No. 835,390. PATENTED NOV. 6, 1906.

E. A. BEYER.

REGULATOR.

APPLICATION FILED JAN. 22, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

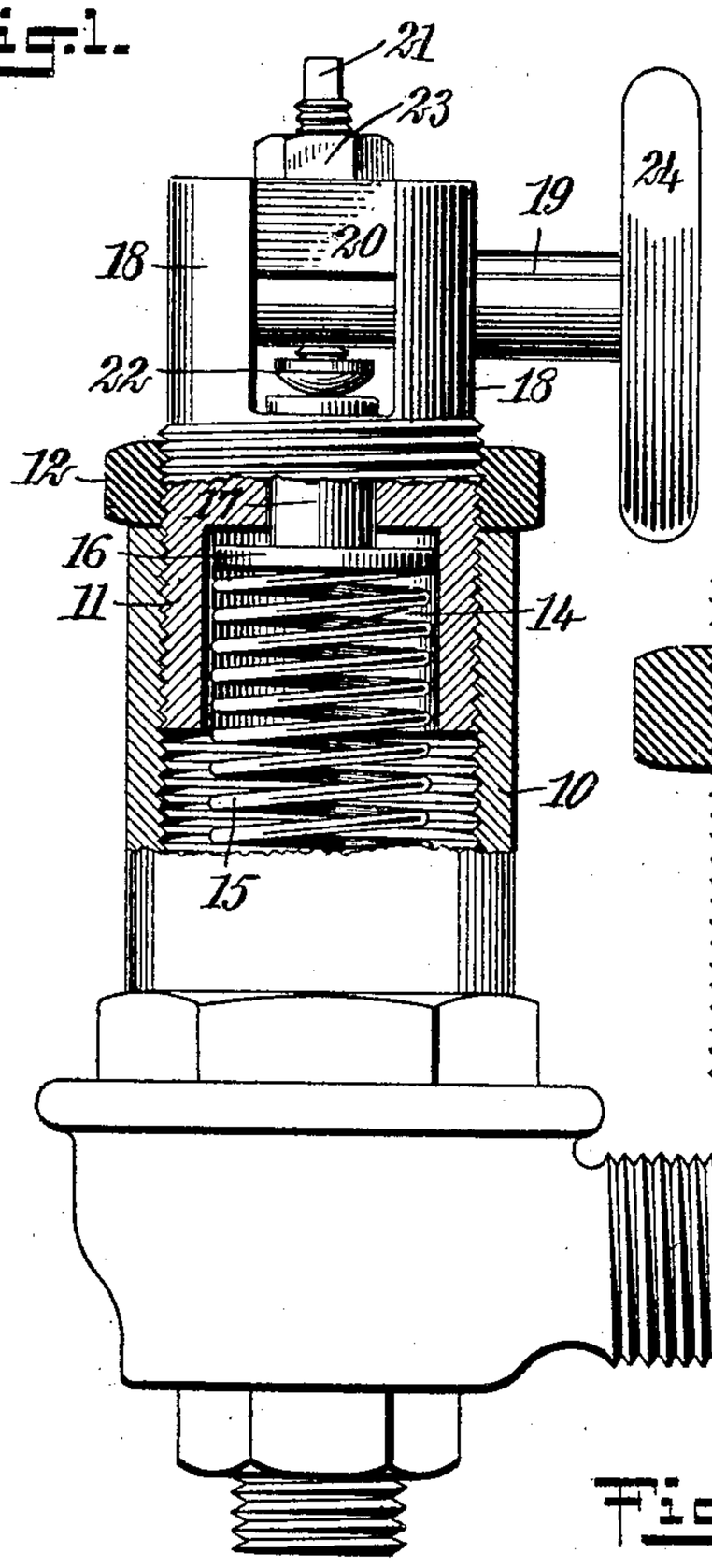


Fig. 2.

