No. 665,687. Patented Jan. 8, 1901.

M. W. HIBBARD.

FLUID PRESSURE BRAKE.

(Application filed Aug. 1, 1900.)

(No Model.) 2 Sheets—Sheet 1.

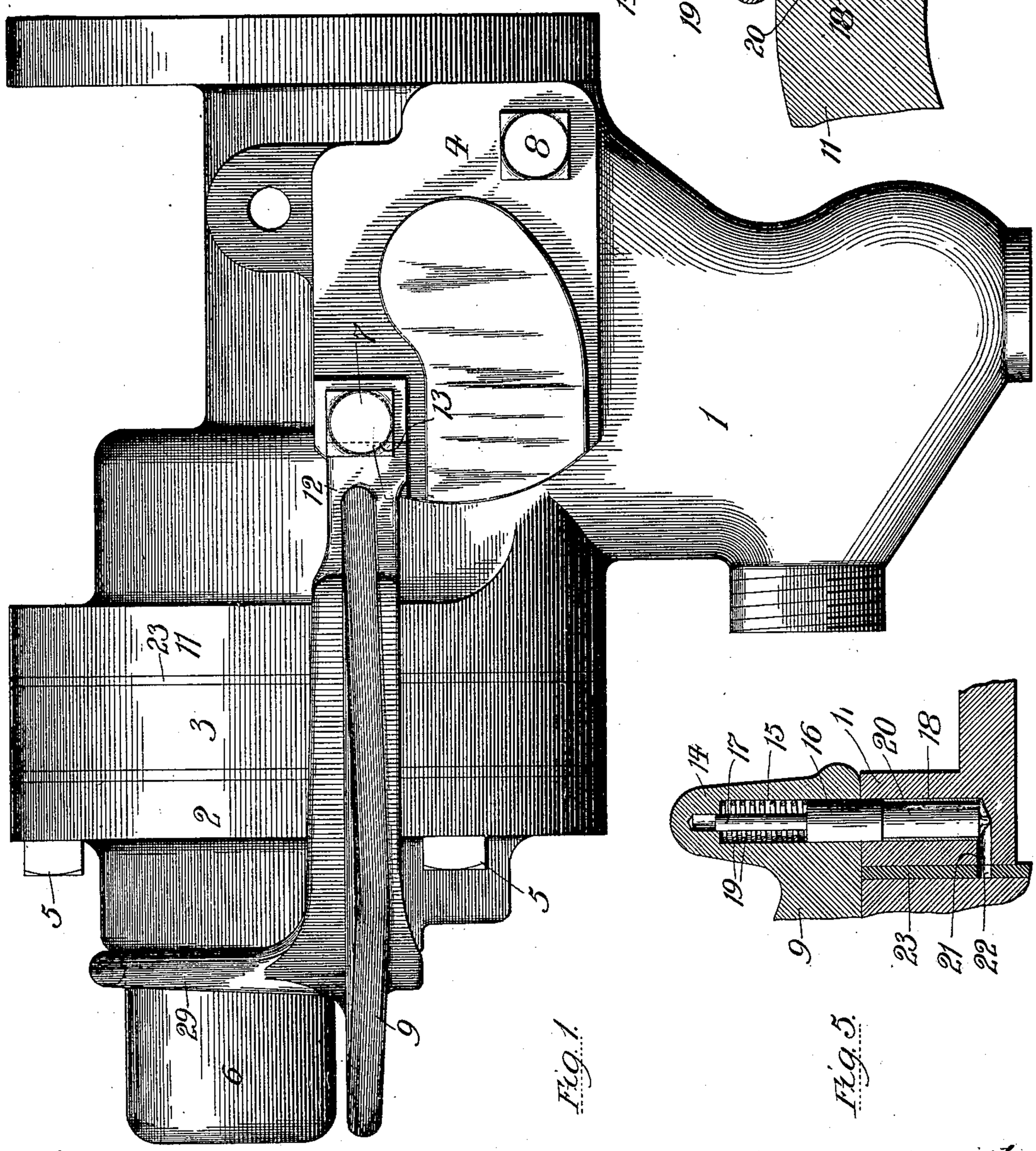

Fig. 1.

Fig. 5.

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Fig. 2.

