

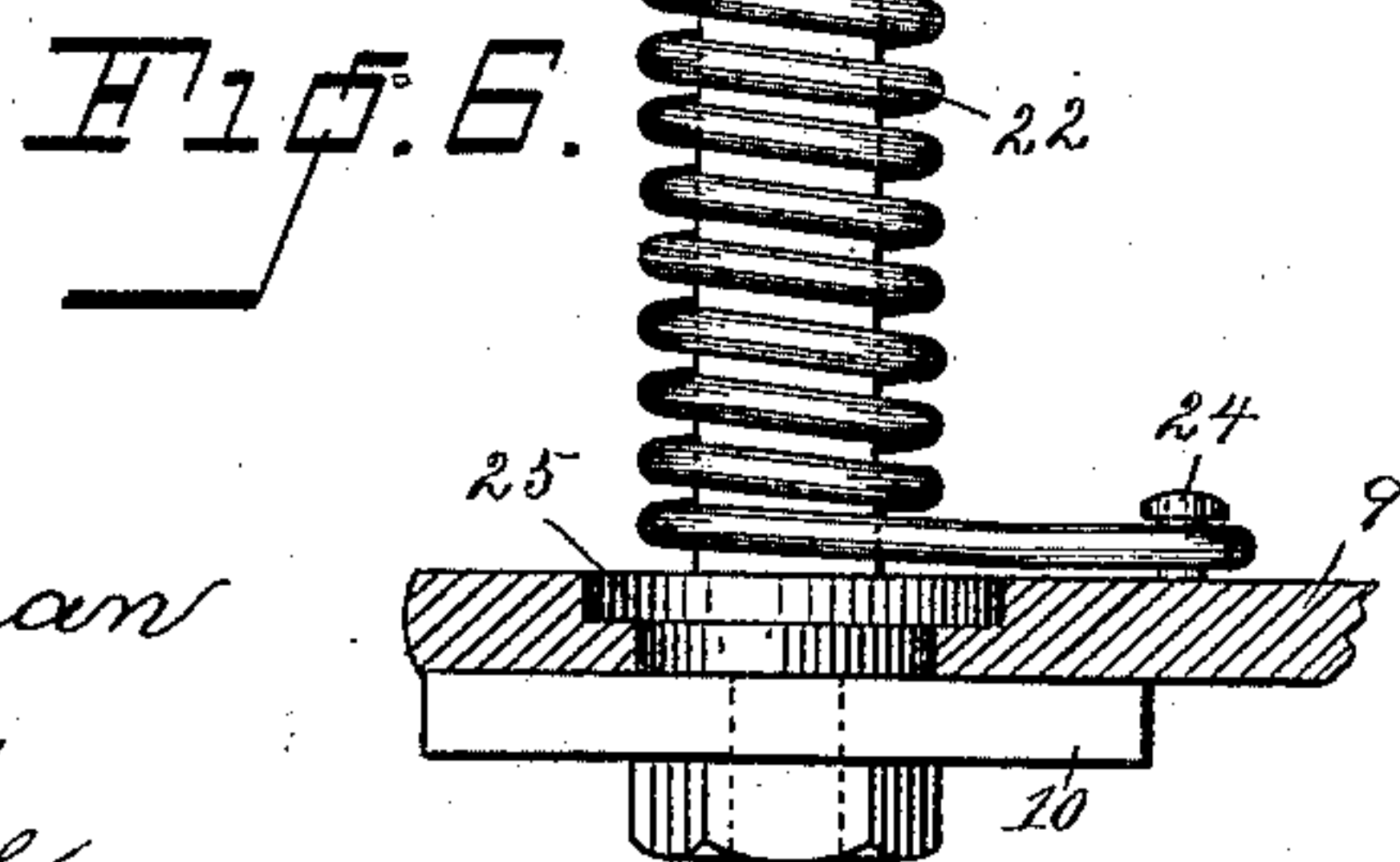
