

No. 780,195.

PATENTED JAN. 17, 1905.

C. KAMPMANN.

MOTOR FOR WASHING MACHINES OR SIMILAR DEVICES.

APPLICATION FILED MAY 27, 1904.

Fig. 1.

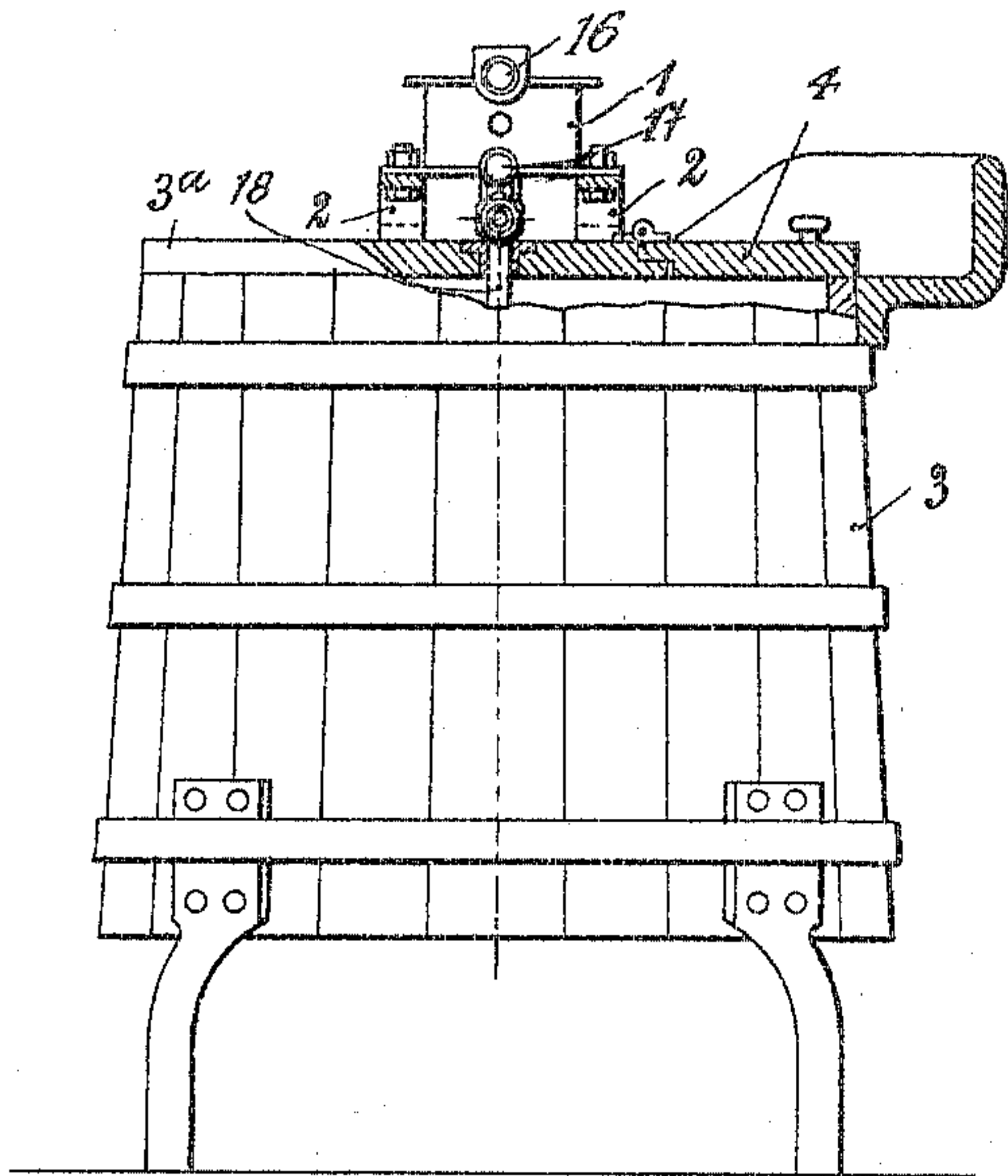


Fig. 2.

