

J. SHEFFER.
DOOR CLOSING DEVICE.
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1,042,829.

Patented Oct. 29, 1912.

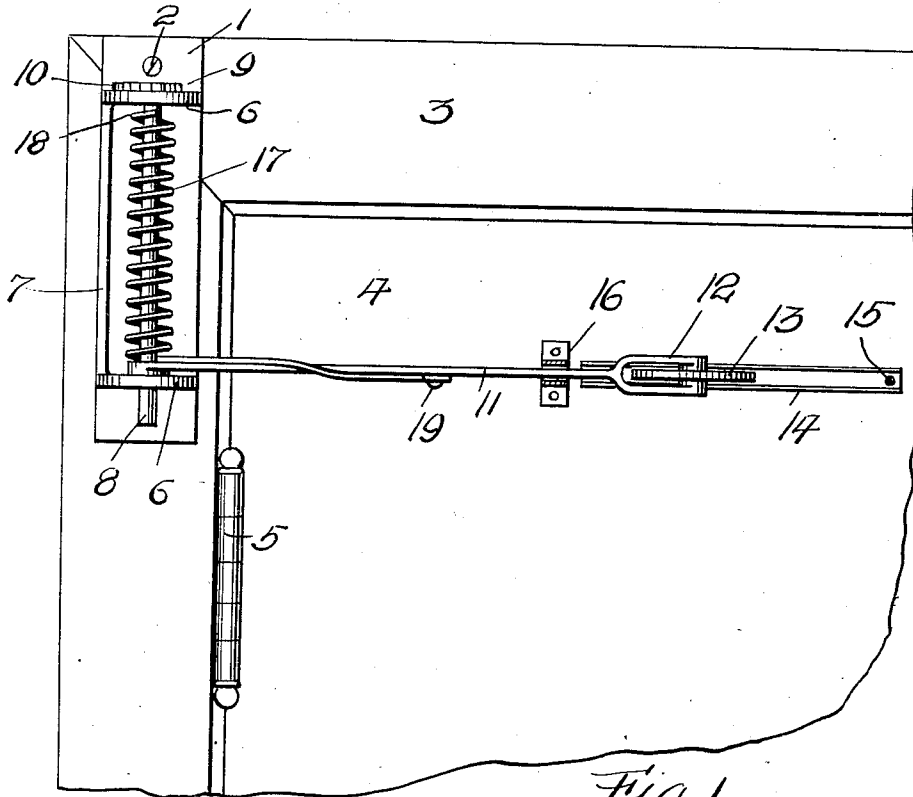


Fig. 1.

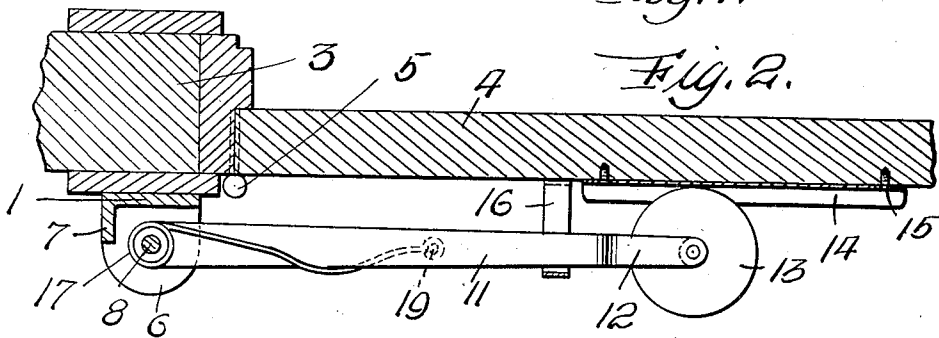


Fig. 2.

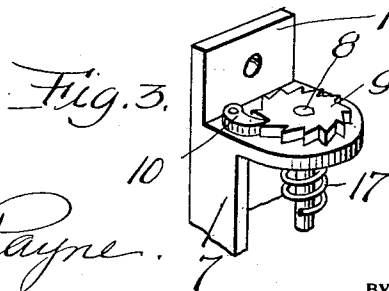


Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN SHEFFER, OF SCHENECTADY, NEW YORK.