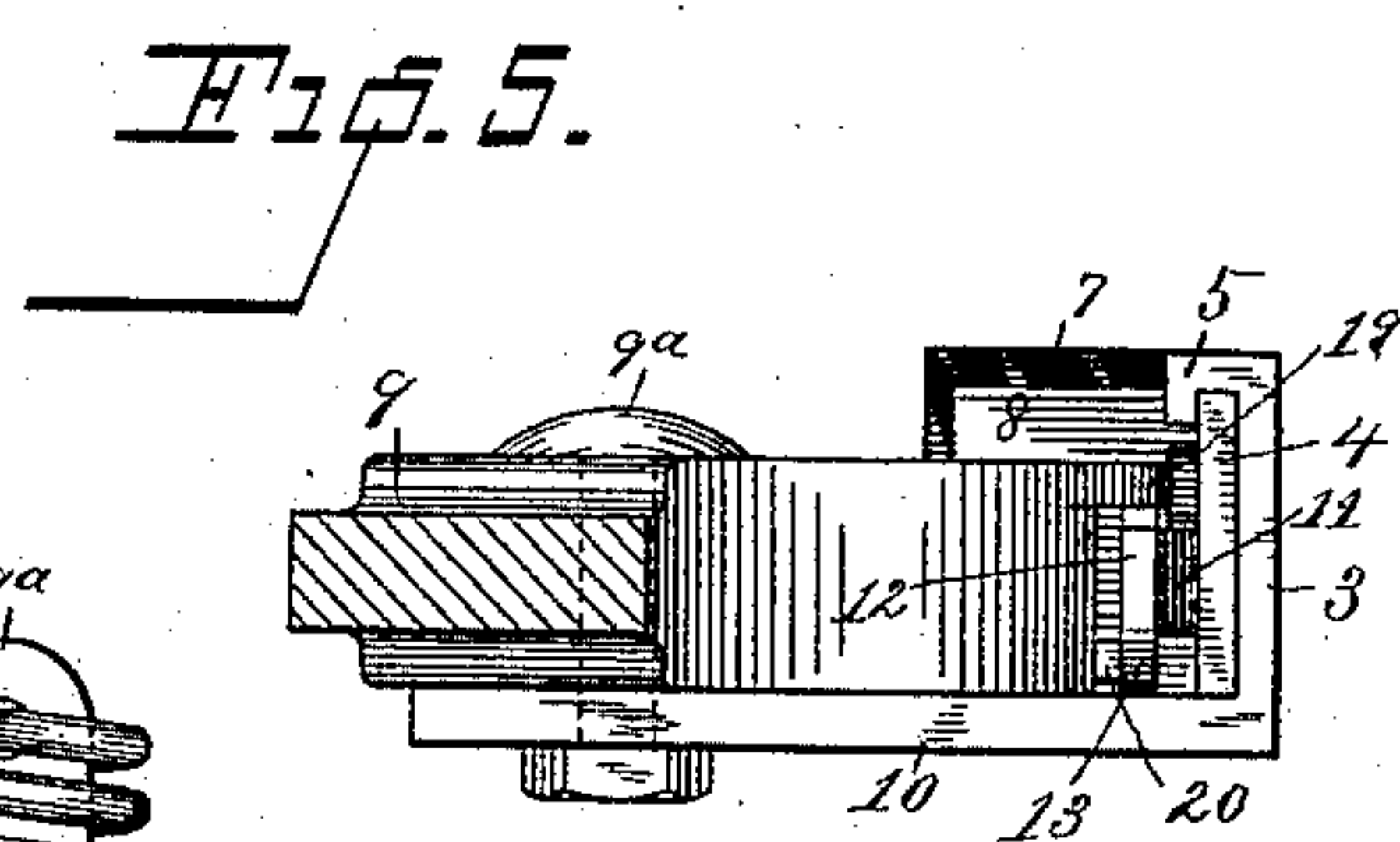