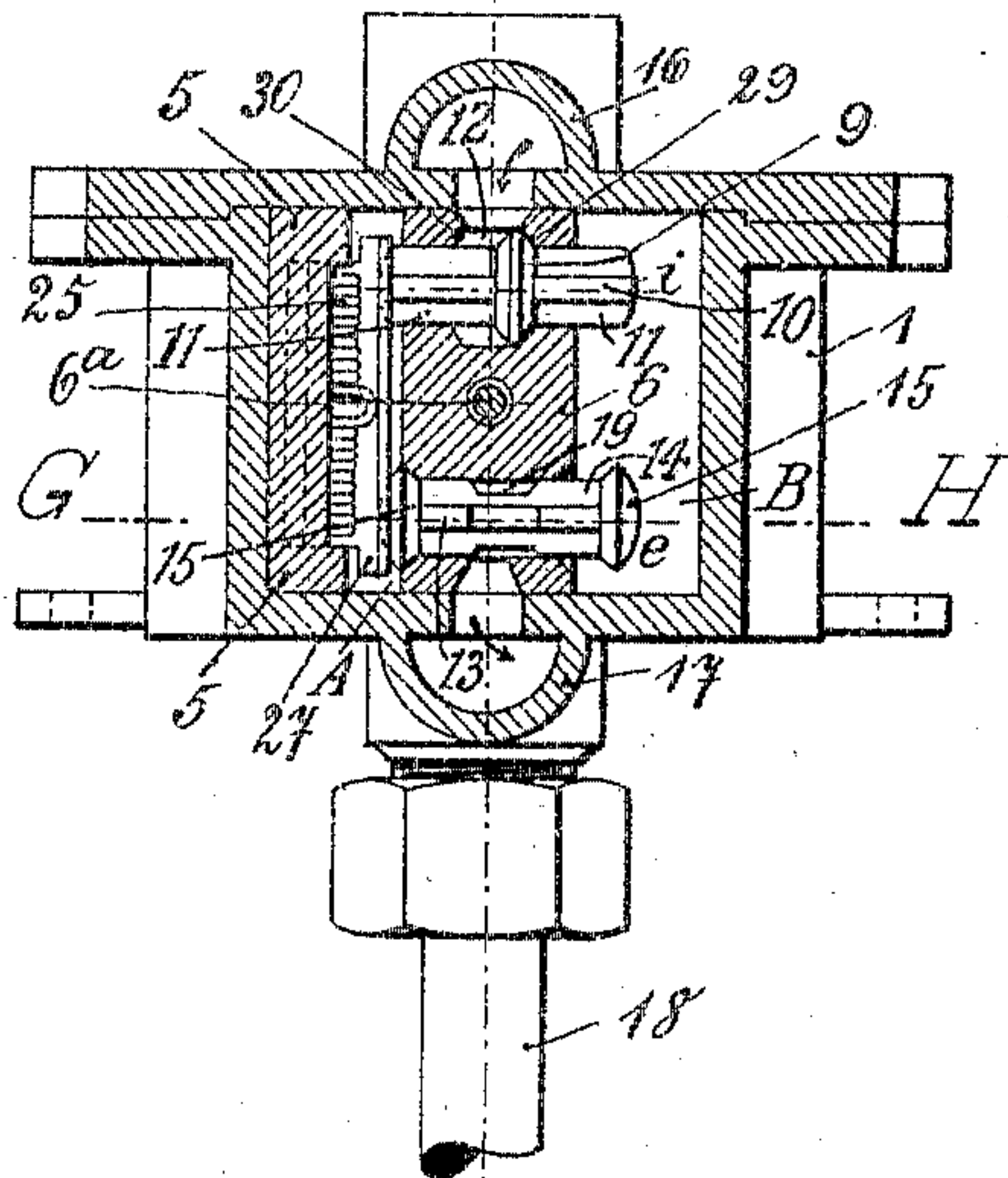


Fig. 3.

