

No. 620,375.

Patented Feb. 28, 1899.

J. P. STEARNS.
DAMPER ACTUATING DEVICE.

(Application filed May 31, 1898.)

(No Model.)

Fig. 1.

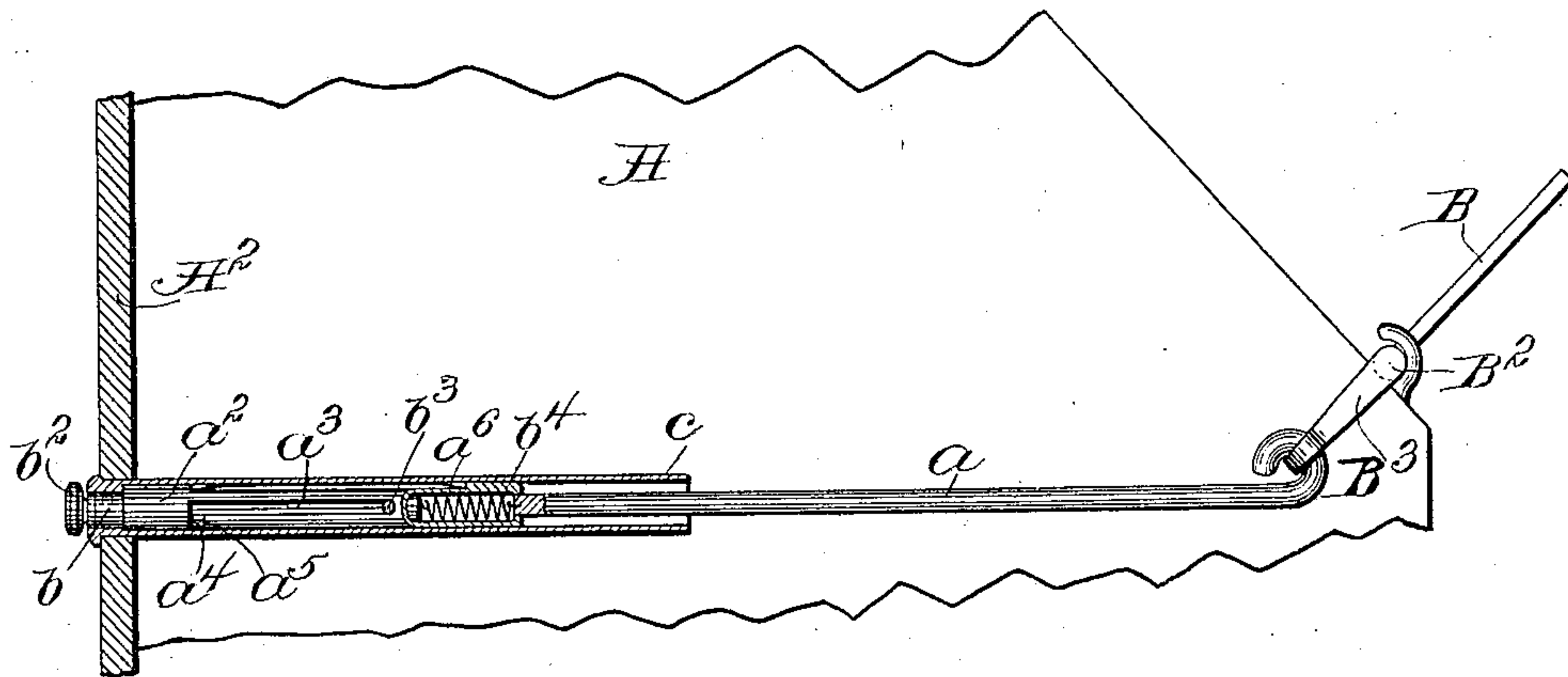


Fig. 2.