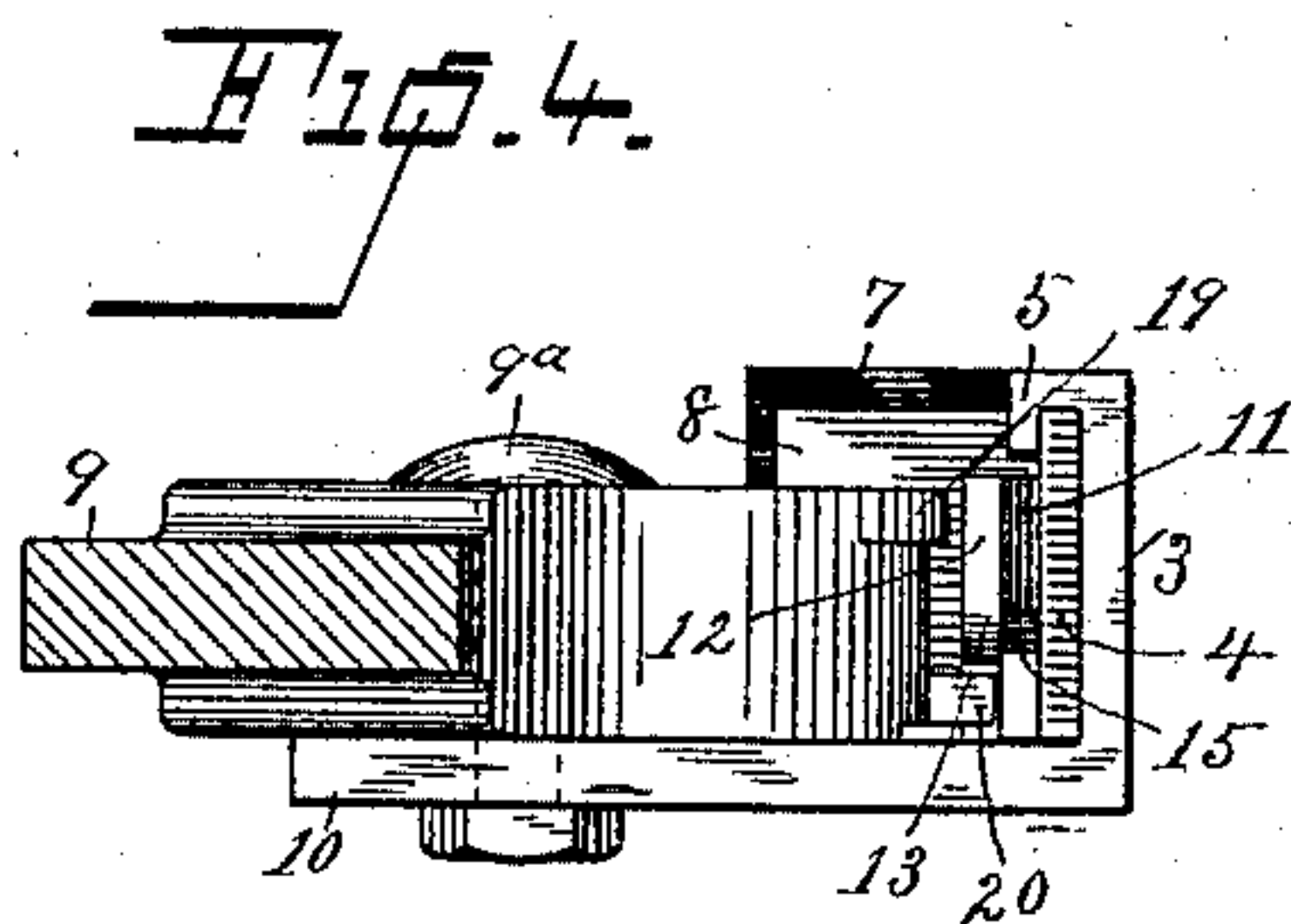
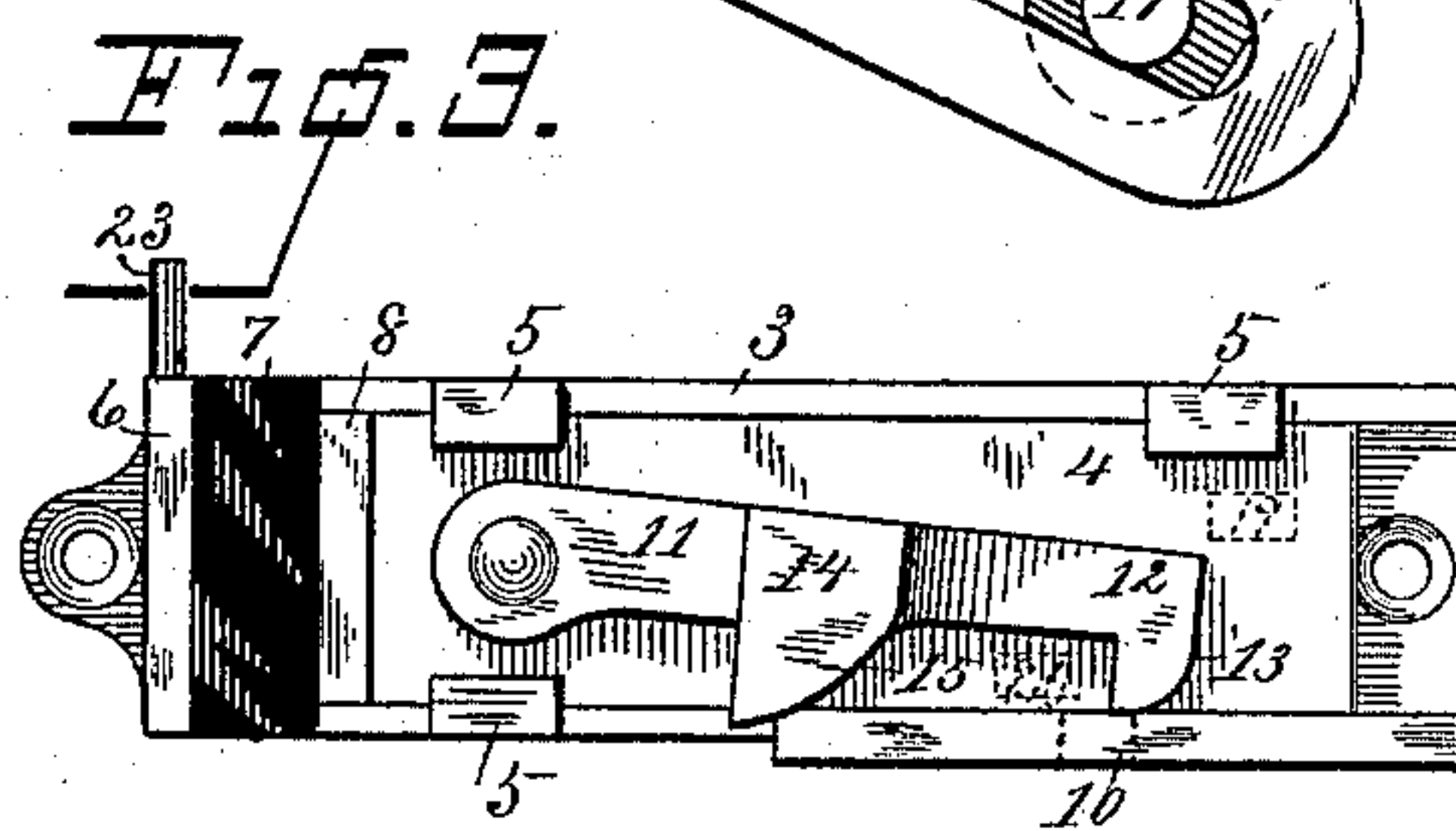
