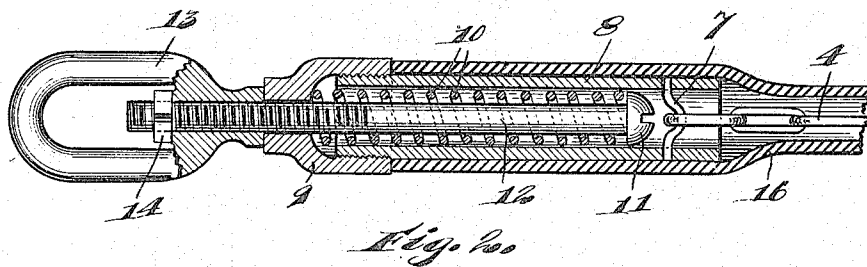
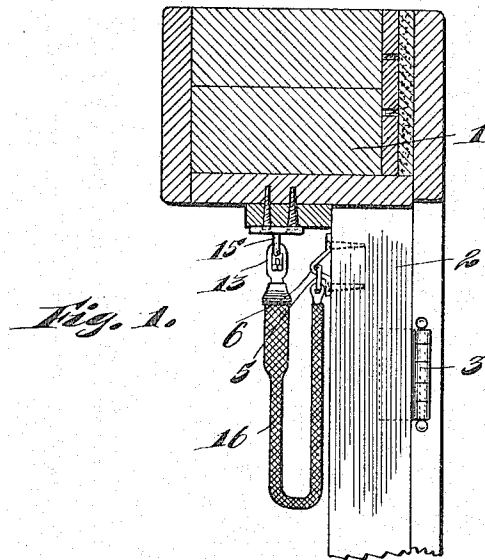


E. GADBOIS.
DOOR STOP.

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1,122,199.

Patented Dec. 22, 1914.



Witnesses:

C. E. Vessels.
A. A. Olson.

Inventor:

E. Gadbois,
By Joseph M. W. Latta
his Attorney.

UNITED STATES PATENT OFFICE.

ELI GADBOIS, OF CHICAGO, ILLINOIS.

DOOR-STOP.

1,122,199.

Specification of Letters Patent.

Patented Dec. 22, 1914.

Application filed October 20, 1913. Serial No. 796,225.

To all whom it may concern:

Be it known that I, ELI GADBOIS, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Door-Stops, of which the following is a specification.

My invention relates to door stops, that is to means for preventing hinged doors from swinging beyond a certain point.

The object of my invention is the production of a door stop through the medium of which the amplitude of opening swinging of a door may be determined and through the medium of which the door will be brought to a stop gradually and without a jar or shock.

A further object is the production of a door stop which will be durable and economical in construction and efficient in use.

Other objects will appear hereinafter.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawing forming a part of this specification, and in which—

Figure 1 is a vertical section through the upper end of a conventional door frame, the door being shown therein, equipped with a door stop embodying my invention, and Fig. 2 is an enlarged central longitudinal section of one end of the door stop detached.

Referring now to the drawing I have shown therein a door frame 1 in which is swingingly mounted a door 2 hung upon hinges 3 in the usual manner.

Coöperating with the door 2 is the door stop which constitutes the subject matter of this invention. The preferred form of this door stop, as illustrated, comprises a chain 4 one end 5 of which is connected with the door 2 by means of a loop 6 secured to said door adjacent the upper edge thereof as shown. The terminal link at the opposite end of said chain engages with a cross piece or bar 7 arranged at the open end of a tubular member 8. Arranged over the opposite end of said tubular member is a cap 9 preferably in threaded connection therewith. Arranged in said tubular member is a helical compression spring 10 one end of which abuts against the cap 9, the opposite end of said spring abutting against the head

11 of a plunger 12 which is mounted for free longitudinal movement in said tubular member 8. One end of said plunger 12 projects exteriorly through a central opening in the cap 9, the outer end thereof being provided with a loop or eye 13 threaded thereon and locked thereto through the medium of a nut 14. The loop 13 is connected with the door frame 1 by means of a loop 15 with which the loop 13 engages which is secured rigidly to the under side of the horizontal bar of said door frame as illustrated.

With a construction as set forth it will be seen that when the door has swung outwardly to such an extent as to fully extend the chain 4, the same will be brought to a stop thereby. Through the medium of the spring 10, however, the door stopping element is rendered yieldable so that when the chain 4 is fully extended, during the opening movement of the door, said spring will be compressed in the tubular member 8 between the cap 9 and head 11 of plunger 12, the spring thereby serving to bring the door gradually to a stop and thereby absorb any shocks or jars which would otherwise be incidental to a sudden stopping of the door, as will be readily understood. In order to finish off the construction and to prevent marring of the door through contact therewith of the chain 4 and also in order to prevent rattling of the chain links in the opening and closing of the door, said chain as well as the tubular member 8 are enveloped in a flexible casing 16 preferably in the form of a rubber hose.

A door stopping device of the construction set forth is simple and economical in construction and hence may be manufactured at a low cost, and will be found highly efficient in use.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having described my invention what I claim as new and desire to secure by Letters Patent is:

1. A door stop comprising a tube open at 110

both ends; a cap removably secured to one end of said tube, said cap being provided with an axial perforation; a plunger slidably mounted in said perforation and extending into said tube; a head on said plunger fitting the bore of said tube; a compression spring interposed between said cap and said head; and a flexible element connected with the opposite end of said tube, substantially as described.

2. A door stop comprising a tube open at both ends; a cap in threaded connection with one end of said tube, said cap being provided with an axial perforation; a plunger slidably mounted in said perforation and extending into said tube; a head on said plunger fitting the bore of said tube; a compression spring interposed between said cap and said head; a cross bar provided at the opposite end of said tube; and a flexible

element connected at one end with said cross bar, substantially as described.

3. A door stop comprising a tube having one end closed with an axial perforation in said end; a plunger slidably mounted in said perforation and extending into said tube; a head on said plunger fitting the bore of said tube; a compression spring between said closed end and said head; a bar across the open end of said tube and having an outwardly curved central portion; and a flexible element connected to the curved portion of said bar, substantially as described.

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

ELI GADBOIS.

Witnesses:

JOSHUA R. H. POTTS,
ARTHUR A. OLSON.

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