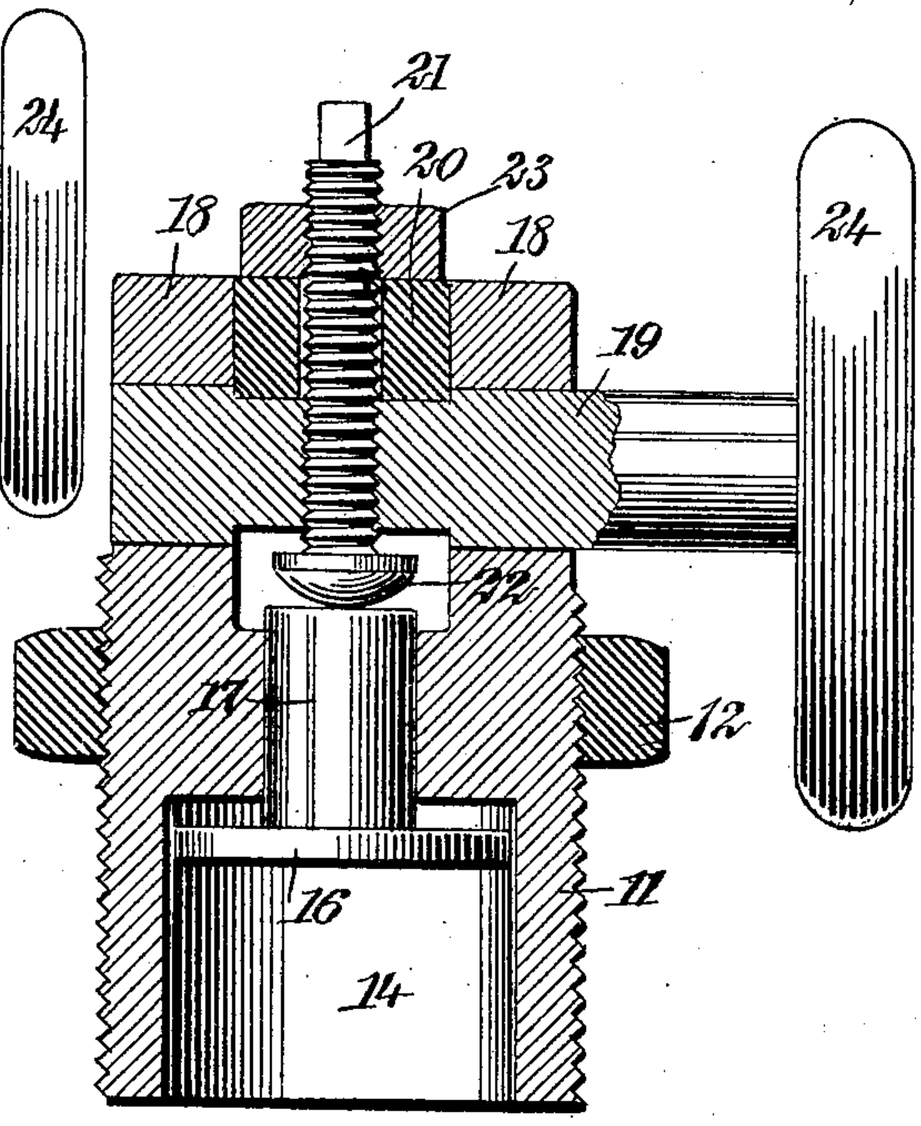
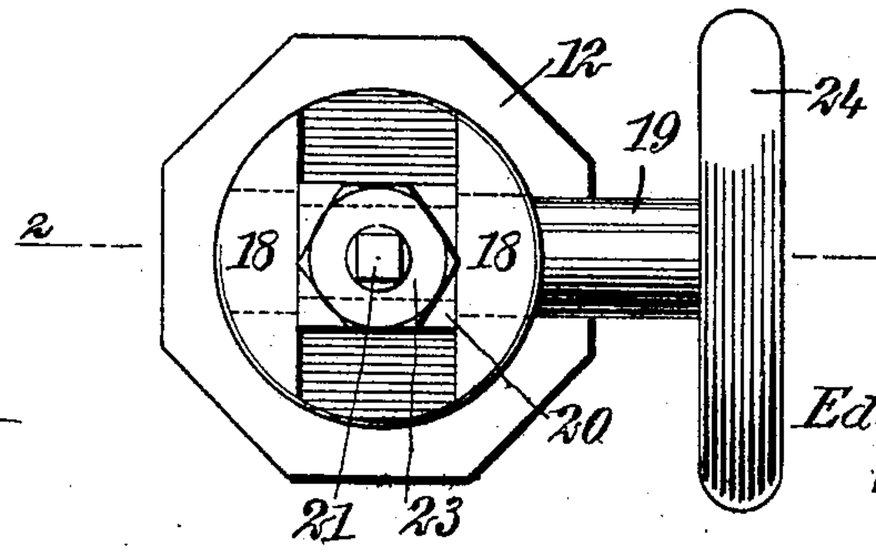