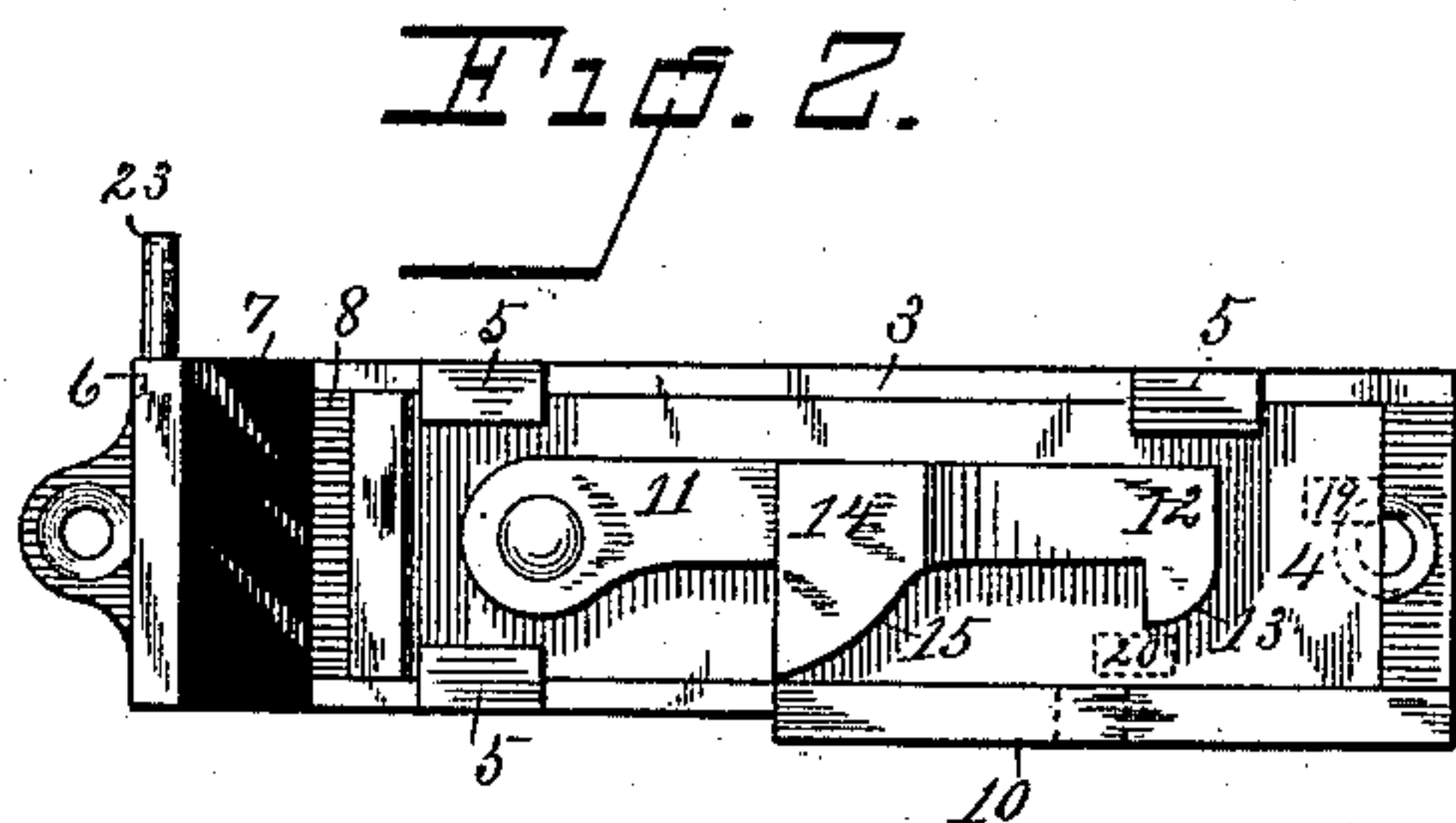
