

No. 632,428.

Patented Sept. 5, 1899.

J. B. POORE.

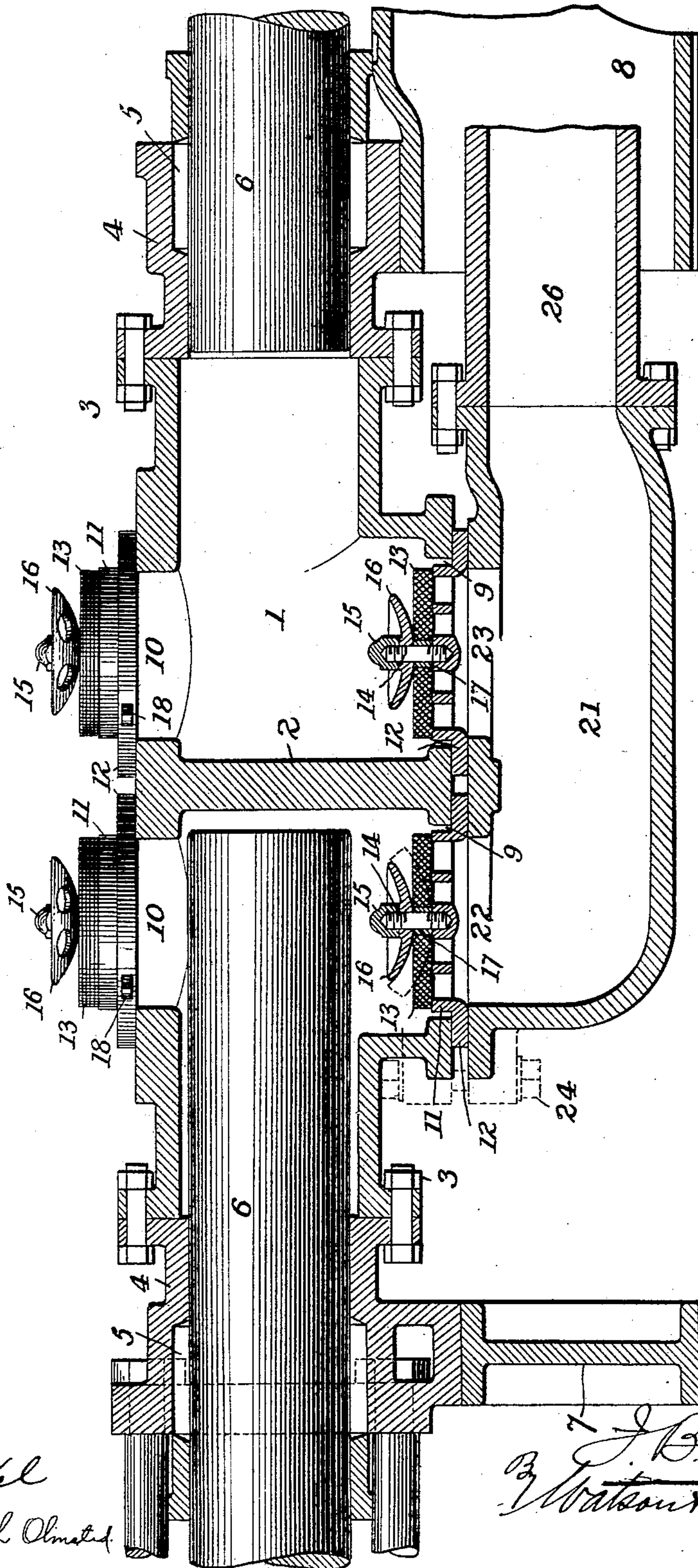
PUMP.