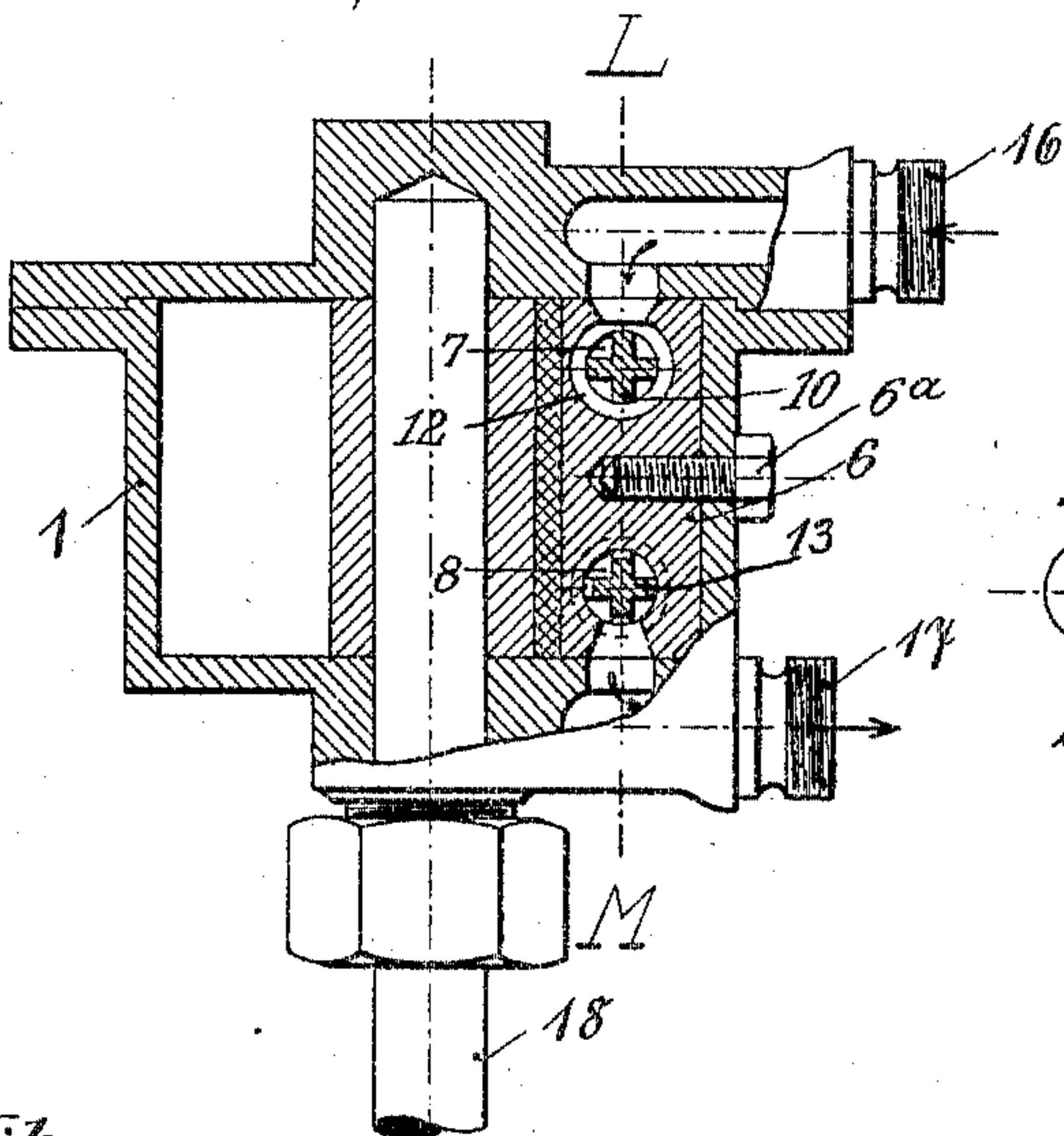