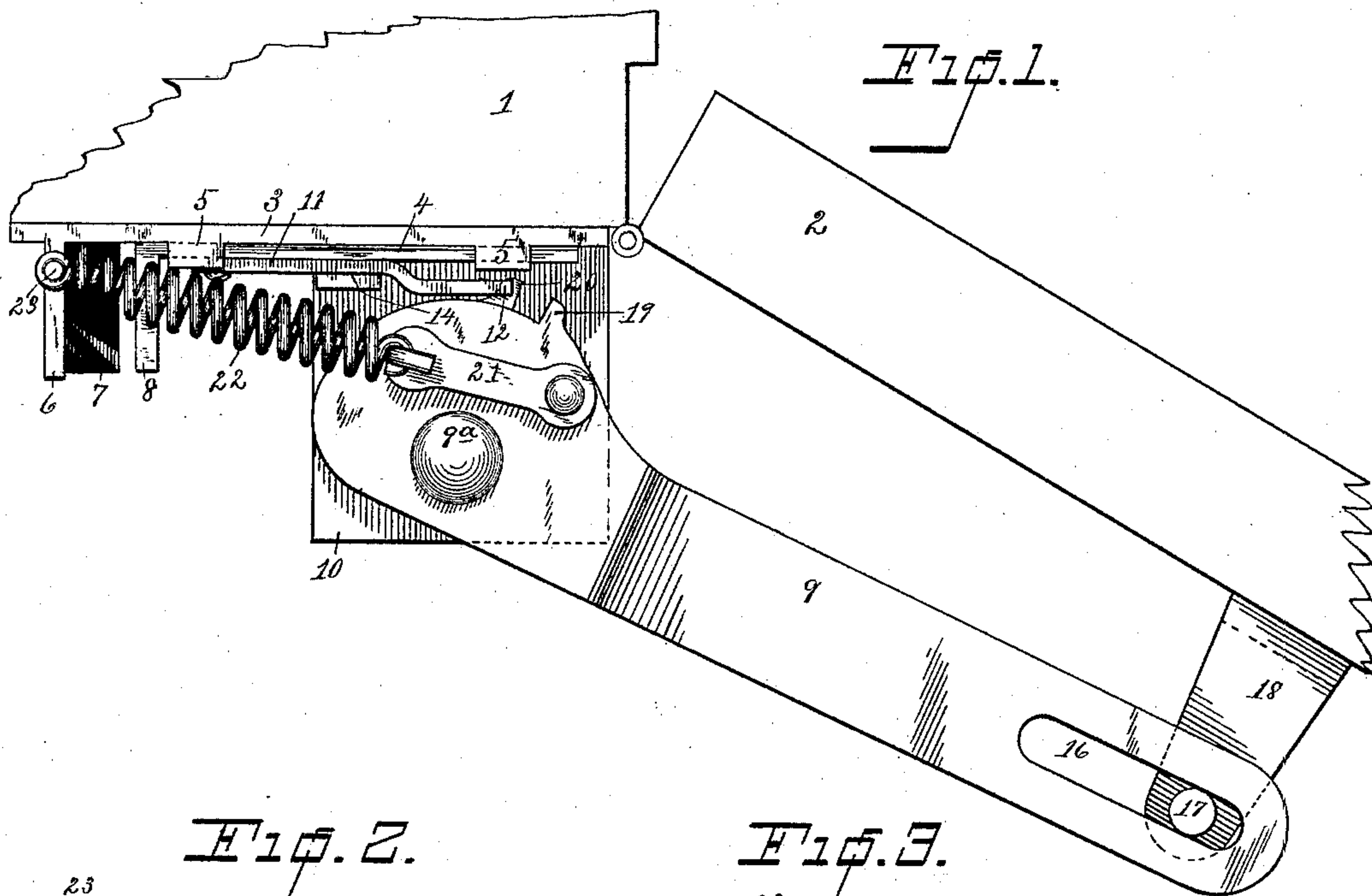
(Model.)

