

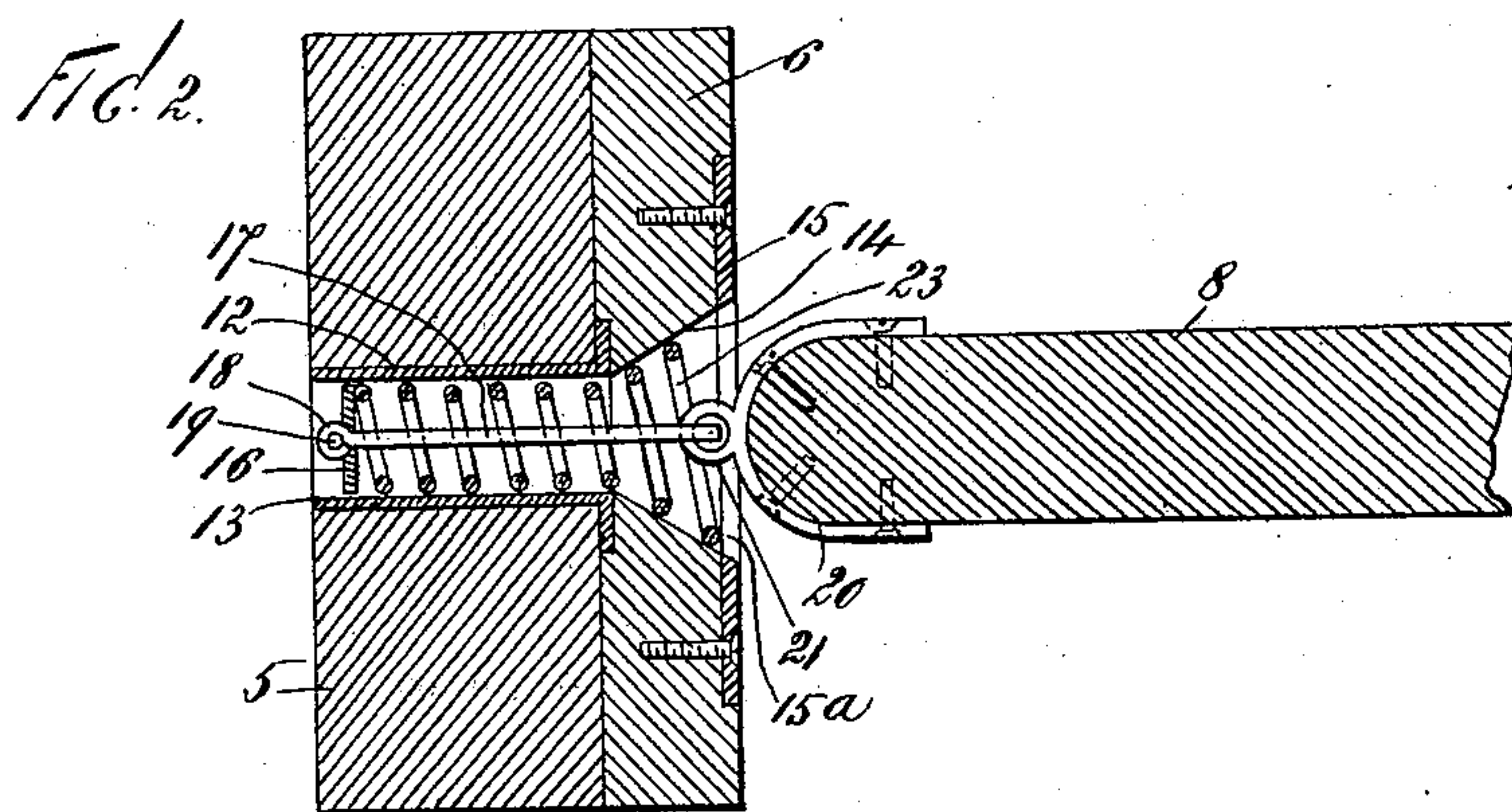
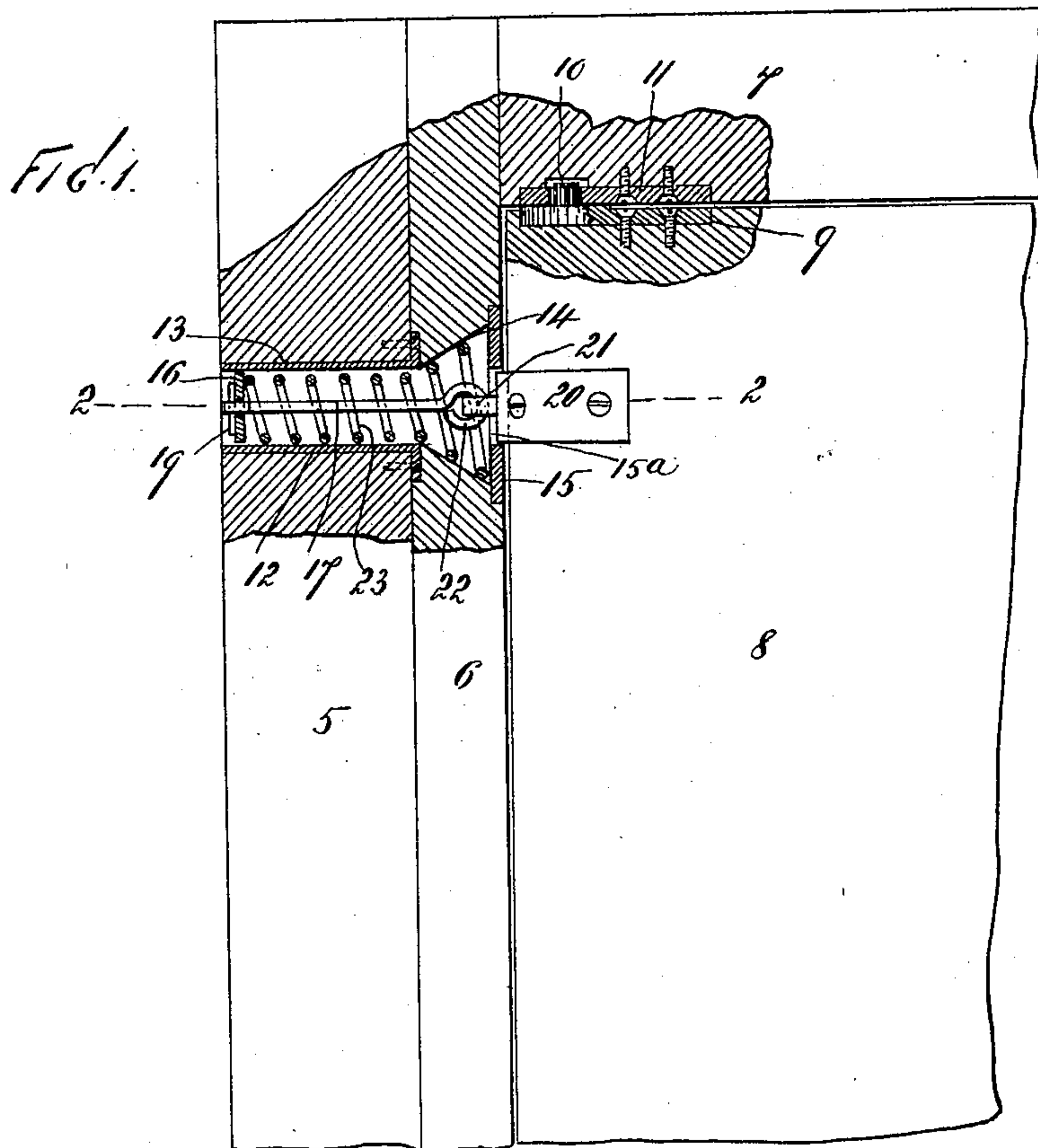
No. 611,024.

