

No. 665,686.

Patented Jan. 8, 1901.

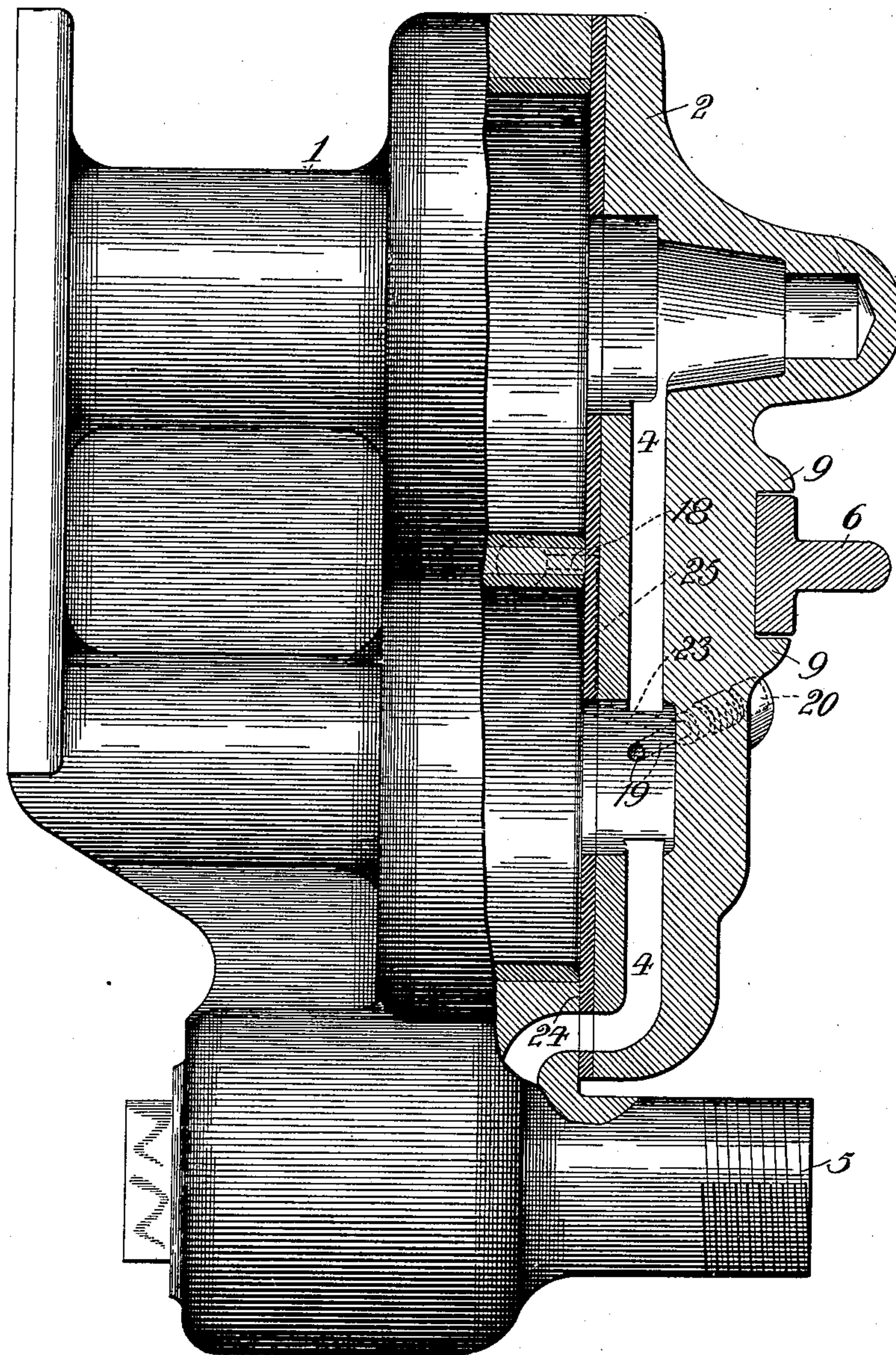
M. W. HIBBARD.  
FLUID PRESSURE BRAKE.