F. W. TOBEY.

DOOR CHECK.

No. 387,328.

Patented Aug. 7, 1888.



WITNESSES
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UNITED STATES PATENT OFFICE.

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DOOR-CHECK.

SPECIFICATION forming part of Letters Patent No. 387,328, dated August 7, 1888.

Application filed May 8, 1888. Serial No. 273,192. (Model.)

To all whom it may concern:

Be it known that I, FRED. W. TOBEY, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Door Checks and Springs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object a combined door closer and buffer in which the use of air and fluid cylinders shall be dispensed with, and which will permit a door to be readily closed by a slow movement, but which when the door is closed quickly will check it just before it reaches the closed position, and will then automatically close it with a slow movement, thus wholly preventing slamming. With these ends in view I have devised the simple and novel construction of which the following description, in connection with the accompanying drawings, is a specification, numbers being used to denote the several parts.

Figure 1 is a plan view illustrating the application of my invention and its operation in use; Fig. 2, a side elevation of the base-plate, showing the slide and dog, the latter being in position to check the door, the lever being removed; Fig. 3, a similar view, the dog being in the position which permits the door to close gently; Fig. 4, an end elevation as seen from the right in Fig. 1, the door being removed and the position of the parts corresponding with Fig. 2; Fig. 5, a similar end elevation, the position of the parts corresponding with Fig. 3, and Fig. 6 is a detail view showing another style of spring applied to close the door.

1 denotes the jamb, and 2 the door.

3 is the base-plate, which is attached to the jamb by screws or in any suitable manner, and 4 a slide, which moves freely in ways 5, cast or otherwise formed on the base-plate. For small doors the parts may all be blanked out and formed from sheet metal. At the outer end of the attaching-plate is a plate, 6, formed integral therewith, to which the buffer 7 is attached. This buffer may be a block of rub-

ber, as shown in the drawings, or one or more coil-springs may be used, if preferred. At the inner end of the slide is a plate, 8, which is adapted to come in contact with the buffer, as will presently be more fully explained.

9 denotes the closing-lever, which is pivoted to an extension, 10, of the base-plate, or, if preferred, suitable ears may be provided above and below. The pivot upon which the closing-lever is journaled is denoted by 9^a. These changes in the details of construction, being matters wholly within the judgment of the manufacturer, have not been deemed to require illustration.

11 denotes a dog pivoted near the outer end of the slide, the forward end of which is provided with a head, 12, rounded on its under side, as at 13.

14 is an enlargement on the dog, the edge of which is rounded, as at 15. The rounded edge 15 of the dog engages the outer edge of extension 10, which, when the slide is moved backward, permits the dog to drop out of operative position, as in Fig. 3, and when the slide is moved forward raises it upward to the operative position, as in Fig. 2. At the forward end of the closing-lever is a slot, 16, which is engaged by a stud, 17, on a bracket, 18, which is attached to the door. The inner end of the attaching-lever is ordinarily enlarged somewhat, as shown, and rounded, so as to swing freely, and is provided at its upper inner edge with a lug, 19, which is adapted to engage the head of the dog when the latter is in the raised position. The relative position of lug 19 and the head of the dog when the door is closed quickly is shown in Fig. 2, the position of the lug being indicated by dotted lines.