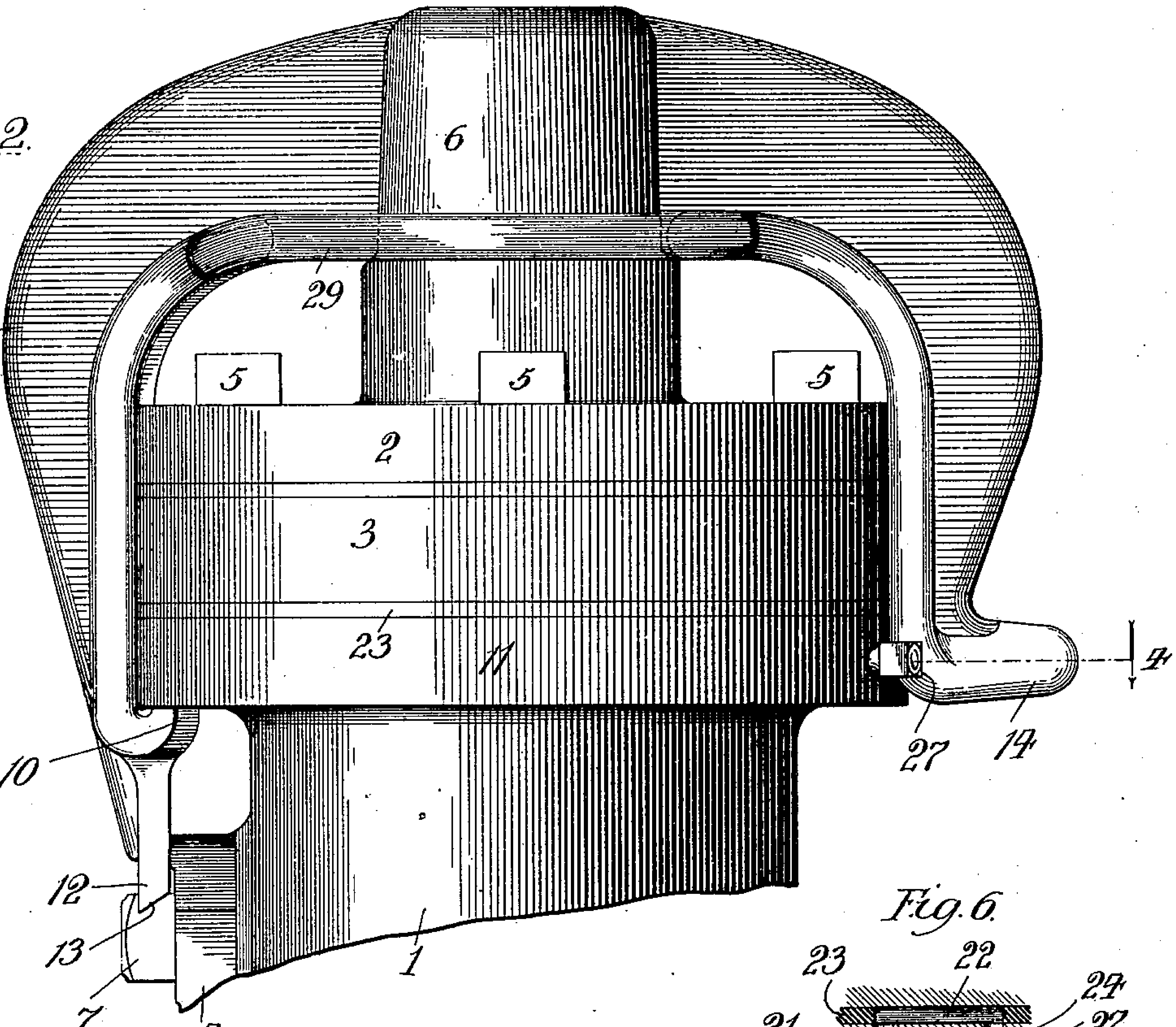


Fig. 6.

