

No. 795,281.

PATENTED JULY 25, 1905.

I. HOGELAND & T. F. BARRETT.  
FLUID PRESSURE CONTROLLER.

APPLICATION FILED JAN. 9, 1905.

Fig. 1-

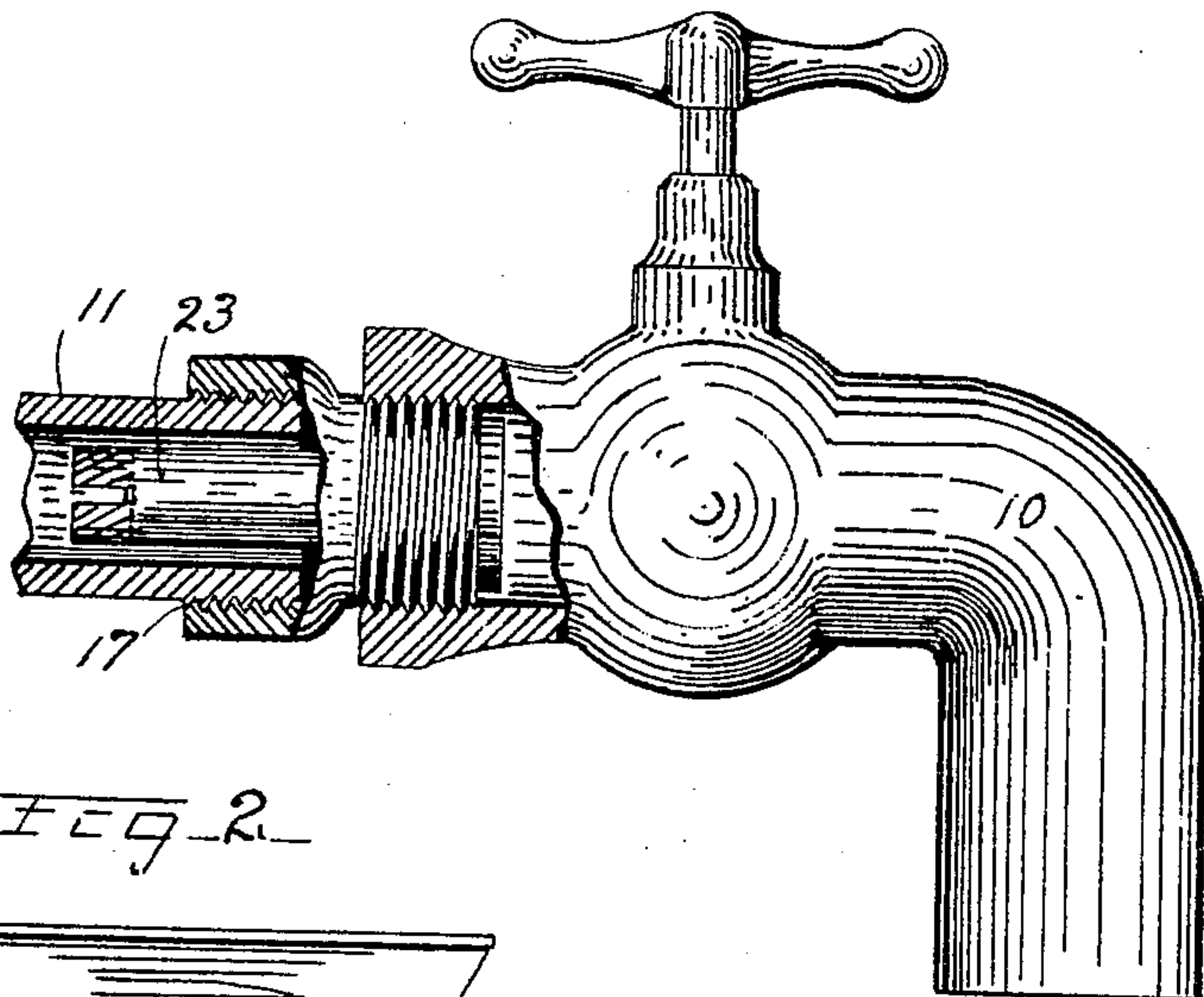


Fig. 2-

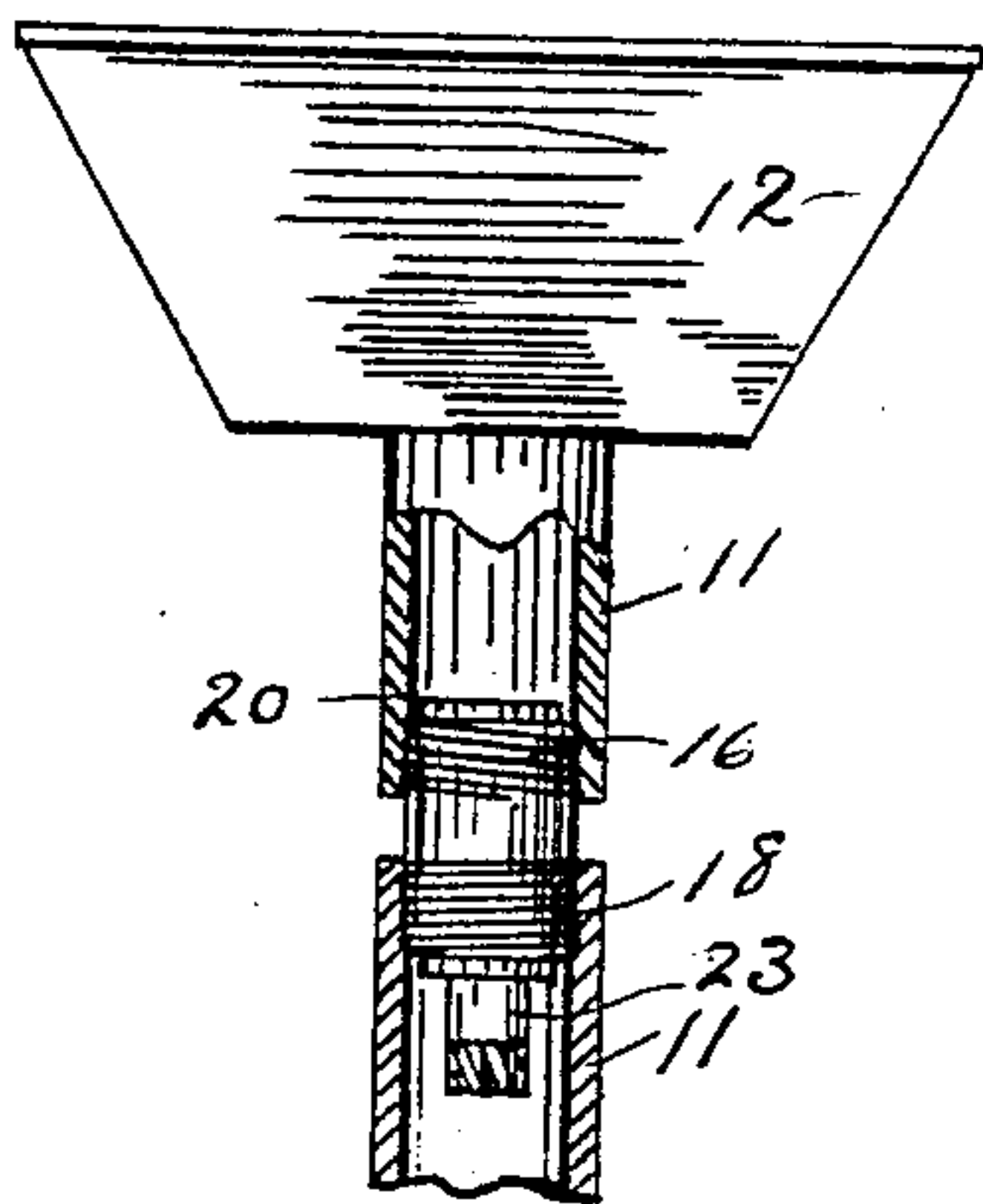