(Application filed Nov. 23, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



Witnesses

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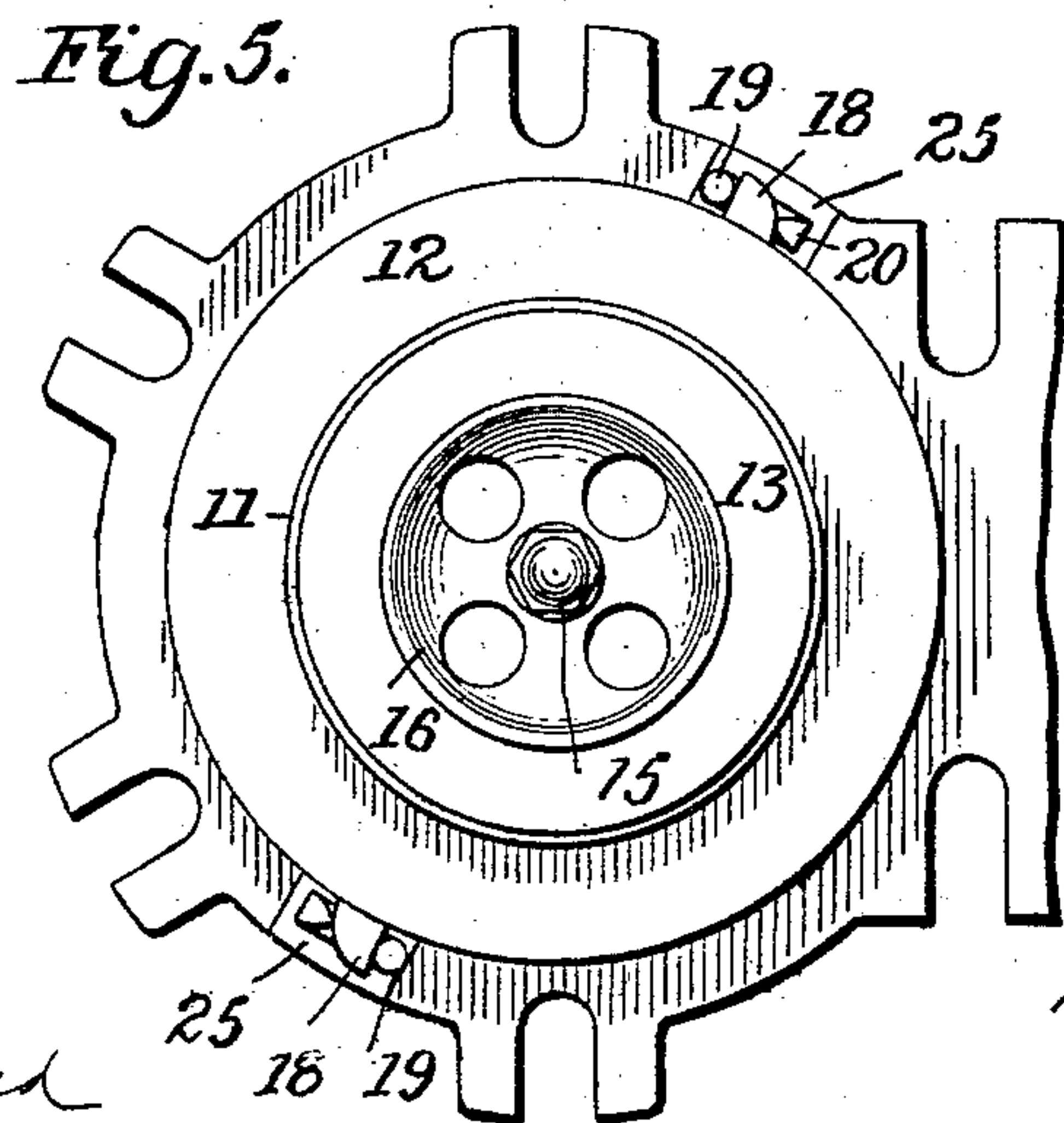