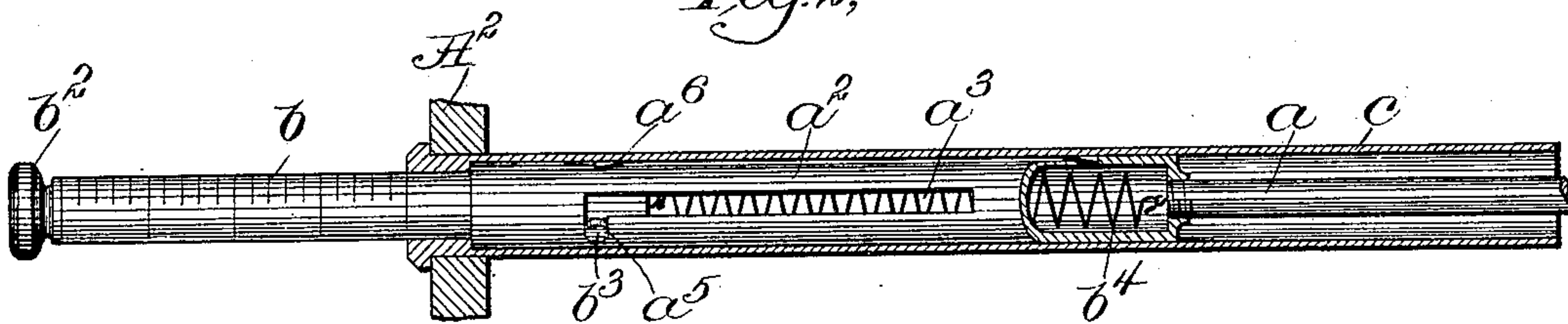


Fig. 3.

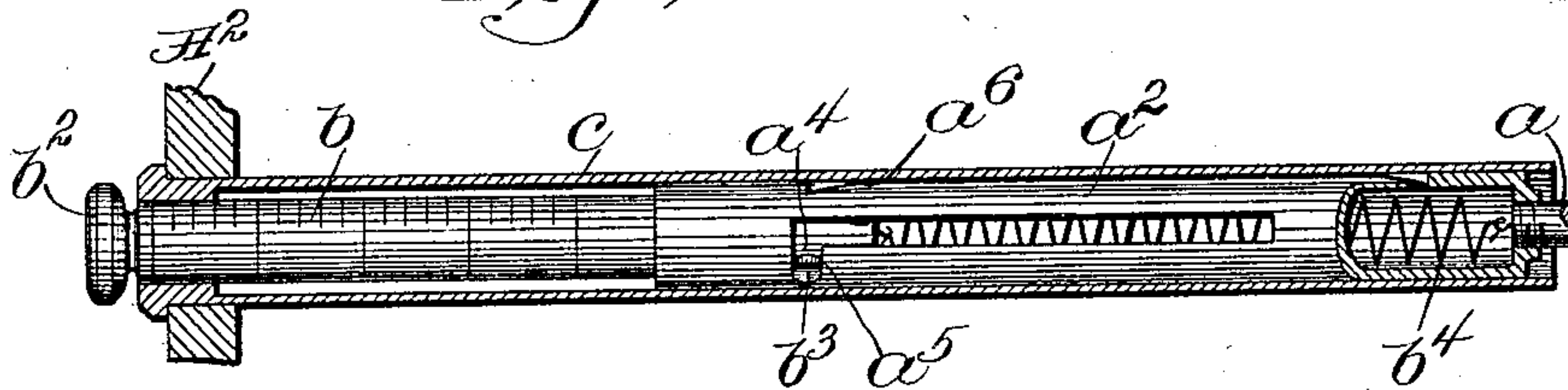
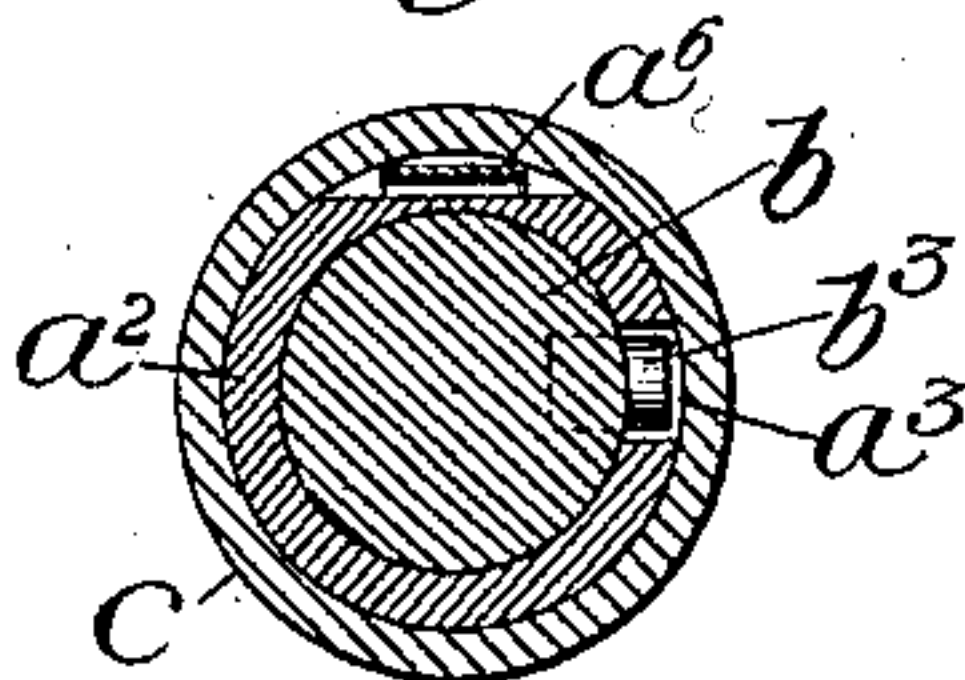