Fig. 3-

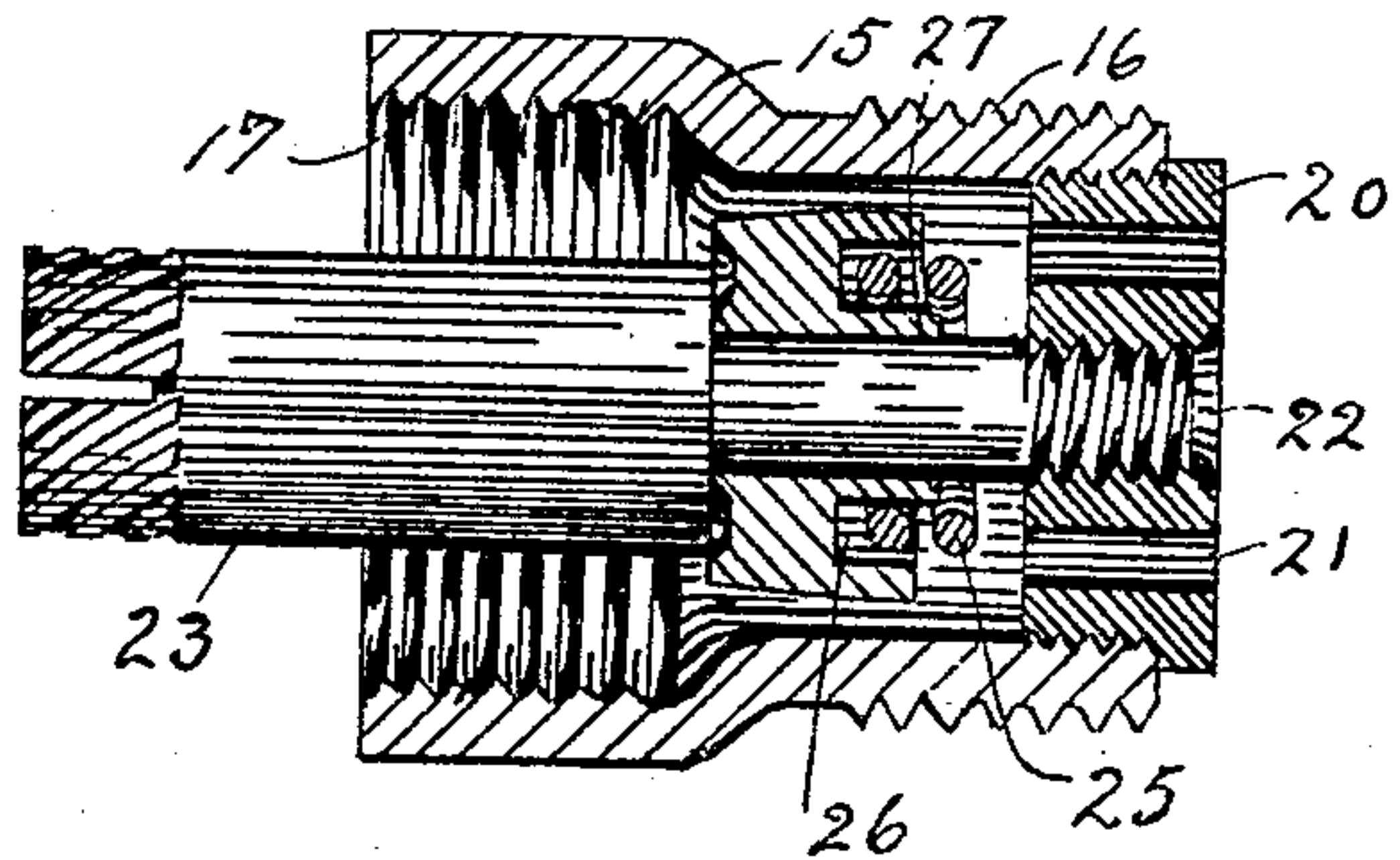


Fig. 4-

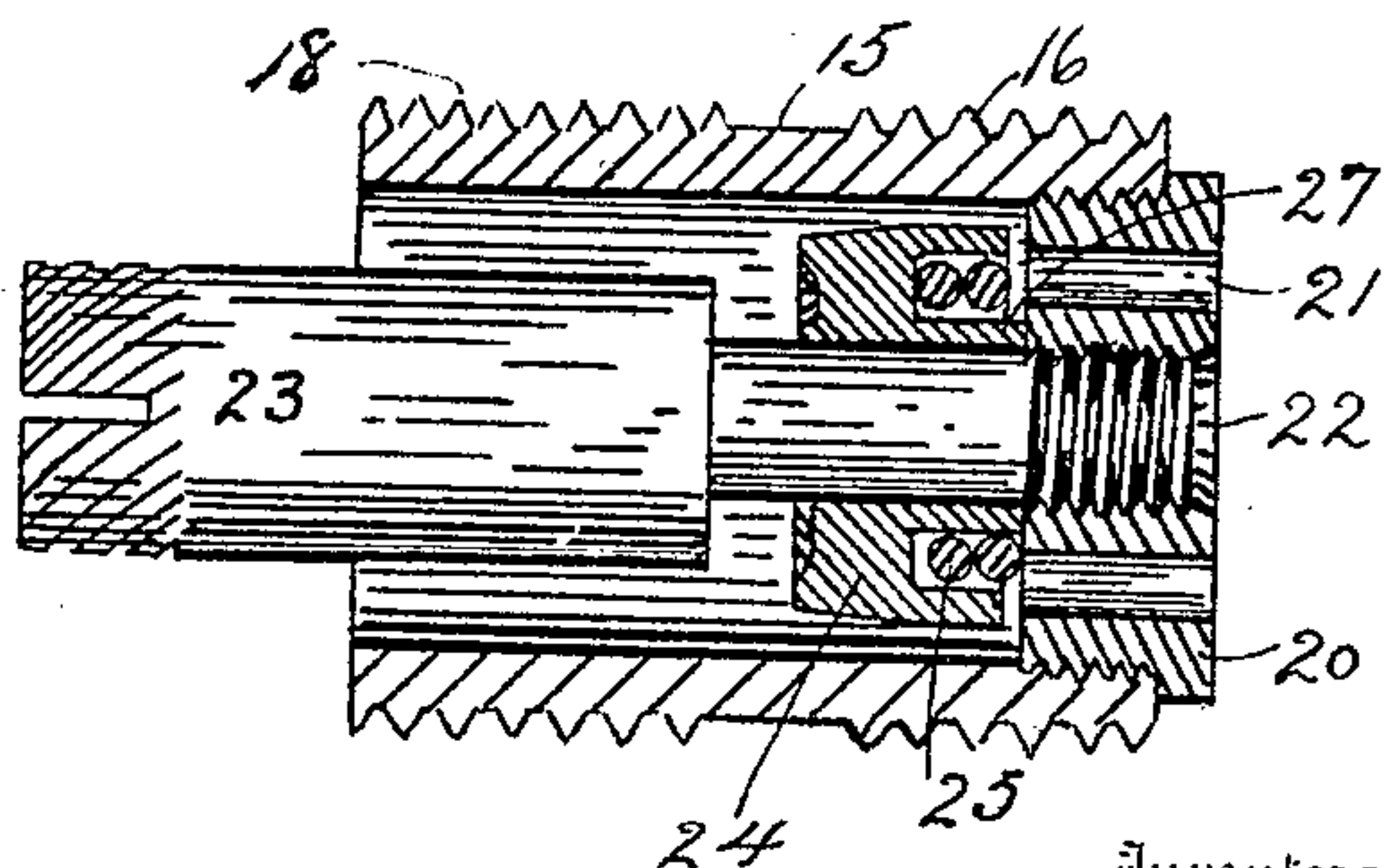