(Application filed Aug. 1, 1900.)

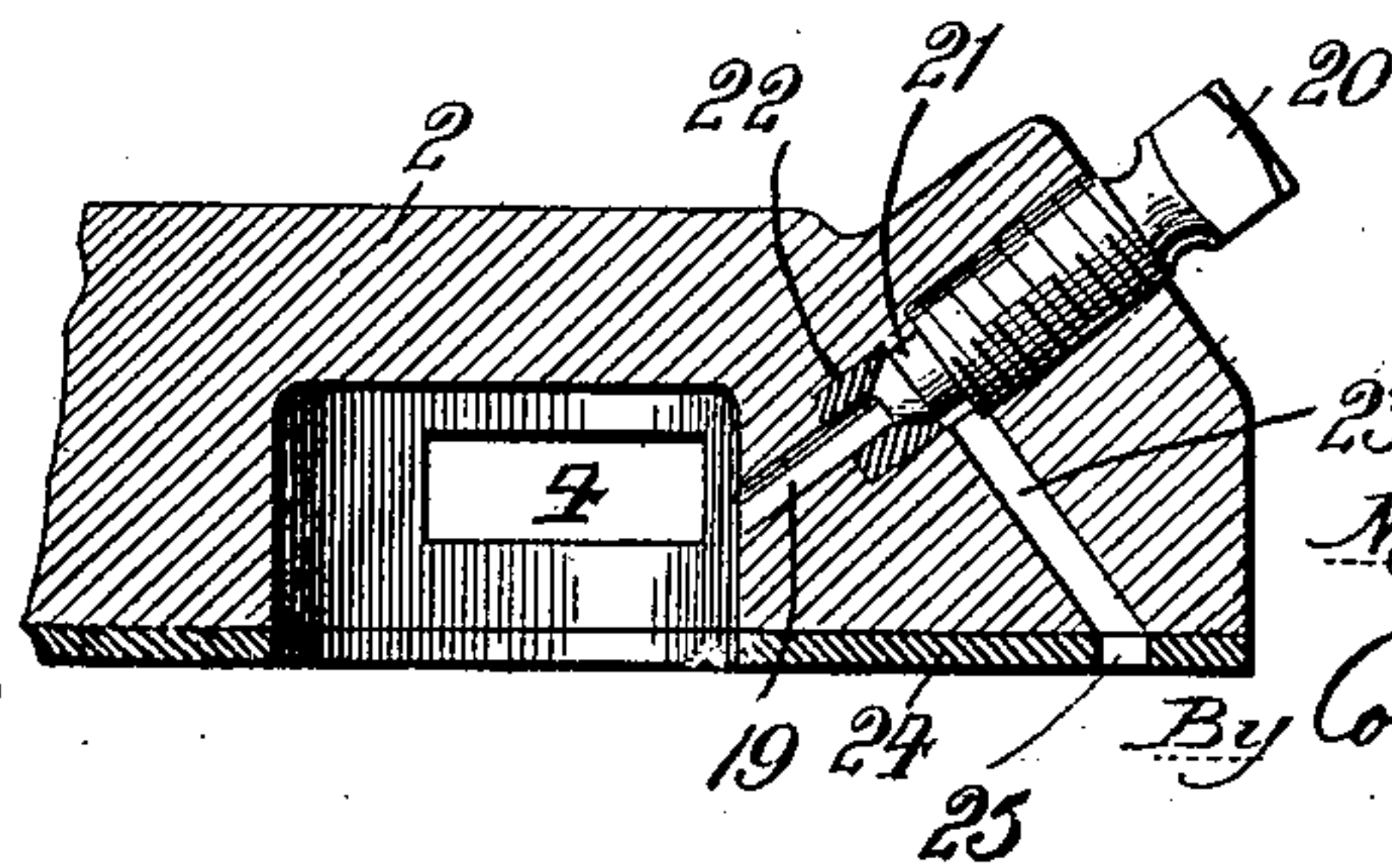
(No Model.)

