

No. 701,607.

Patented June 3, 1902.

J. W. PARK.

CHECK VALVE FOR PUMP CYLINDERS.

(Application filed June 26, 1901.)

(No Model.)

Fig. 1.

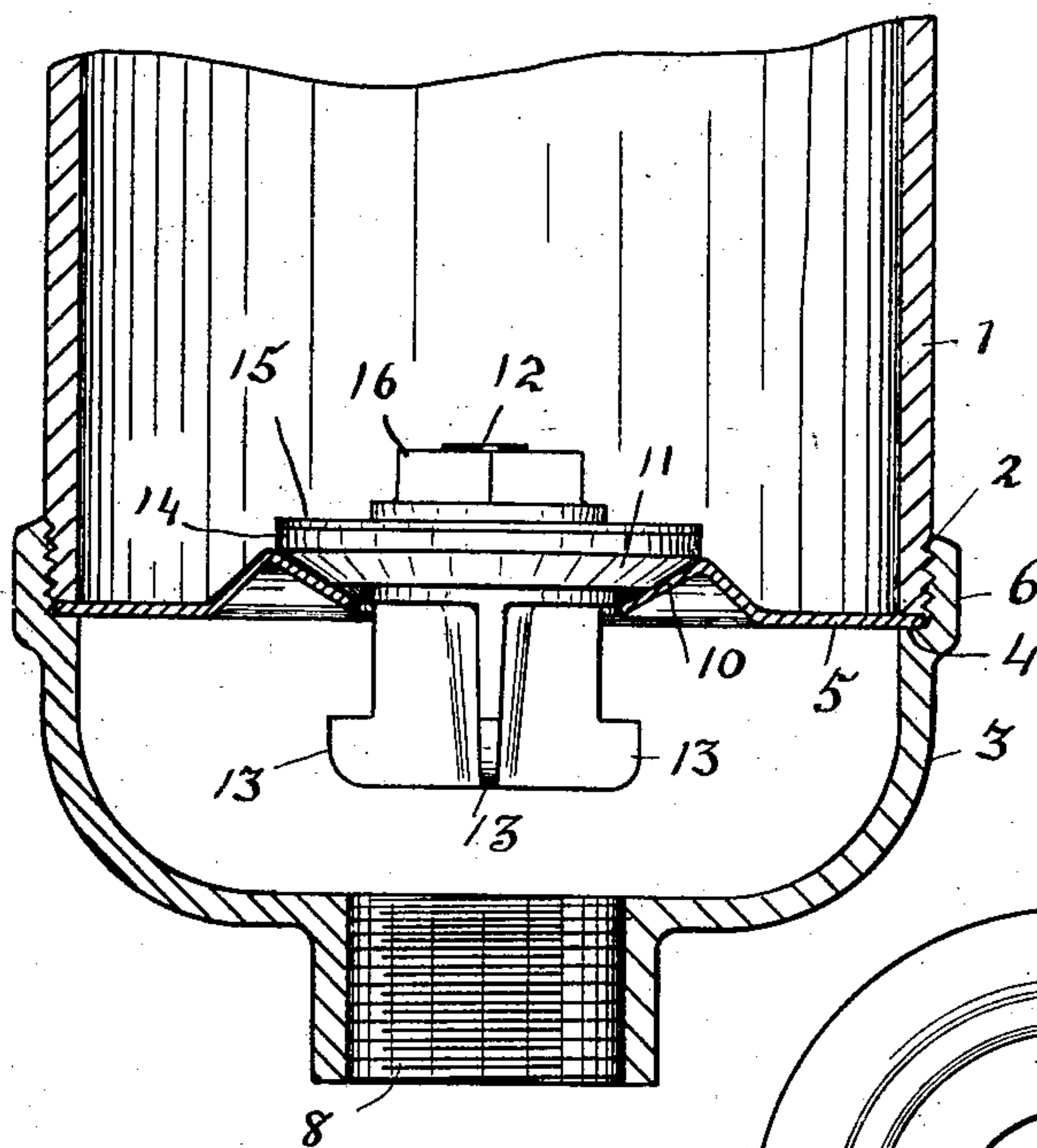


Fig. 2.