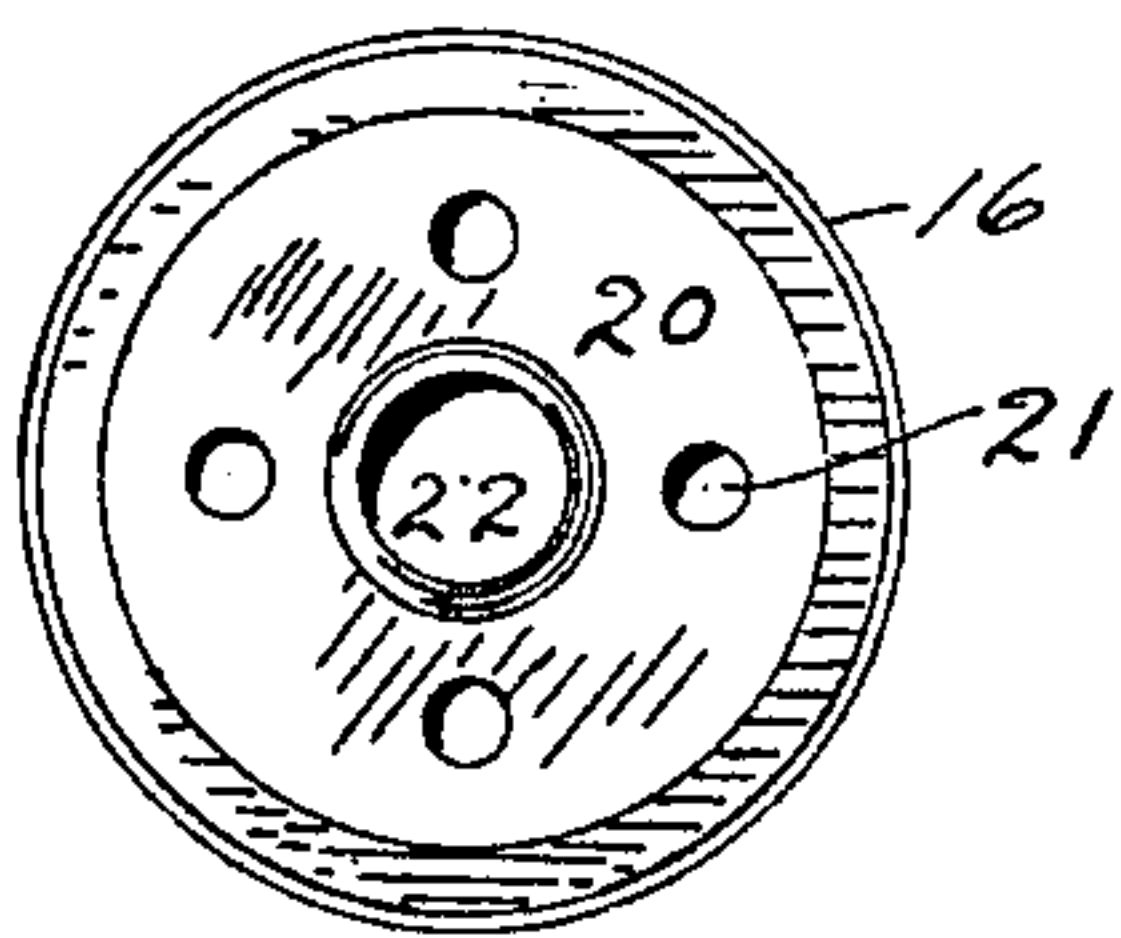


Fig. 5-



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# UNITED STATES PATENT OFFICE.

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## FLUID-PRESSURE CONTROLLER.