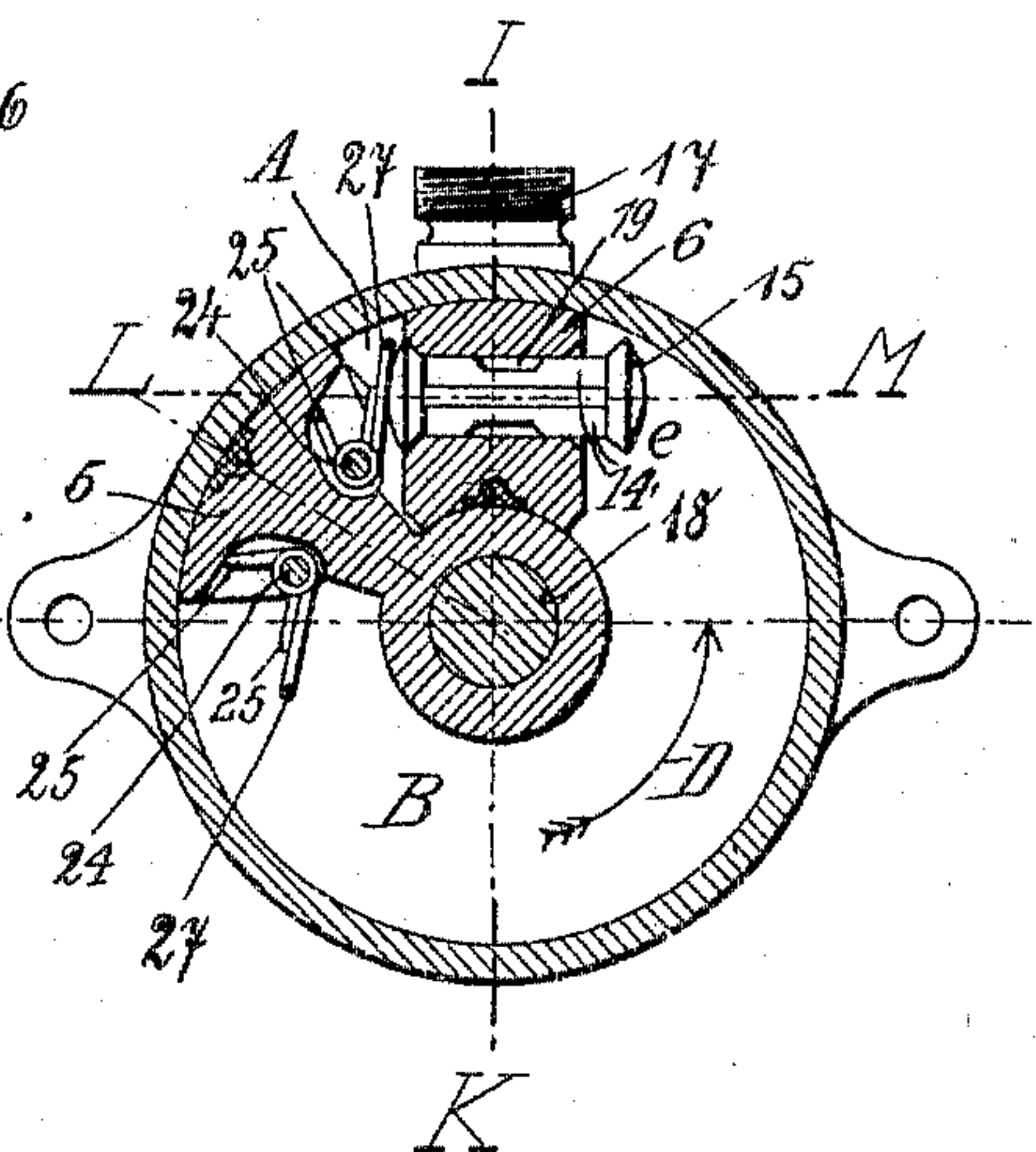