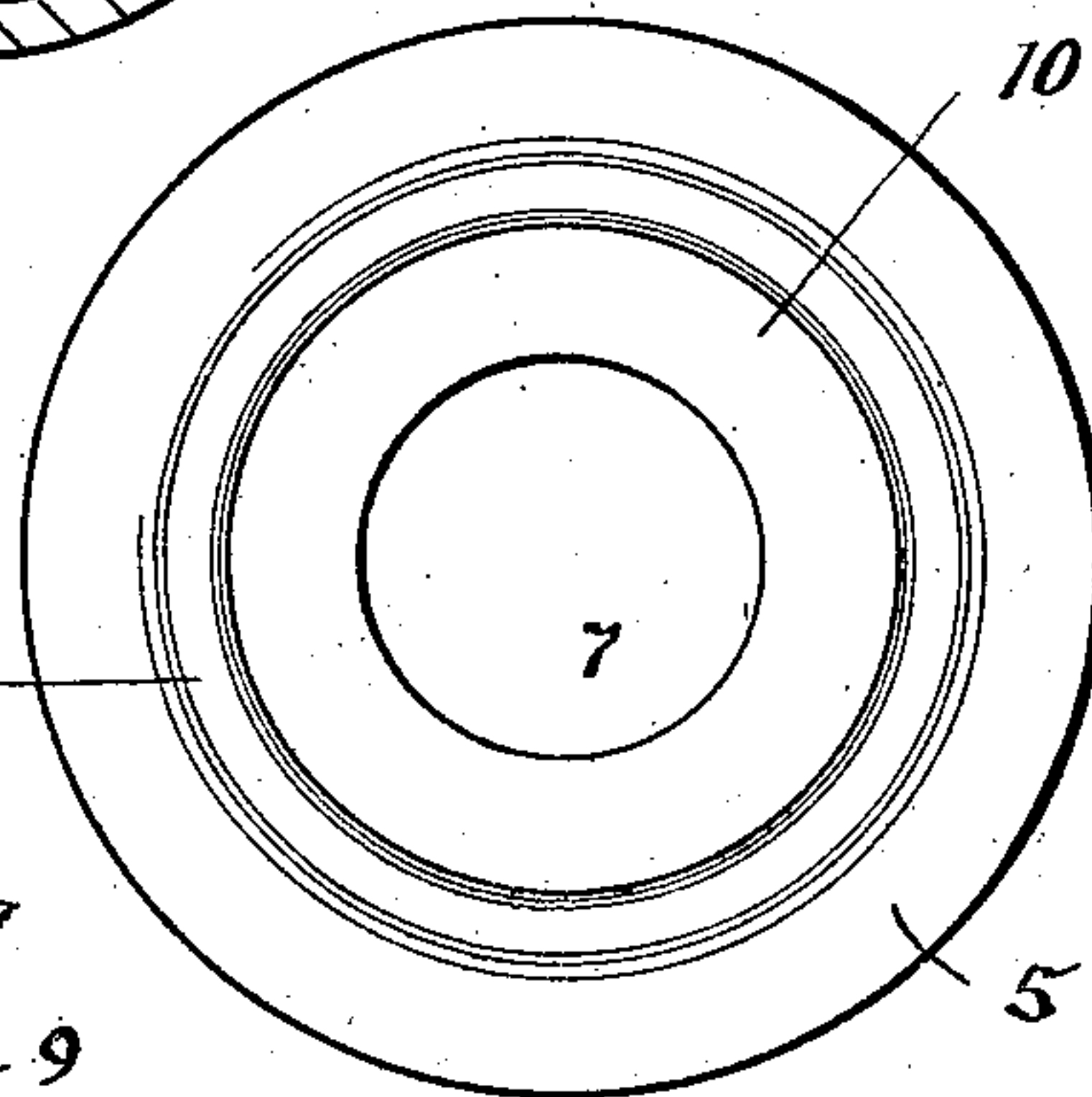