No. 795,281.

Specification of Letters Patent.

Patented July 25, 1905.

Application filed January 9, 1905. Serial No. 240,298.

*To all whom it may concern:*

Be it known that we, ISRAEL HOGELAND and THOMAS F. BARRETT, of Indianapolis, county of Marion, and State of Indiana, have invented a certain new and useful Fluid-Pressure Controller; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like numerals refer to like parts.

The object of this invention is to provide a small attachment or construction in connection with means for supplying fluid under pressure whereby the supply will be controlled by the passing fluid. For illustration, in the office of city waterworks the fire-pressure is much greater than the house-pressure—that is, the water-pressure in the pipes of a city water-supply system for supplying houses and lawns is much less when there is no fire in progress than when there is a fire, for when a fire is in progress the pressure must be increased considerably in order to throw streams of water to sufficient heights and of sufficient volume to extinguish the fire. While the fire-pressure is on there is a great waste of water in the lawn and house service throughout the city, because the extra fire-pressure operates at those points where extra pressure is not needed or desired. It is very desirable, therefore, to have some construction or attachment such as is herein shown which will tend to close the water-outlet at certain points under high pressure, and one feature of this invention is an arrangement whereby the high pressure will only partly but not completely close the outlet. The consequence is that in case of fire-pressure there is still substantially the same quantity of water passing out of the faucet or from the water-box on the lawn during the continuance of the fire-pressure as there was before. In other words, this arrangement prevents a vast waste of water in the city water-service and at the same time does not shut off the water entirely, but provides for a uniform water-supply for domestic purposes.

The full nature of this invention will be understood from the accompanying drawings and the following description and claims.

In the drawings, Figure 1 is a side elevation of a faucet provided with said attachment, parts being in section and parts broken away. Fig. 2 is a side elevation of a water-

box for a lawn and a pipe leading thereto, the latter being in longitudinal section and provided with said attachment. Fig. 3 is a central vertical section of the attachment and showing the parts shown in Fig. 1 in position under low fluid-pressure. Fig. 4 is the same section through the attachment in the form shown in Fig. 2, the parts being in position under high fluid-pressure. Fig. 5 is an elevation of the right-hand end of said attachment as it appears in Fig. 4.

We have shown the said attachment in the drawings combined with the faucet 10 in Fig. 1 and the city service-pipe 11 and in combination with the service-pipe leading to the water-box 12, such as is used on lawns, as appears in Fig. 2. The attachment is shown in two forms in Figs. 3, 4, and 5, adapted to such uses as are illustrated in Figs. 1 and 2.

The attachment consists, in the first place, of a sleeve 15 so threaded at each end that it may be connected with a faucet, city service-pipes, or other parts to which it may be desired to connect it. For use in connection with faucets it is externally threaded at 16 to screw into the faucet and internally threaded at 17 to screw into the service-pipe 11. Where it must be inserted in the service-pipe, the service-pipe must be in two sections, as shown in Fig. 2, and each end of the sections in the service-pipe should be internally threaded, and each end of the sleeve 15 should be externally threaded, as at 16 and 18 in Fig. 4. We do not wish to limit the form or arrangement of the sleeve to what is shown, for it may be modified to suit any desired connection. In any form of said sleeve 15 it should be internally threaded at the end toward the exit of the fluid to receive an outlet-disk 20, which is externally threaded to screw into said sleeve, as shown. Said outlet-disk has outlet-openings 21 through it for the passage of the fluid. It also has a central threaded hole 22, into which the threaded end of the reduced portion of the stem 23 screws. Said stem extends backward from the outlet-disk 20 through the sleeve 15 and, as herein shown, beyond said sleeve, although it need not extend beyond said sleeve. The stem 23, however, must be of less diameter than the sleeve 15 in order that the fluid may freely pass about said stem. The stem is reduced for some distance back from the outlet-disk 20, and upon said reduced portion the valve 24