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

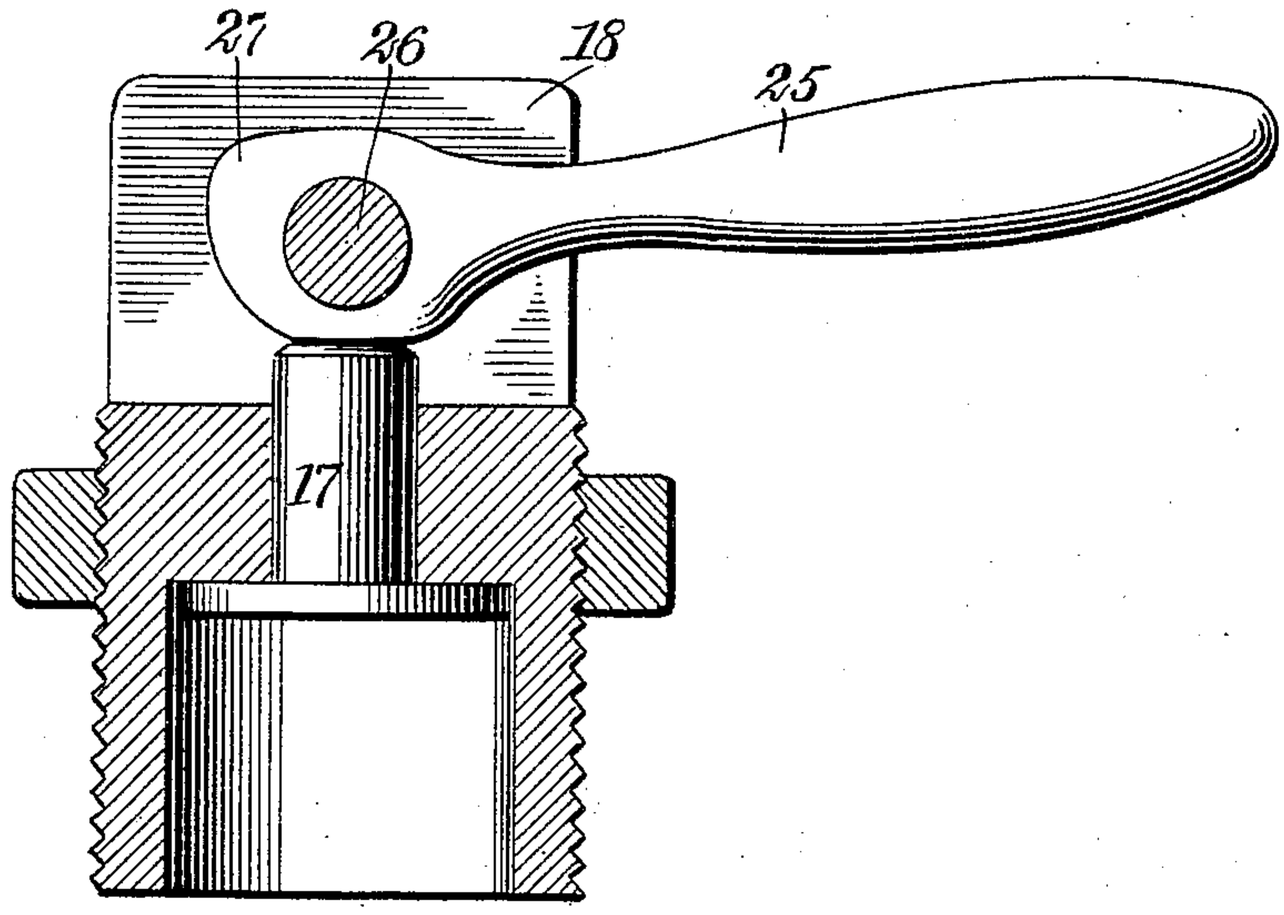
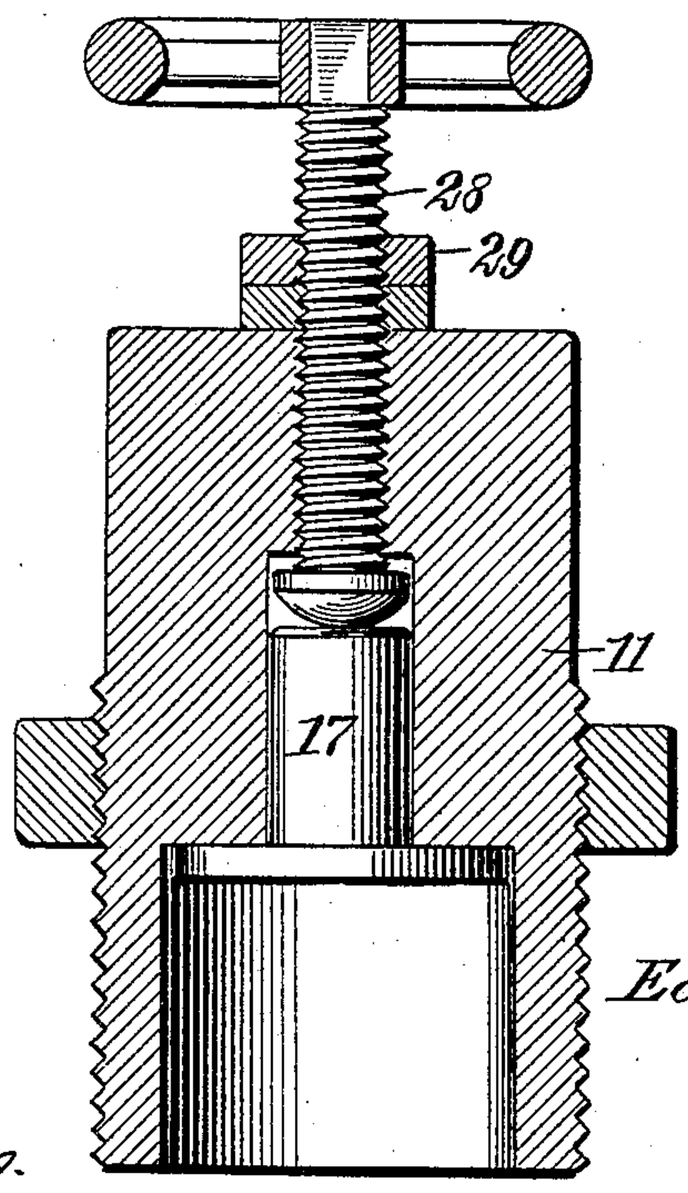