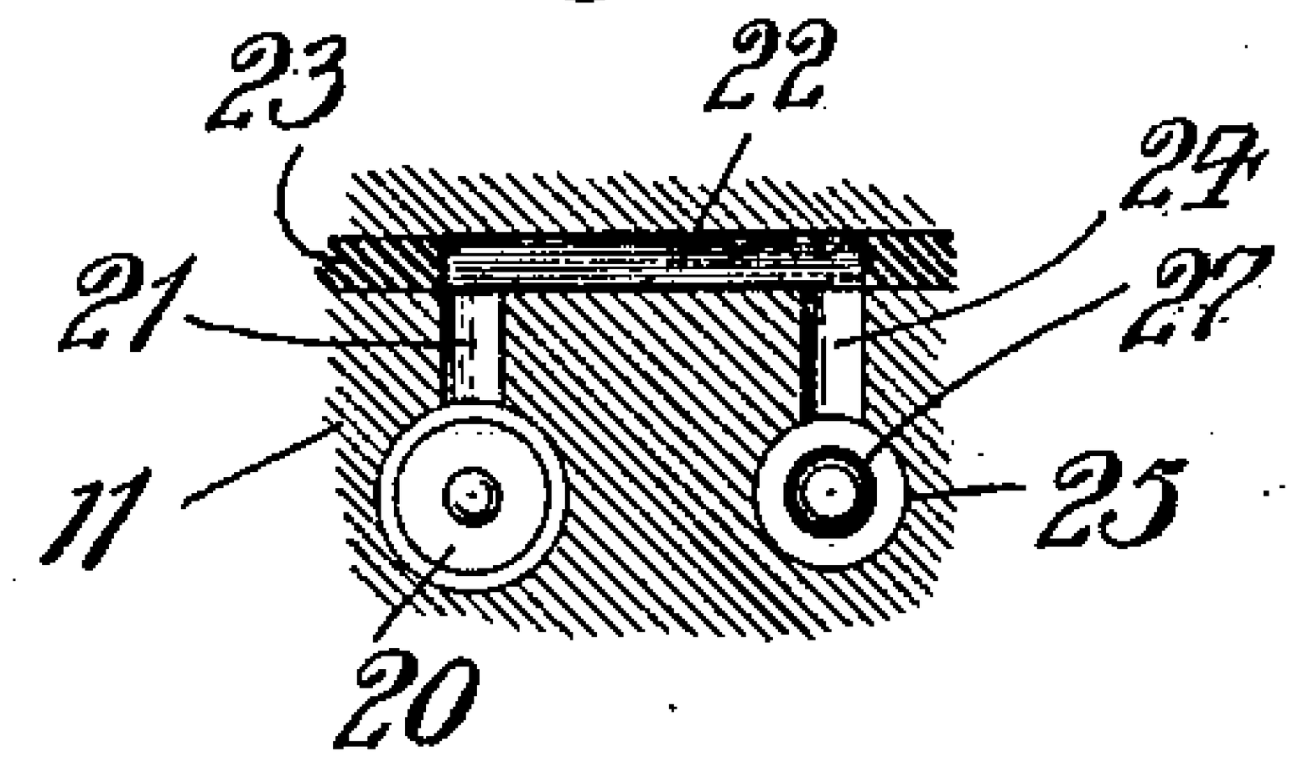
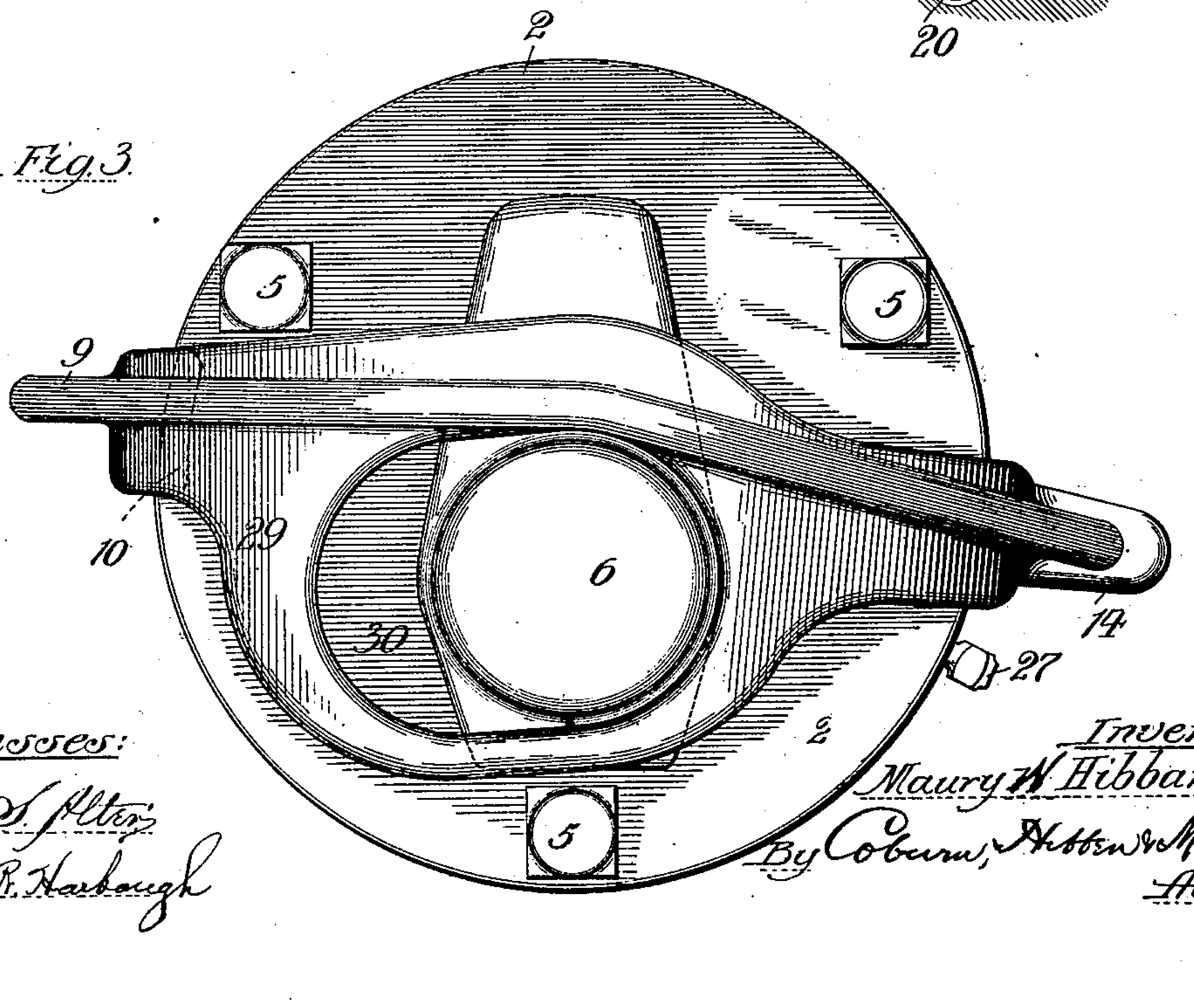