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*Fig. 1.*



*Fig. 2.*



Witnesses:

*Leite S. Allen*

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Inventor:

*Maury W. Hibbard.*

*By Coburn H. Allen & M. E. H. Allen.*



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Fig. 3

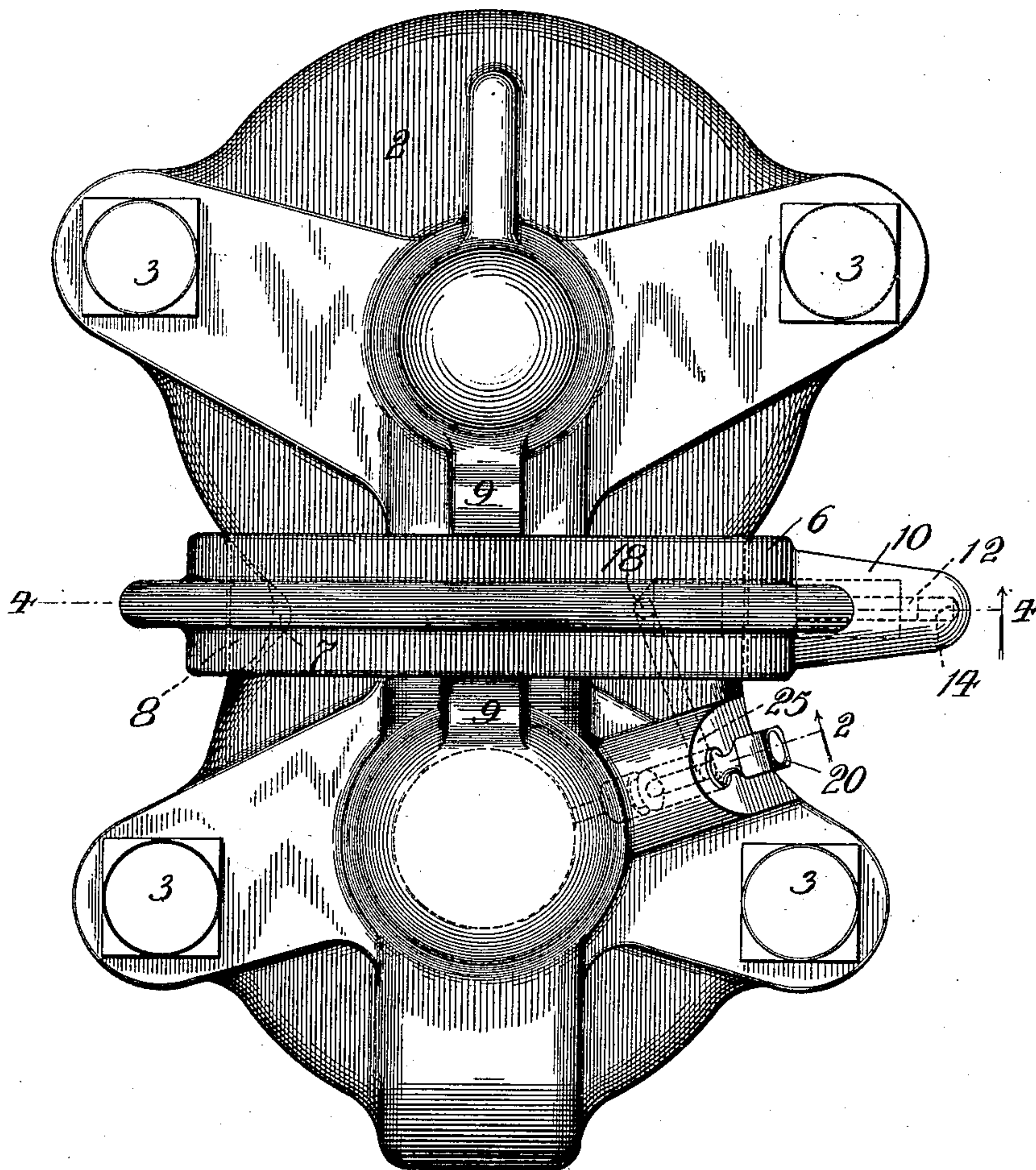