20 is a lug at the lower inner edge of the closing-lever, the position of which is back of lug 19, as clearly shown in Fig. 1, there being sufficient space between said lugs to allow the lower end of the head of the dog to drop between them, as will be more fully explained. The action of the lower lug is to raise the forward end of the dog by engagement with the rounded head when the door is closed. When the door is closed quickly, the head of the dog does not have time to drop before it is struck by lug 19. When the door is closed gently,

however, the head of the dog is raised by lug 20, as shown in Fig. 2, and then drops down behind it, as shown in Fig. 3, so that lug 19 passes over the head of the dog, allowing the door to be entirely closed. The relative positions of lugs 19 and 20, when the door is closed by a gentle movement, is indicated by dotted lines in Fig. 3, the slide, dog, &c., being shown in full lines. The special form of closing-spring used is not of the essence of my invention. Any ordinary form may be used, as best suits the judgment or taste of the manufacturer.

In Fig. 1 I have shown a link, 21, pivoted to the head of the closing-lever, and a closing-spring, 22, one end of which is connected to the free end of the link and the other to a pin, 23, projecting upward from plate 6.

In Fig. 6 I have shown pivot 9^a as extended upward and forming a stud, around which the spring is coiled. One end of the spring is secured to the upper end of the stud, as clearly shown, and the other end to a pin, 24, on the closing-lever. As already stated, these details of construction are not of the essence of my invention, and may be varied within reasonable limits without departing from the principle thereof. The operation of the device is as follows: Whenever the door is opened, the tendency of the spring is of course to close it. If it has been opened but a short distance, or if it is closed gently by hand, when it has nearly reached the closed position the head of the dog will be lifted by lug 20 on the closing-lever, as in Fig. 2, and will drop down behind said lug as soon as it has passed, as in Fig. 3. This will allow lug 19 to pass over the top of the dog, so that the door may be moved to the closed position without obstruction. When the door has been opened wide and is allowed to escape, or when it is closed quickly by hand, the head of the dog, after being raised by lug 20, will be engaged by lug 19 before it can drop down. This moves the entire slide back and throws plate 8 at the end of the slide against the buffer, which at once recoils, checking the door or throwing it backward slightly toward the open position. The closing-spring acts at once, however, to throw the door to the closed position, but with a slow movement, as the momentum has been wholly overcome. At this second movement the head of

the dog will drop down back of lug 20 before it can be engaged by lug 19, so that lug 19 will pass over the dog, as shown in Fig. 2, thus allowing the closing-spring to close the door. As the special adjustment by which the power of the closing-spring is regulated forms no portion of my present invention, I have not illustrated it in detail in the drawings. In the form shown in Fig. 6 the nut at the bottom is loosened, and the stud is rotated to tighten the coils of the spring, and is locked at the desired adjustment by tightening up the nut again. The stud is provided with a double collar, 25, which fits in a corresponding recess in the arm, thus holding the arm down firmly and at the same time permitting it to turn freely.

Having thus described my invention, I claim—

1. A door closer and buffer consisting, essentially, of a closing-arm pivoted to the jamb and connected to the door and provided with lugs 19 and 20, a buffer and a slide upon the jamb, and a pivoted dog upon the slide, whereby when the door is closed quickly lug 20 raises the dog which is engaged by lug 19, and the slide is carried against the buffer, which then recoils, allowing the dog to drop back of lug 20 and lug 19 to pass over it, so that the door is closed without slamming.

2. The base-plate having extension 10, the closing-lever pivoted thereto and having lugs 19 and 20, and a closing-spring, in combination with the buffer, a slide engaging said buffer and carrying a pivoted dog having an enlargement which engages the edge of the extension, and a head which is engaged by said lugs, as and for the purpose set forth.

3. The base plate having ways 5, the buffer secured to the base-plate, and the slide moving in said ways and having a plate, 8, adapted to engage the buffer, in combination with the pivoted dog carried by the slide and having a head, 12, the closing-lever having lugs 19 and 20, and a closing spring, substantially as described.

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

FRED. W. TOBEY.

Witnesses:

R. T. LATTIN,
JAMES B. STUART.