Fig. 3.



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UNITED STATES PATENT OFFICE.

MAURY W. HIBBARD, OF CHICAGO, ILLINOIS, ASSIGNOR TO RICHARD FITZGERALD, OF SAME PLACE.

FLUID-PRESSURE BRAKE.

SPECIFICATION forming part of Letters Patent No. 665,687, dated January 8, 1901.

Application filed August 1, 1900. Serial No. 25,522. (No model.)

To all whom it may concern:

Be it known that I, MAURY W. HIBBARD, a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fluid-Pressure Brakes, of which the following is a specification.

My invention has for its general object the provision of means for preventing the unauthorized removal of the cap or cover of valve devices commonly called "triple valves" and the stealing of the working parts—such as pistons, slide-valves, bushings, &c.—which are usually, if not always, made of brass.

The stealing of the brass from triple valves of cars standing on sidings, switches, and in railroad-yards is of common occurrence and not only entails great expense to the railroad company in replacing the stolen parts, but makes inoperative the valves which have been tampered with.

The invention of the within application for patent has special reference and applicability to the form of valve known as the "New York" valve made by the New York Air Brake Company; and its object is to provide suitable means for preventing entrance into the triple valve either by removing the usual end cap or a side cap peculiar to this particular triple valve.

I do not herein claim the broad idea of a lock to prevent entrance into a triple valve or the like by unauthorized persons, having made that invention the subject-matter of another application filed simultaneously herewith; but I do claim herein a locking mechanism suited to the peculiar construction of the New York valve or the Westinghouse valve.

In the drawings, Figure 1 is a side elevation of a New York valve with my invention applied; Fig. 2, a top plan of the cap end of the valve; Fig. 3, an end elevation of the cap and clamp; Fig. 4, a section on line 4 of Fig. 2; Fig. 5, a section on line 5 of Fig. 4, and Fig. 6 a section on line 6 of Fig. 4.