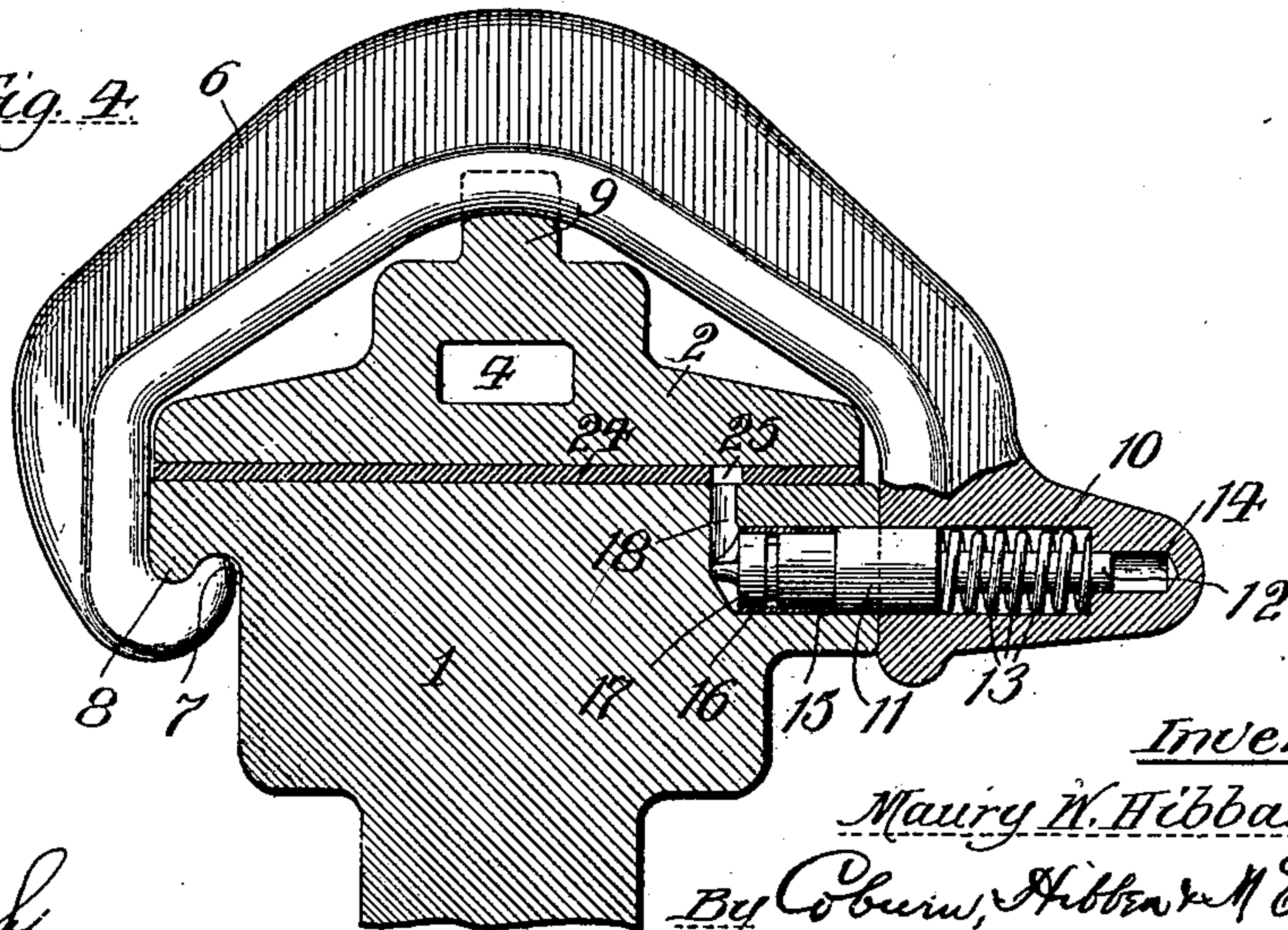


Fig. 4



Witnesses:

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Inventor:

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By Coburn, Hibbard & Eddy  
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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. 665,686, dated January 8, 1901.