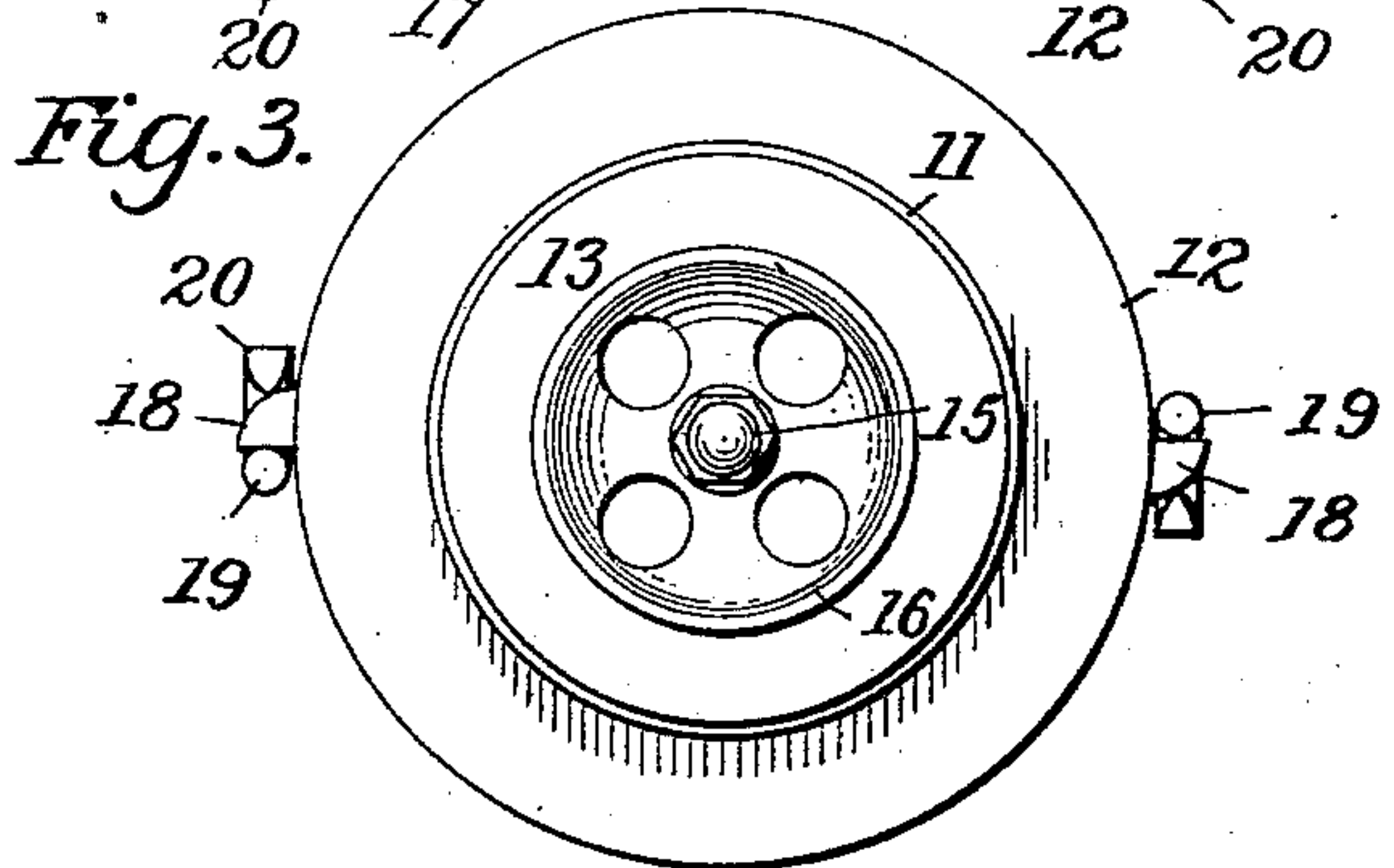
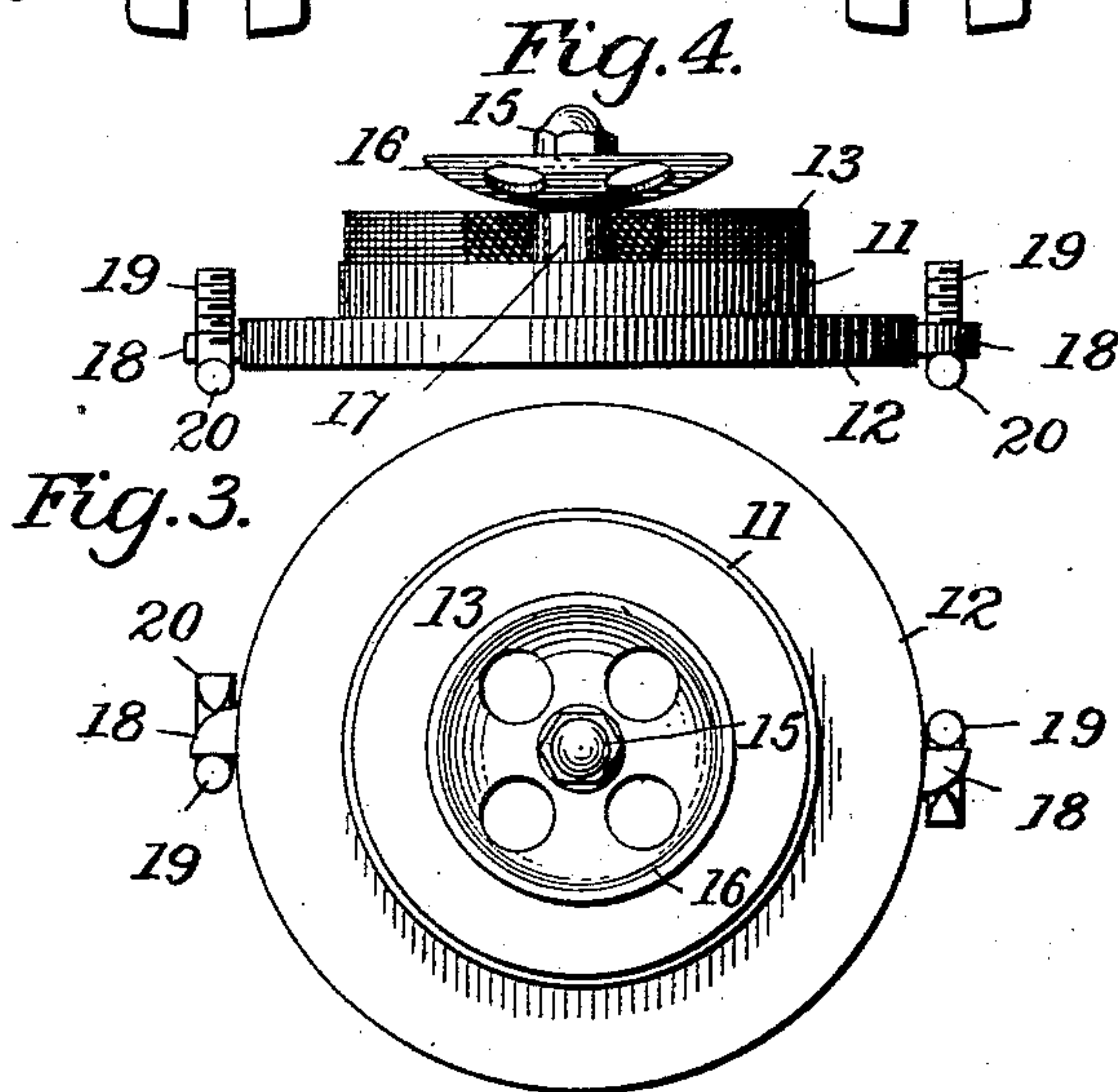