The valve device has the usual casing 1 and end cap 2, interposed disk 3, and side cap 4. The end cap, which is held to the casing by cap screws or bolts 5, has the extension 6 and when removed affords entrance to the main pistons. The side cap is held to the casing by cap-screws 7 and 8 and covers the chamber in which operates the piston-valve governing the local release of train-pipe pressure to the atmosphere. A clamp 9, which passes over the end cap from side to side, has at one end a hook 10, engaging under the flange 11 of the valve-casing, and also has a projecting arm 12, beveled at its end and received by the triangular recess 13 in one side of the cap-screw 7. The other end of the clamp has an extension or enlargement 14, in which is a spring-barrel 15. A bolt having a head 16 and stem 17 is adapted to reciprocate in this barrel and when the clamp is in place to enter a chamber 18, extending into the flange 11 of the casing, being normally pressed therein by the spring 19. The stem 17 is of such length as to strike the end of the barrel when the bolt-head is flush with the surface of the clamp. A loose piston 20 travels in chamber 18 and is adapted to contact the bolt and move the same when fluid-pressure is admitted against the piston in a manner to be described. A passage 21 leads from this chamber 18 in the rear of the piston to the end of the casing proper, when it connects with a cross-passage 22, which may be cut in the usual gasket 23. The cross-passage 22 connects with a passage 24, which communicates with a chamber 25, located in the casing and having a passage 26 leading into the triple valve. A valve or screw plug 27 screws into chamber 25 and has at its lower end a valve proper, which is normally seated on a brass bushing 28, which is preferably provided. This valve governs the flow of fluid-pressure from the interior of the triple valve and through passages 26, 24, 22, and 21 to chamber 18.

As shown in Fig. 3, the clamp has a yoke 29, provided with a somewhat-elongated opening 30, adapted to receive the extension 6 of the valve-cap 2. Inasmuch as this extension is not central of the cap, it is necessary to provide the opening so made and located in order that the clamp may be swung on or off. After the caps are in place the clamp is inserted over the extension and is swung around,

so that the arm 12 will engage screw 7 and bolt-head 16 will enter chamber 18, being pressed therein by spring 19. Both caps are now securely locked against removal by unauthorized persons—the cap 4 because one of its screws cannot be turned and the cap 2 because it is embraced by the clamp. In case it should be desired to open the caps, which is at a time when the fluid-pressure is present in the triple valve or is accessible at the track side, the valve or plug 27 is unscrewed to unseat and thereby admit pressure from the triple valve to chamber 18 and against the piston 20, forcing the latter against the bolt 16, pressing the same inward into its barrel until its stem strikes the end thereof. At this time the meeting faces of the piston and bolt are in the plane of the parting-line or junction of the clamp and casing, and the clamp is thereupon in condition to be removed. The valve 27 may be closed after admitting the fluid-pressure, as above described, and before removing the clamp, so as to prevent any possibility of blowing out the piston 20.

As is well known, the stealing of the parts occurs when the cars are standing on sidings, switches, or on yards—that is, when not connected to the brake system on the locomotive—and consequently the brass-thieves are thwarted, because at this time the triple valves are not charged with fluid-pressure, whereas the clamp is dependent for unlocking upon fluid-pressure.

I claim—

1. The combination, with a valve device for actuating fluid-pressure brakes and provided with separate and independent caps covering or inclosing removable and valuable working parts within the valve device, of means for locking all such caps to the device to prevent the unauthorized removal thereof and the theft of such working parts.

2. The combination of a triple valve having a casing and a plurality of closing caps or covers and a fluid-pressure-controlled clamp simultaneously engaging such caps to lock them to the casing.

3. The combination of a triple valve having a casing and an end cap provided with an extension, a clamp passing over the cap and having a hole or opening to receive such extension and means for locking the clamp to the casing.

4. The combination of a triple valve having a casing and a removable cap, a bolt securing such cap to the casing and means for preventing unscrewing of the bolt.

5. The combination of a triple valve having a casing and a removable cap, a bolt securing such cap to the casing, a clamp having a portion thereof engaging such bolt to prevent unloosening and means for securing the clamp to the casing.

6. The combination of a triple valve having a casing and the usual end cap and also a side cap, a clamp extending over the end cap and having a projecting arm arranged to prevent removal of the side cap and a fluid-pressure-actuated lock for holding the clamp to the casing.

7. The combination of a triple valve having a casing and the usual end cap and also a side cap secured by a bolt, a clamp having at one end a hook engaging the casing and also a projecting arm engaging such bolt, and a locking-bolt located in the other end of the clamp and engaging the casing.

8. The combination of a triple valve having a casing and the usual end cap and also a side cap, a screw 7 having a groove or recess on one side, a clamp having a hook at one end engaging the casing and also having an arm 12 engaging in said groove of the screw, such clamp passing over the end cap, and a fluid-pressure-actuated bolt located in the other end of the clamp and engaging the casing.

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