Application filed August 1, 1900. Serial No. 25,521. (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 relates to improvements in fluid-pressure brakes; and its object is to provide simple and efficient means to prevent the unauthorized opening or the taking apart of the actuating-valve, commonly called the "triple" valve.

When cars are not in actual use, as when standing on side tracks, switches, or in railroad-yards, it is of frequent occurrence that the cap or cover of the triple valve is removed by thieves by unscrewing the usual cap screws or bolts, and the working parts (usually brass) of the valve device are stolen therefrom. This not only entails heavy expense on the railway company in replacing the stolen parts, but renders inoperative every valve so tampered with. To provide suitable and efficient means for preventing unauthorized entrance into the valve device is the object of my invention.

In the drawings, Figure 1 is an elevation, partly in section, of a valve substantially as illustrated in my Patent No. 644,356, issued on February 27, 1900, in combination with which I have chosen to illustrate my invention for the sake of a proper disclosure and understanding of the same; Fig. 2, a section on line 2 of Fig. 3; Fig. 3, an end elevation of my valve with the lock or clamp in place, and Fig. 4 a sectional elevation on line 4 of Fig. 3.

The valve-casing 1 of my valve device is closed at its end by means of a cap or cover 2, secured to the casing by cap-screws or by bolts 3. This cap has a passage 4, communicating with the train-pipe nozzle 5 and also with the chambers in which the working parts operate. A clamp or bracket 6 has a hook 7 at one end to engage under a lip or flange 8 on the valve-casing. The clamp spans the cap or cover, and in order to prevent lateral movement with respect thereto the central vertical rib 9 of the cap may be cut away to receive such clamp. The other

end of the clamp has a spring-barrel 10, in which operates a locking-bolt comprising a bolt-head 11 and a stem 12. The bolt is normally outwardly pressed by a spring 13 and its stem is of such length as to contact the inner end 14 of the barrel when the bolt-head has just cleared the surface of the clamp adjacent the valve-casing.

The valve-casing has a cylindrical chamber or passage 15 immediately opposite the bolt-head when the clamp is in place and of a size to receive such head, which chamber may, if desired, be provided with a bushing 16. A loose piston 17 is adapted to travel within this cylinder and to contact and move the bolt, as hereinafter described. A passage 18 leads from this chamber 15 from the rear of the loose piston and upwardly therethrough to the face of the casing proper next to the cap.

In the cap is provided a hole of greater diameter and screw-threaded at its outer end and forms at its inner and smaller end an air-passage 19, communicating with passage 4, as clearly illustrated in Figs. 2 and 3. A set-screw 20, received by the larger and screw-threaded portion of the hole, has a valve end 21, adapted to seat on a bushing 22, which is preferably provided and arranged at the head of passage 19. The function of this set-screw or valve is to govern the flow of fluid-pressure from the brake system and passage 19 into another passage 23, drilled or cored into the cap.

To connect passage 23 with passage 18, I prefer to utilize the gasket 24, usually or always placed between the valve-casing and cap. To this end the gasket is properly cut to provide the connecting-passage 25. It will, however, be perfectly obvious that not only this connecting-passage, but also the other passages, may be changed in their location or relative position so long as the required functions are attained.

The clamp or lock is attached and detached in the following manner: The triple valve being in place with the cap or cover bolted on, the clamp is hooked under the lip or flange of the valve casing or body and passes over the cap. Its other end is brought to the opposite side of the casing in such position that



the bolt will enter the cylinder or chamber, the spring forcing the same therein. The cap is now not only bolted on, but is locked against unauthorized removal. The clamp  
 5 can be removed only when the valve device is charged with air, inasmuch as in the construction shown the bolt or lock is controlled by air-pressure. Inasmuch as the valve device is charged or can be charged when it is  
 10 desired to open the same for inspection or repair by authorized parties, the clamp is readily removable by such parties. To remove the clamp, the set-screw or plug 20  
 15 whereupon the pressure from the inner part of the valve will flow through passages 19, 23, 25, and 18 to the chamber 15 behind the loose piston, which is thereby forced outwardly, carrying the bolt-head with it. At this time  
 20 the meeting faces of the piston and bolt head will be on the junction line or plane between the clamp and valve-body, so that the clamp may be removed and the cap may be taken off in the usual way. To prevent the piston  
 25 from being blown out by the pressure, the plug-valve may be seated before the clamp is removed.