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

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MOTOR FOR WASHING-MACHINES OR SIMILAR DEVICES.

SPECIFICATION forming part of Letters Patent No. 780,195, dated January 17, 1905.

Application filed May 27, 1904. Serial No. 210,006.

To all whom it may concern:

Be it known that I, CARL KAMPMANN, a citizen of Germany, residing at Mülheim-on-the-Ruhr, Germany, have invented a new and Improved Motor for Washing-Machines or Similar Devices, of which the following is a specification.

This invention relates to a motor for washing-machines and similar devices by means of which an oscillating movement is imparted to the shaft carrying the stirring-blades. The motor is of simple construction, occupies but a small space, and does away with gearings between piston and stirrer-shaft.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of a washing-machine embodying my invention; Fig. 2, a vertical section through the motor on line L M, Figs. 3 and 4; Fig. 3, a vertical section on line I K, Fig. 4; and Fig. 4, a horizontal section on line G H, Fig. 2.

The numeral 1 represents the casing or cylinder of the motor, which is mounted upon posts 2, projecting upwardly from the cover 3^a of the washtub 3. This cover may be removable; but I prefer to affix it to the tub and to provide it with a hinged lid 4, through which the wash may be introduced. Through cylinder 1 projects a rock-shaft 18, that is extended into the tub 3 and carries the stirring-blades. (Not shown.) Within cylinder 1 there is mounted upon shaft 18 an oscillating piston 5, constructed as hereinafter described, while a radial partition 6 is secured within the cylinder by a screw 6^a. The partition 6 is provided with an upper perforation 7 and a lower perforation 8, adapted for the reception of the inlet-valve *i* and the exit-valve *e*, respectively. The inlet-valve consists of a disk 9, having coniform sides and a stem 10, provided with longitudinal grooves 11. The coniform sides of disk 9 are adapted to engage coniform seats 29 30 of a valve-chamber 12, formed by an enlargement of perforation 7 and communicating with inlet-pipe 16. The exit-valve *e* consists of a stem 13, having longitudinal grooves 14, and of a pair of valve-disks 15, formed on the ends of the stem.

The perforation 8 communicates with an exit-pipe 17. In order to permit a quick flow of the pressure medium, stem 13 may be recessed, as at 19.

The piston 5 is provided on each face with a pintle 24, on which turns a valve-shifter 27. This shifter is pressed outward by a spring 25, coiled around pintle 24.

The operation is as follows: The parts being in the position shown in Figs. 2 and 4 the pressure medium admitted through pipe 16 will flow through valve-chamber 12 into compartment A of the cylinder 1, so as to rotate the piston 5 in the direction of arrow D, Fig. 4. The liquid contained in compartment B of the cylinder will be discharged through the lower perforation 8 of partition 6 into exit-pipe 17. When piston 5 arrives at the end of its stroke, valve-shifter 27 will push valves *i* and *e* to the left, so as to admit the pressure medium into the compartment B of the cylinder and cause the return stroke of the piston. During the operation of the machine the inlet-valve is by the pressure medium held tight against its seat, so that considerable pressure is required before it can be opened. Consequently the springs 25 will be compressed to a degree sufficient to overcome the water-pressure, and hence the valves will be suddenly moved as soon as they are raised off their seat. By this strong and sudden action of the valves a full stroke of the valves is insured, so that a stoppage of the piston in an intermediate position is avoided and a reliable operation of the motor is insured.

What I claim is—

A motor for washing-machines and similar devices, composed of a cylinder, an inclosed oscillating piston, a spring-influenced valve-shifter hinged to the piston, and inlet and outlet valves controlled by the shifter, substantially as specified.

Signed by me at Dusseldorf, Germany, this 7th day of May, 1904.

CARL KAMPMANN.

Witnesses:

WILLIAM ESSENWEIN,
PETER LIEBER.