Fig. 4.



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UNITED STATES PATENT OFFICE.

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DAMPER-ACTUATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 620,375, dated February 28, 1899.

Application filed May 31, 1898. Serial No. 682,128. (No model.)

To all whom it may concern:

Be it known that I, JOHN P. STEARNS, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Damper-Actuating Devices, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The present invention relates to a damper-actuating mechanism for grates or fireplaces, the object of the invention being to operate the damper by means of a rod which can be pulled out, as by a knob which normally stands close to the front wall of the fireplace or grate, and at the same time to so arrange the parts that the said knob need not be left protruding from the wall when the damper is open. This is accomplished in accordance with the invention by providing the damper-operating rod with an actuating member arranged to have a longitudinal movement independent of that of the said damper-operating rod, so that after the latter has been moved to the desired position the actuating member can be disengaged therefrom and restored to its normal position, whereby the actuating-knob may be left close to the wall of the grate after the damper has been moved to the desired position, whether open or closed.

A further object of the invention is to afford means whereby the damper will remain in any desired position intermediate of its completely-open or completely-closed position, this being accomplished by providing the damper-rod with a guide-support in which it is frictionally engaged, the friction being sufficient to overcome the tendency of the damper to move in either direction from the intermediate position by force of gravity.

Grate or fireplace dampers have heretofore been operated either by a rod directly connected therewith and adapted to be pulled out at the front of the grate or by a knob attached to a rod which is arranged to operate the damper through a rotary movement. The latter construction is objectionable for the reason that if the damper or its connections become clogged or rusted so that they stick it is difficult to operate the same by twisting a small knob, while the former construction is objectionable for the reason that when the damper is open the rod has to be left protruding beyond the face of the grate, thus in-

juring the appearance thereof, besides being in the way.

The damper-rod embodying the present invention combines the advantages of the straight-pull rod with those of the rotating knob, the damper being easily operated, while it is not necessary in any event to leave the actuating-knob protruding. Furthermore, in the straight-pull rods heretofore used it has been necessary to leave the damper fully open or fully closed, there having been no means for maintaining it in an intermediate position.

Figure 1 is a longitudinal section of a damper-actuating device embodying the invention, a portion of the face and body of the grate being also shown, the former being in section; Fig. 2, a longitudinal section on a larger scale, showing the parts in the position in which they will be after the damper is opened, but before the handle is restored to normal position; Fig. 3, a similar view showing the parts in the position in which they will be when the damper is closed, and Fig. 4 is a cross-section on a still larger scale.

The grate or fireplace A may be of any suitable or usual construction, being shown as provided with the face portion A², and the damper B, arranged to be opened and closed by a movement on a pivotal support B³ through the agency of an arm B³. To actuate the said arm and move the damper, the actuating mechanism embodying the present invention comprises an operating-rod a, connected at one end with said arm B³ and provided with an actuating member b, shown as a rod, provided with a knob b², which normally stands, as shown in Figs. 1 and 3, close to the face of the grate. In order that the said actuating-knob may be restored to its normal position after it has been pulled out to open the damper without again acting upon the said damper to close the same, the rod b is arranged to be disengaged from the rod a and is longitudinally movable with relation thereto, the said rod b being herein shown as provided with a pin or projection b³, adapted to enter a slot a³, which is formed in a sleeve a², directly connected with the rod a and arranged to inclose the rod b. The length of the said slot is substantially equal to or greater than the extent of movement required to throw the damper from its closed to its open position, and vice versa, so that

when the knob b^2 is pulled out, as shown in Fig. 2, the pin b^3 , engaging the end of the slot a^3 , will act upon the same to pull the rod a a sufficient distance to open the damper, after which the handle portion b can be moved inward, the pin b^3 traveling along the slot a^3 without producing any corresponding movement of the rod a .