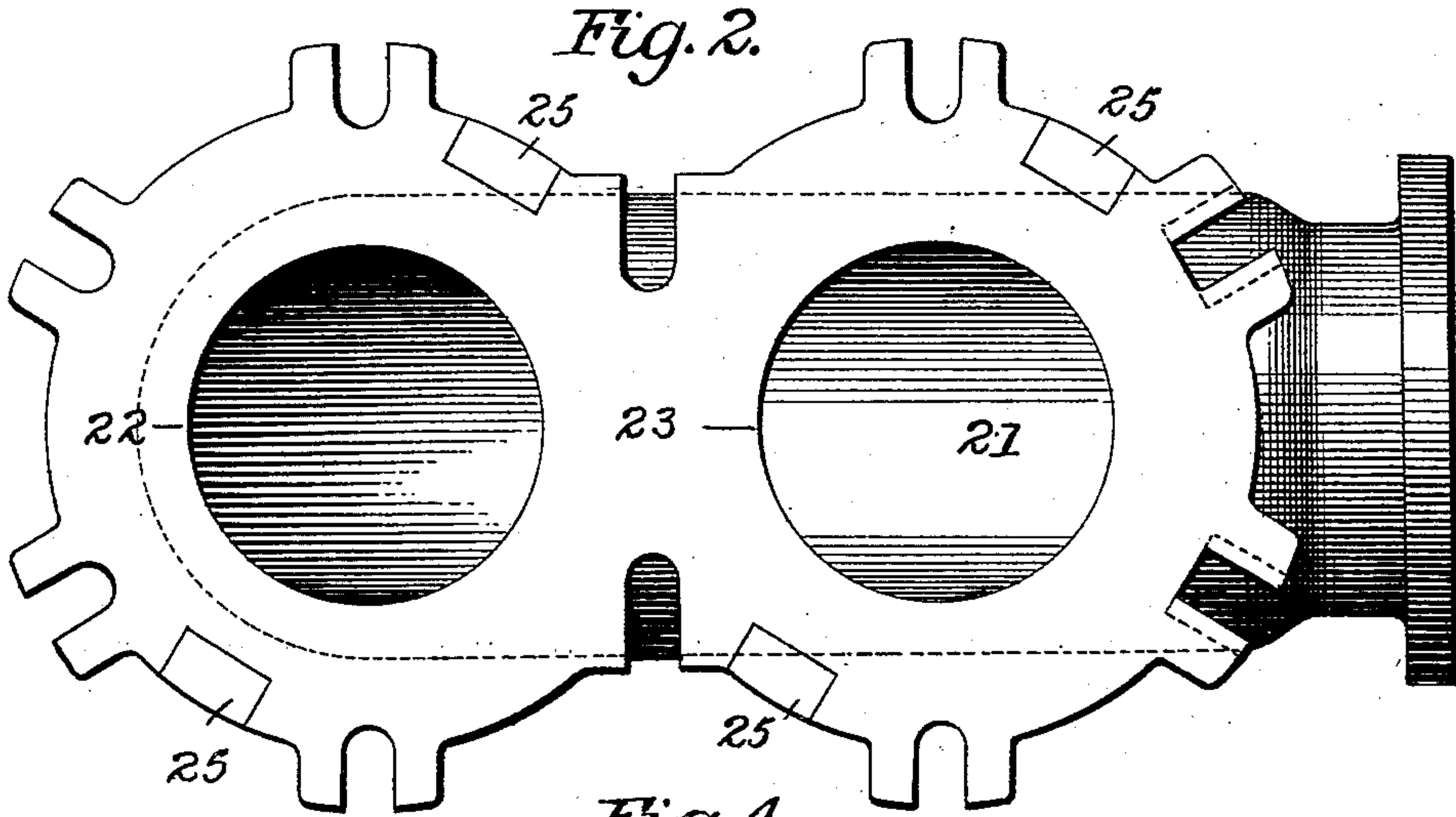
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