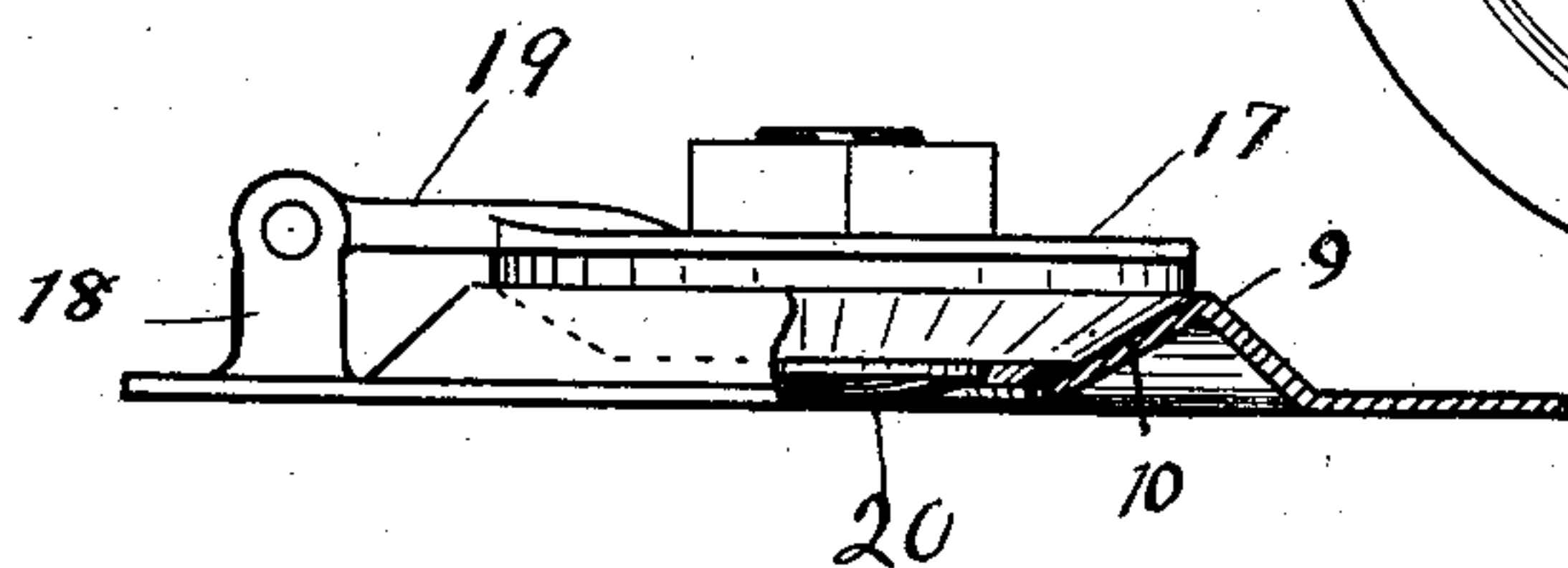