As herein shown, the rod b is provided with a restoring-spring b^4 , the said spring tending to restore the handle portion b to its normal position when released by the person operating the damper. The said spring may conveniently be inclosed within the sleeve a^2 and connected with the rod a , the stress of the spring in this construction not being sufficiently strong to overcome the resistance of the damper-rod, which will not respond to the movement of the rod b unless it is positively engaged therewith through the agency of the pin b^3 . Assuming, therefore, that the damper is closed (see Fig. 3) and that the knob b^2 is pulled to the position shown in Fig. 2, it is obvious that the sleeve a^2 and the rod a will be drawn to the position therein shown, and that the knob b^2 on being released will return to its normal position, the pin b^3 traveling in the slot a^3 , the parts finally assuming the position shown in Fig. 1. It is necessary, therefore, to afford means for reengaging the actuating member or rod b with the operating-rod a in order to close the damper, it being obviously necessary to first pull out the knob b^2 and then push it in after the rod b is reengaged with the operating-rod, so as to produce a corresponding movement of the latter. To this end the slot a^3 is shown as provided with a lateral slot or recess a^4 , the wall of which affords an engaging shoulder a^5 for the pin b^3 , it being necessary only to pull out the rod from the position shown in Fig. 1 and give the same a slight turn to cause the pin b^3 to enter the slot a^4 , as shown in Fig. 2. An inward movement of the rod b will then produce a corresponding inward movement of the operating-rod a to close the damper, the parts then being in the position shown in Fig. 3. In order that the said damper may remain in any intermediate position, if desired, the operating-rod a is provided with a guide-tube c , the sleeve a^2 and its contained parts being shown as fitting snugly into the said tube c and adapted to travel longitudinally therein. In order that the said rod may be retained in any desired position and at the same time have no tendency to bind, the sleeve a^2 is shown as provided with a spring a^6 , which is arranged to engage with the inner surface of the tube c , so that while the sleeve a^2 can be easily pushed through the said tube c it will be frictionally engaged thereby with sufficient effect to overcome the tendency of the damper to fall into either its open or closed position. The operation of the actuating-rod b is obviously the same when the damper is to be wholly opened or partly opened, since it will return

to its normal position from any position to which it may be pulled. The said rod b may be provided with a suitable scale, as best shown in Fig. 2, and marked in any way which may be desirable, so that the person operating the same can tell to what extent the damper is open by observing the position of the rod when the pin b^3 is in the slot a^4 and can regulate the damper accordingly.

It is not intended to limit the invention to the specific construction herein shown to illustrate the same, since modifications may obviously be made without departing from the invention.

I claim—

1. The combination with a pivotally-supported fireplace-damper; of a longitudinally-movable rod pivotally connected therewith and provided with a sleeve; a guide-support for said sleeve; an actuating member extending into the said sleeve; and means for engaging and disengaging said actuating member and said sleeve, whereby the sleeve can be engaged and moved by the actuating-rod and the said actuating-rod then disengaged and restored to its normal position, substantially as described.

2. The combination with a pivotally-supported fireplace-damper, of a longitudinally-movable operating member pivotally connected therewith, an actuating member independent of said operating member, one of said members being sleeved upon the other, a guide-support for the outer member projecting inward from the front wall of the fireplace, and means for engaging and disengaging said members, whereby the operating member can be engaged and moved by the actuating member and the latter then disengaged and restored to its normal position, substantially as described.

3. The combination with a grate-damper, of the rod a connected with said damper and provided with the sleeve a^2 having the slot a^3 and the laterally-extending slot or recess a^4 , the actuating member b , and the engaging projection b^3 , a guide-support for said sleeve, and a friction-spring, as a^6 , interposed between said sleeve and said guide-support, substantially as and for the purpose described.

4. An actuating device for a grate-damper comprising a longitudinally-movable rod connected with said damper, a handle portion arranged to be engaged with or disengaged from the said rod, a guide-support for the said rod and the said handle portion, and a spring for restoring said handle portion to its normal position relative to said guide-support when disengaged from said rod, substantially as described.

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

JOHN P. STEARNS.

Witnesses:

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