Fig. 5.



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UNITED STATES PATENT OFFICE.

EDWARD A. BEYER, OF MARQUETTE, MICHIGAN.

REGULATOR.

No. 835,390. Specification of Letters Patent. Patented Nov. 6, 1906.

Application filed January 22, 1906. Serial No. 297,202.

To all whom it may concern:

Be it known that I, EDWARD A. BEYER, a citizen of the United States, and a resident of Marquette, in the county of Marquette and State of Michigan, have invented a new and Improved Regulator, of which the following is a full, clear, and exact description.

The invention relates to an improved regulator adapted to be applied to governors, valves, and other spring-actuated parts by means of which the set of the governor or valve under the spring may be regulated at will, for instance, if the invention is applied to an air-brake governor the spring of which is set at a certain pressure. By means of my device said adjustment of the spring may be temporarily changed, so as to bring about operation at another pressure or pressures.

The invention resides in certain special features of construction and combination of parts, which will be fully set forth hereinafter and particularly pointed out in the claims.

Reference is to be had to the accompanying drawings, which illustrate, as an example, the preferred embodiment of my invention, in which—

Figure 1 is a side elevation of a spring-actuated valve or governor with parts in section, showing my invention. Fig. 2 is a section on the line 2 2 of Fig. 3. Fig. 3 is a plan view of the invention. Fig. 4 is a section of a modification, and Fig. 5 is a section of a further modification.