Fig. 3.



WITNESSES:

W. G. Burns
Augusta Viberg

John W. Park INVENTOR

BY *Chapin & Denny*
HIS ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN W. PARK, OF KENDALLVILLE, INDIANA.

CHECK-VALVE FOR PUMP-CYLINDERS.

SPECIFICATION forming part of Letters Patent No. 701,607, dated June 3, 1902.

Application filed June 26, 1901. Serial No. 66,053. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. PARK, a citizen of the United States, residing at Kendallville, in the county of Noble, in the State of Indiana, have invented certain new and useful Improvements in Check-Valves for Pump-Cylinders; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in check-valves for pump-cylinders.

My invention consists of an improved check-valve of the puppet-valve type in which the valve-seat is made separate and independent of the valve-casing, whereby the valve-seat can readily be detached and renewed at pleasure.

The principal novel feature of my improvement resides in the construction and arrangement of the removable valve-seat.

Similar reference-numerals indicate like parts throughout the several views, in which—

Figure 1 is a vertical central section of a common form of valve-casing, broken away in part, with a common form of puppet-valve in position upon its improved removable seat. Fig. 2 is a detail plan of my improved valve-seat, showing it as one piece of sheet metal. Fig. 3 is a detail showing the manner of mounting a common form of hinged valve upon my improved valve-seat.

Referring now to Fig. 1, the cylindrical valve-casing 1, of common form and any proper dimensions, has its open lower end externally screw-threaded, as shown at 2. The open lower end of the said cylinder 1 is closed by a removable cap 3, adapted to support the annular plate 5, which forms the valve-seat. The upper end of the said cylinder 1 is closed by a similar or other proper cap, (not shown,) but of well understood construction. The cap 3 has an upright flange 6, which is internally screw-threaded to detachably engage the screw-threaded lower end of the cylinder 1 and has a proper inlet-opening 8 at its lower end. The circular plate 5 is designed to be stamped from a single piece of sheet metal, has a central opening 7 of proper size to ad-

mit the valve, and is provided with a concentric raised bead 9, whose inner inclined face 10 forms the valve-seat. It will be observed, however, that the bead 9 is of inverted-V shape in cross-section, and the face 10 thereof is thus braced by the outer inclined face and is always maintained in such relation to the valve, to be presently described, as will insure a wedging action between the valve and its seat when the valve closes, so that the closing of the opening 7 to maintain the water in the cylinder 1 is positively insured. The plate 5 is first placed in position on the annular shoulder 4, after which the barrel or cylinder 1 is screwed down onto said plate, as shown in Fig. 1, thereby rigidly securing the said plate in position under all conditions of service.

As shown in Fig. 1, the puppet-valve 11 has its vertical guide-stem 12 provided with a plurality of radial wings having on their lower ends limiting lateral lugs 13, all of common form. On the upper end of the stem 12 is loosely mounted the rubber packing-plate 14, having an inclined face coinciding with the valve-seat 10, on which it rests. This rubber plate is rigidly secured in position by means of the brass binding-plate 15 and the threaded nut 16.

If it is desired to employ a hinged valve 17, Fig. 3, the only modification required in the plate 5 is the provision of a fixed upright lug 18, in the top of which is pivoted or hinged the outer end of the arm 19.

When a hinged valve is used, the stem 12 is of course omitted and the parts of the valve are firmly united by the bolt 20.

It is obvious that my improved valve-seat is not only cheaply made, as it can be stamped from a single piece of sheet metal, but that it can readily and conveniently be replaced by a new plate when the same becomes worn by use without the necessity of renewing the valve-cylinder.

Another obvious advantage of my improved construction is that no special skill is required to repair a defective pump-valve, and as these valve-seat plates can be kept and sold separately at any hardware store each pump owner can secure one and readily place it in position when needed without the assistance of a skilled operator.

The manner of employing my invention is obvious from the above description, and

What I desire to secure by Letters Patent is—

- 5 The combination with a pump-cylinder, and a cap detachably connected to its lower end, of a plate seated in said cap and held in engagement with the cylinder thereby, said plate being provided with a centrally-dis-
10 posed opening around which is formed a concentric raised bead the cross-sectional area of which is of inverted-V shape, whereby the inner face of said bead is inclined toward the center of the opening and forms a valve-seat,
15 and the outer face acts to brace the inner face and maintain the same inclined, a valve nor-

mally seated upon the inclined inner face of said bead, a yielding packing-plate carried by said valve and having an inclined face coinciding and coacting with the inclined inner 20 face of the bead, whereby said packing-plate exerts a wedging action upon the bead to insure the positive seating of the valve, and a binding-plate also carried by said valve for holding the yielding packing-plate thereon. 25

Signed by me at Kendallville, in the county of Noble and the State of Indiana, this 22d day of June, 1901.

JOHN W. PARK.

Witnesses:

A. B. YOUNG,
J. S. GILBERT.