JOHN BENTLEY POORE, OF SCRANTON, PENNSYLVANIA.

PUMP.

SPECIFICATION forming part of Letters Patent No. 632,428, dated September 5, 1899.

Application filed November 23, 1898. Serial No. 697,276. (No model.)

To all whom it may concern:

Be it known that I, JOHN BENTLEY POORE, a citizen of the United States, residing at Scranton, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Pumps, of which the following is a specification.

The object of my invention is to provide a pump in which the distance between the water-barrel and the floor-line is reduced to a minimum, the arrangement being such that the suction-chamber and valves may be removed or replaced without disturbing the balance of the pump and in which the water-barrel may also be conveniently removed without disarranging or removing other parts of the pump.

Other detailed improvements are described in the following specification.

In the accompanying drawings, Figure 1 is a longitudinal section through the water-barrel of the pump and the suction-chamber. Fig. 2 is a top plan view of the suction-chamber. Fig. 3 is a similar view of one of the valves. Fig. 4 is a side view of one of the valves, partly broken away, showing the valve-bushing. Fig. 5 is a plan view showing a valve applied to the suction-chamber.

Referring to the drawings, 1 indicates the water-barrel of a double-cylinder pump having a central partition 2. The water-barrel is connected at either end by bolts 3 or other suitable means to the casing 4, containing the stuffing-boxes 5, which surround the solid piston 6. The stuffing-boxes are supported by feet 7 and 8. The pistons work into and out of the chambers of the water-barrel alternately, and the water is drawn in through openings 9 at the bottom and forced out through openings 10 at the top, valves being arranged across the openings. As shown in the drawings, the valve which I employ consists of a grated circular valve-seat 11, having a flange 12, and a flexible disk 13, which is secured at its center to the center of the grating by means of a threaded stem 14 and a nut 15, having a concave washer 16. In order to prevent wear of the valve-stem, I provide a renewable bushing 17, which is interposed between the stem and the disk. When the disk or the bushing wears, a larger bushing may be substituted. The valves in the upper

openings 10 may be secured in any suitable manner. The lower valves are held within the openings by means of lugs 18, formed upon the periphery of the flange 12 at diametrically opposite points, and depending supports 19, which are secured to the walls of the opening in the water-barrel. These supports, as shown, are bent so as to have horizontal portions 20, upon which the lugs 18 rest. The valve is placed in position by inserting it through the opening until its flange bears against the wall of the opening and then turning the valve until the lugs or shoulders rest upon the supports. By this means the valves may be held in position until the suction-chamber 21 is placed in position. As shown, the suction-chamber is provided with openings 22 and 23, corresponding to the lower openings in the water-barrel, and it is adapted to be secured to the water-barrel by bolts 24, the flanges 12 of the valves being thereby gripped tightly between the suction-chamber and the water-barrel. The upper surface of the suction-chamber is formed with depressions 25 at the proper points, so as not to interfere with the supports 19, which project below the flanges of the valves. The suction-pipe 26 is coupled to the end of the suction-chamber, said pipe extending through the foot 8, which is made hollow for that purpose.

By the arrangement above described the suction-chamber and the valves may be removed or replaced without disturbing the balance of the pump and the distance between the pump-barrel and the floor-line may be kept down to a minimum. In order to remove the suction-chamber, it is merely necessary to loosen the bolts 24, when the chamber may be lowered to the floor-line and removed. By turning the valves slightly they may then be removed from their supports. The parts may as readily be replaced. It will also be noticed that after the suction-chamber has been removed the water-barrel may be taken bodily from the pump without disturbing the stuffing-boxes or the rest of the pump. For this purpose it is merely necessary to withdraw the pistons from the water-chambers and remove the bolts 3.

By providing a support for each of the stuffing-boxes and supporting the water-barrel

from said stuffing-boxes it will be seen that I am enabled to employ relatively light supports 7 8. This arrangement permits the suction-chamber to be arranged below the water-barrel and in such manner as to be readily removed, as above described. Also the water-barrel may be removed without disturbing the stuffing-boxes and pistons therein, if desired.

10 Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a pump, the combination with the water-barrel having an inlet-opening in its lower side and a suction-chamber beneath said barrel and removably secured thereto, of a valve within the opening and having a seat adapted to be clamped between said barrel and chamber, and supports for holding said valve in place when the chamber is removed.

2. In a pump the combination with a horizontally-arranged water-barrel having two chambers, and pistons adapted to operate through the opposite ends of said barrel, of an inlet-opening in the lower side of each chamber, a suction-chamber beneath said opening and removably secured to said barrel, a valve in each opening having a flanged seat adapted to be clamped between the suction-chamber and the barrel, and supports for holding the valves within the openings when the chamber is removed.

3. In a pump, the combination of two stuffing-boxes, a support for each of said boxes, a water-barrel arranged between and supported by the stuffing-boxes, and two pistons, one arranged in each of the stuffing-boxes and adapted to operate in the water-barrel between said boxes, substantially as set forth.

4. In a pump, the combination of a water-barrel having its interior divided into two compartments and having in the lower side of each compartment an inlet-opening, a suction-chamber arranged beneath said inlet-openings, and detachably connected to the water-barrel, two stuffing-boxes, secured to and communicating with the water-barrel, and a support for each of said boxes, said supports being arranged on opposite sides of the suction-chamber.

5. In a pump, the combination of a water-barrel having an inlet-opening in its lower side, a suction-chamber arranged beneath said inlet-opening and detachably connected to the water-barrel, supports for the pump arranged on opposite sides of the suction-chamber, and a suction-pipe connected with the suction-chamber and extending through one of said supports.

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

JOHN BENTLEY POORE.

Witnesses:

G. W. KEAR,

H. P. HITCHCOCK.