DOOR-CLOSING DEVICE.

1,042,829.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN SHEFFER, a subject of the Emperor of Austria-Hungary, residing at Schenectady, in the county of Schenectady and State of New York, have invented certain new and useful Improvements in Door-Closing Devices, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a door closing device, and the primary object of my invention is the provision of positive and reliable means, in a manner as will be hereinafter set forth, for automatically closing a hinged door after the same has been opened, thereby preventing the door from remaining ajar.

A further object of this invention is to accomplish the above results by a mechanical construction that is simple, durable and highly efficient for the purposes for which it is intended.

With the above and other objects in view the invention resides in the novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawing, wherein:—

Figure 1 is a front elevation of the door closing device as applied to a door, the device being partly broken away and partly in section. Fig. 2 is a horizontal sectional view of the same, and Fig. 3 is a perspective view of a portion of the device showing the means to prevent rotation of the shaft in one direction by the spring.

The reference numeral 1 denotes an oblong plate screwed or otherwise connected, as at 2 to the door frame 3, adjacent to the upper edge of the door 4 hinged or otherwise pivotally mounted in the frame 3, as at 5. The plate 1 is provided with outwardly extending apertured bearings 6 connected by a side rib 7 that braces said bearings.

Revolubly mounted in the bearings 6 is a vertical shaft 8 that has the upper end thereof provided with a ratchet wheel 9 engaged by a pivoted pawl 10 arranged upon the uppermost bearing. The pawl 10 engages the ratchet wheel 9 so as to arrest rotation in one direction of the shaft 8.

Loosely mounted upon the shaft 8 and resting upon the lowermost bearing 6 is an

arm 11 having the outer end thereof provided with a yoke 12 in which is revolubly mounted an anti-friction wheel or roller 13, said roller engaging in a channel-shaped rail or bar 14 screwed or otherwise connected, as at 15 to the inner side of the door 4 adjacent to the upper edge thereof.

Secured to the side of the door 4 is a stirrup 16 that retains the arm 11 normally in parallelism with the inner side of the door 4, but permits of said arm moving when the door is swung to an open position. Encircling the shaft 8 is a coiled spring 17 having the upper convolution thereof connected to the shaft, as at 18 and the lower convolution extended onto the arm 11 and then under the arm and secured to said arm, as at 19. The shaft 8 is revolved in one direction to increase the tension of the spring 17, revolving of the shaft in the opposite direction is prevented by the engagement of the pawl 10 in the ratchet wheel 9. The tension of the spring 17 acting upon the arm 11 is sufficient to normally retain the door 4 in closed position and when the door is open and released the spring acting upon the arm 11 will force the door closed. When the pawl is shifted from engagement with the wheel 9 the tension of the wheel relaxes and the door when opened will not be forced to closed position as the tension of the spring is not sufficient.

It is thought that the operation and utility of the device will be apparent without further description and while in the drawing there is illustrated a preferred embodiment of the invention, it is to be understood that the structural elements are susceptible to such variations as fall within the scope of the appended claim.

What I claim is:—

A door closing device comprising a plate adapted to be secured to a door frame and provided with an upper and a lower outwardly extending apertured bearing, a shaft revolubly mounted in said bearing, a ratchet wheel carried by the upper end of said shaft above said upper bearing, a pawl pivoted to said upper bearing and adapted to engage said ratchet wheel to prevent rotation of the shaft in one direction, an arm loosely mounted upon said shaft and supported upon the upper face of said lower bearing, a yoke projecting from the free end of said arm, an

anti-frictional wheel journaled within said yoke, a stirrup adapted to be carried by a door and straddling said arm for maintaining it parallel with the door, a channel-
5 shaped rail bar to be secured to the door and constituting a track for said roller, and a spring surrounding said shaft having its upper end connected thereto and its lower end extending upon the upper and lower

faces of and secured to the lower face of 10 said arm.

In testimony whereof I affix my signature in the presence of two witnesses.

JOHN SHEFFER.

Witnesses:

M. E. LOWRY,
FRANK COOPER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
