-seat on the lower end of the plunger, a valve on the pump-rod adapted to close against said seat and a valve-supporting ring having a double hinged valve, secured to the pump-rod, and adapted to depress the plunger, substantially as set forth.

5. In a pump, the combination of a casing, a standing valve consisting of an annular tube having a valve-seat in the form of a frustum of a hollow cone, a valve adapted to close against said seat, a tube surrounding the pump-rod and to which said valve is connected and a valve-stop connected with the valve, substantially as set forth.

6. In a pump, the combination of a casing, a pump-rod, a standing-valve cylinder with a valve-seat on its upper end, a valve adapted to close against said seat, a bushing between the cylinder and casing, a boss on the lower end of the bushing extending inwardly and spring-catches for holding the standing valve and cylinder, substantially as set forth.

7. In a pump, the combination of a casing, a pump-rod, an agitator on the lower end of the pump-rod, a standing-valve cylinder, a tube surrounding the pump-rod, a valve adapted to close against the standing-valve cylinder, a stop adapted to come in contact with the standing-valve cylinder and rods for connecting the stop with the valve proper, substantially as set forth.

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