Referring to Figs. 1, 2, and 3, the shell or casing 10 of the governor has a plug 11 screwed therein and fastened by a lock-nut 12, although said plug 11 may be secured by other means, if desired. The plug 11 is intended to receive in a cavity 14 in the inner end thereof the spring 15 of a governor or valve. This spring is engaged at its upper end by a follower 16, which has a stem 17 passed through the plug, as shown in Figs. 1 and 2. At its outer end the plug is provided with two lugs 18, and into these lugs 18 a short shaft 19 is arranged to turn. Secured to this shaft and located between the lugs 18 is a block 20. 21 indicates a threaded pin having a head 22, the pin passing transversely through the block 20 and shaft 19 and being adjustably held by a lock-nut 23. The head 22 is adapted to engage the stem 17 of the follower 16 when the parts are in the adjustment shown in Figs. 1 and 2, and according to the adjustment of the pin 21 said follower will be pushed down in the plug, compressing and increasing the tension of the spring 15. By turning the shaft 19 said head 22 may be disengaged from the stem 17 and the spring allowed to return. It therefore follows that the governor may be set by setting the plug 11 so that the spring will cause the governor to operate at a certain pressure. When it is desired to increase the pressure of the governor, it is only necessary to turn the shaft 19 to engage the head 22 with the stem 17, forcing down the follower and placing the spring 15 under further tension, thus causing the governor to operate under another pressure. The adjustment may be changed frequently and at will by changing the adjustment of the pin 21. The auxiliary device may be thrown in and out of operation readily by merely turning the shaft 19, the hand-wheel 24 being provided to facilitate its operation, as shown.

In Fig. 4 a modification of the idea is illustrated in which instead of a pin 21 I employ a cam-lever 25, which is arranged to turn around a short shaft 26, extending between the lugs 18, before described, and which has its working face 27 shaped as desired, so as to act on the stem 17 and move the same to one or more positions, according to the form of the working face of the cam-lever. The same result may be effected by means of the hand-screw 28, (shown in Fig. 5,) this screw operating through the plug 11 and engaging the stem 17. 29 indicates lock-nuts for holding the screw 28. By means of this screw the governor may be set at any adjustment desired or the adjustment changed at will.

My improvement enables one governor to be used in place of several under the old practice, since it enables the adjustment of the governor, valve, or other device to be quickly changed to suit the new conditions, and it avoids the necessity of employing several governors which are cut in and out of action, according to the pressure under which it is desired to operate.

Having thus described the preferred form of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a device having a casing and a controlling-spring mounted therein, of a plug adjustably secured to said casing and provided with a central cavity adapted to receive the end of said spring, a follower movable lengthwise of said cavity and provided with a stem projecting through

the end of said plug, and means adapted to be moved into and out of engagement with the projecting end of said stem, substantially as shown and described.

2. The combination with a device having a casing and a controlling-spring mounted therein, of a plug adjustably secured to said casing and provided with a central cavity adapted to receive the end of said spring, a follower movable lengthwise of said cavity and provided with a stem projecting through said plug, and adjustable mechanism adapted to be moved into and out of engagement with the projecting end of said stem, substantially as shown and described.

3. The combination with a device having a casing and a controlling-spring mounted therein, of a plug adjustably secured to said casing and provided with a central cavity adapted to receive the end of said spring, a follower adapted to move lengthwise of said cavity and provided with a stem projecting through the end of the plug, a shaft extending transversely of said stem, and adjustable mechanism mounted on said shaft and adapted to bear against and depress said follower, substantially as shown and described.

4. The combination with a device having a casing and a controlling-spring mounted therein, of a plug adjustably secured to said casing, a follower movable lengthwise of the casing and provided with a stem projecting through the end of the plug, a rock-shaft extending transversely of said stem, and a bolt having a threaded engagement with said shaft and provided with a curved head adapted to bear against the projecting end of said stem, substantially as shown and described.

5. The combination with a device having a casing and a controlling-spring mounted therein, of a plug adjustably secured to said casing and provided with an interior cavity adapted to receive the end of said spring, a follower movable lengthwise of said cavity and provided with a stem projecting through the end of the plug, a rock-shaft mounted on the end of the plug, a block secured to said shaft, and a bolt having a threaded engagement with said block and shaft and provided with a curved head adapted to bear against the projecting end of the stem, substantially as shown and described.

6. The combination with a device having a casing and a controlling-spring mounted therein, of a plug adjustably secured to the casing and provided with a central cavity adapted to receive the end of said spring, a follower movable lengthwise of the cavity and provided with a stem movable in said plug, a threaded bolt mounted upon said plug and provided with a head adapted to depress the end of said stem, and means connected with said bolt adapted to regulate the depression movement of said stem, substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD A. BEYER.

Witnesses:
DANIEL S. DONOVAN,
ROBERT P. BYRNE.