is slidably mounted. Said valve therefore operates slidably between the outlet-disk 20 and the enlarged portion of the stem 23. It is pushed away from said outlet-disk when the fluid-pressure is low by a spring 25, that sets in the recess 26 in said valve and around the collar 27 adjacent the stem 23. The tension of said spring should be greater than the ordinary pressure of the fluid, so that ordinarily the parts will be in the position shown in Fig. 3 and a large passage-way left for the outlet of the fluid. The tension of the spring, however, should be less than the high pressure of the fluid, so that when the fluid is under high pressure the spring will be overcome and the valve 24 thrown against the outlet-disk 20, as shown in Fig. 4. This position of the valve reduces the outlet passage-way; but the end would entirely close the passage-way were it not for the fact that the collar 27 extends slightly beyond the remaining portion of the valve, so that it engages the outlet-disk 20 first and holds the body of the valve slightly away from the outlet-disk, thus leaving a small passage-way by said disk for the passage of the fluid. We do not wish to limit this stop construction to what is herein shown, as it might be otherwise arranged.

From this description it is seen that with this attachment in place it would not obstruct the passage of the fluid under normal pressure; but under high pressure it would materially reduce the passage-way, so that under such high pressure substantially the same amount of fluid would continue to pass through the device as before, but no greater amount. Therefore said device may be connected with a city water-pipe for serving residences or for sprinkling lawns, and when an abnormal or high pressure is turned on the same amount of water will be served to the residence or lawn as before, but no more, and the great waste of water ordinarily experienced on such occasions will be avoided, and this done without entirely shutting off the water-supply.

The tension of the spring may be increased or diminished by screwing up or unscrewing the spring 23, so as to adapt the spring for proper operation on the occasion of high or low fluid-pressure.

While water is referred to herein as a fluid in connection with which this device may be used, still we do not wish to limit its use to water-service, for it may be used in connection with any fluid or gas service. Also we do not wish the invention to be limited to use merely in connection with faucets or a water-

box, for it may be used in a pipe that serves a number of faucets or other outlets.

What is claimed to be the invention, and on which it is desired to obtain Letters Patent, is the following:

1. In a fluid - pressure - controlled valve mechanism, an outlet, a spring-withheld valve movable toward the outlet by the fluid-pressure and tending to close the same, and a stop that prevents the entire closure thereof.

2. In a fluid - pressure - controlled valve mechanism, an outlet-disk, a stem extending therefrom, a valve slidably mounted on said stem that tends to close the outlets through the disk when adjacent thereto, said valve having a projection therefrom to prevent the body of said valve from engaging said disk and closing the openings therein, and a spring between the valve and the disk tending to keep the valve away from the disk.

3. In a fluid - pressure - controlled valve mechanism, a sleeve adapted to be connected with suitable pipe connections internally threaded at one end, an outlet-disk screwed into said threaded end of said sleeve, a stem screwed into said outlet-disk and extending therefrom central of said sleeve, a valve slidably mounted on said stem, means for limiting its movement away from the disk, and a spring between said valve and disk that tends to hold the valve away from the disk, said valve tending to close the openings through said disk when moved adjacent thereto by the water-pressure, and a stop for preventing said valve from entirely closing the outlet through said disk.

4. In a fluid - pressure - controlled valve mechanism, a sleeve adapted to be connected with suitable pipe connections internally threaded at one end, an outlet-disk screwed into said threaded end of said sleeve, a stem screwed into said outlet-disk and extending therefrom central of said sleeve, a valve slidably mounted on said stem, means for limiting its movement away from the disk, and a spring between said valve and disk that tends to hold the valve away from the disk, said valve tending to close the openings through said disk when moved adjacent thereto by the water-pressure.

In witness whereof we have hereunto affixed our signatures in the presence of the witnesses herein named.

ISRAEL HOGELAND.  
THOMAS F. BARRETT.

Witnesses:

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JOSEPH F. MARKEY.