The stealing of the working parts of a fluid-pressure brake occurs only when the cars are  
 30 on a siding, switch, or in the yards and disconnected from a locomotive, and at these times there is no air in the valve device. Consequently the bolt cannot be withdrawn from the valve-body and the clamp and cover can-  
 35 not be removed.

While I have herein shown and described my invention as applied to my type of valve as set forth in my patent before referred to, it is to be understood that the same is readily  
 40 applicable to other kinds or makes of valves. Furthermore, it will be understood that I use the term "triple" valve in its loose or popular way as designating any valve device for controlling the flow of pressure to the brake-  
 45 cylinder, and not in its correct or technical sense.

It is evident that after minor and inexpensive changes are made a clamp or locking device may be applied to the many valve de-  
 50 vices or triple valves now in actual use.

I claim—

1. In combination with a device for actuating fluid-pressure brakes, means for preventing entrance into such device except when  
 55 the same is charged with fluid under pressure.

2. In combination with a device for actuating fluid-pressure brakes, means controlled by fluid-pressure for unlocking the parts of such device whereby unauthorized entrance  
 60 thereto is prevented.

3. In combination with a device for actuating fluid-pressure brakes, a clamp and a bolt therein for locking together the parts of such device and unlocked by fluid-pressure.

65 4. In combination with a valve device for actuating fluid-pressure brakes and having the usual cap, of a clamp passing over the cap

and means for locking such clamp to the valve device.

5. In combination with a device for actuat- 70  
 ing fluid-pressure brakes, and having a cap or cover on the valve casing or body, a clamp engaging at one end with the casing and passing over the cap, and a bolt located in the other end of the clamp and engaging the cas- 75  
 ing.

6. In combination with a device for actuat-  
 ing fluid-pressure brakes and having a cap or cover on the valve casing or body, a clamp engaging at one end with the casing and pass- 80  
 ing over the cap, a bolt located in the other end of the clamp and entering the casing and means for admitting fluid-pressure to act against such bolt to unlock the clamp.

7. In combination with a device for actuat- 85  
 ing fluid-pressure brakes and having a cap or cover secured to the valve casing or body, a clamp passing over the cap and having a normally outwardly pressed bolt entering the casing, such bolt being stopped in its inward 90  
 movement when its outer face is flush with the clamp and fluid-pressure mechanism for forcing the bolt inward to unlock the clamp.

8. In combination with a valve device for actuating fluid-pressure brakes and having a 95  
 cap or cover secured to the valve-casing, such casing having on one side a chamber adapted to be put into communication with the interior of the valve device, a valve for governing such communication, a piston in such cham- 100  
 ber, a clamp at one end engaging the casing and passing over the cap, and a bolt located in the other end of the clamp and adapted to enter said chamber.

9. In combination with a valve device for 105  
 actuating fluid-pressure brakes and having a cap or cover secured to the valve-casing, such casing having on one side a chamber adapted to be put into communication with the interior of the valve device, a valve governing 110  
 such communication, a piston in such chamber, a clamp which has a hook at one end engaging the casing and which passes over the cap, a spring-pressed bolt located in the other end of the clamp and adapted to enter said 115  
 chamber, ports and passages between such chamber.

10. In combination with the casing and cap of a valve device commonly known as a "triple" valve, a clamp 6, having at one end a 120  
 hook 7, engaging the casing and passing over the cap, such clamp having a spring-barrel in its other end, a spring-pressed sliding bolt in such barrel, such casing having a chamber 15 into which such bolt enters and also having 125  
 ports and passages connected with the train-pipe pressure in the triple valve, a piston 17 in such chamber, and a valve 20 governing such passages to admit pressure into the chamber against the piston.

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Witnesses:

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 LOUISE E. SERAGE.