Patented Sept. 20, 1898.

O. VOIGTLANDER.
DOOR SPRING.

(Application filed July 21, 1897.)

(No Model.)



WITNESS

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UNITED STATES PATENT OFFICE.

OSCAR VOIGTLANDER, OF TRENTON, NEW JERSEY.

DOOR-SPRING.

SPECIFICATION forming part of Letters Patent No. 611,024, dated September 20, 1898.

Application filed July 21, 1897. Serial No. 645,336. (No model.)

To all whom it may concern:

Be it known that I, OSCAR VOIGTLANDER, a citizen of the United States, residing at Trenton, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Door-Springs, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to spring mechanisms for mounting swinging doors; and the object thereof is to provide improved means for holding a door of this class in the closed position, while allowing it to swing freely in either direction.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a sectional side view of a part of a door and a part of the frame thereof and showing my improved construction, and Fig. 2 a section on the line 2 2 of Fig. 1.

In the drawings forming part of this specification the separate parts of my improvement are designated by the same numerals of reference in each of the views, and in said drawings I have shown a part of the frame of a swinging door, which consists of a side piece 5, which is provided with a facing 6, and at 7 a part of the upper portion of the frame, and in the practice of my invention I provide a door 8, which is provided at its upper and lower ends, the upper end only being shown, with a plate 9, which is provided with an upwardly-directed trunnion 10, which fits in a corresponding opening formed in a plate 11, which is countersunk in the upper portion of the frame over the plate 9, and said plate 9 is also countersunk in the end of the door, and by means of this construction I provide pivotal supports for the top and bottom of the door, on which said door is free to swing. I also form in the side of the frame and near the top and bottom thereof transverse openings 12, but one of which is shown, and in which is secured a casing 13, and the facing 6 is provided with a continuation of the opening 13, as shown at 14, and secured to the outer side of said facing 6 and over said opening is a plate 15, which is provided with a transverse oblong slot or opening 15^a.

The opening 14 in the facing 6 is conical in form, and the base thereof is directed outwardly, and mounted in the outer end of the casing 13 is a cross bar or plate 16, through which passes a rod 17, the inner end of which is provided with a ring or eye 18, through which passes a pin 19, and secured to the door 8, adjacent to the facing 6 and in line with the opening 14 therein, is a yoke 20, which is provided with a ring or eye 21, and the inner end of the rod 17 is formed into a ring or eye 22, by means of which connection is made with the ring or eye 21 of the yoke 20, and mounted on the rod 17, between the cross bar or plate 16 and the plate 15, is a spring 23, the opposite ends of which bear on said cross bar or plate and on said yoke, and the operation of these springs, two or more of which are in practice employed, serve to normally hold the door in the closed position, or in that shown in the drawings, and said door may be swung in either direction by simply pressing thereon in the usual manner, and in this operation the spring 23 yields and the rod 17 is drawn slightly outwardly and the yoke 20, secured to the door, moves in the oblong transverse slot 15^a formed in the plate 15, and as soon as the door is released the said spring gradually brings the same back into the closed position, or into that shown in Figs. 1 and 2. The object of forming the opening 14 in the facing 6 conical in cross-section is to facilitate this operation and permit the spring to work freely, and it will be apparent that the facing-plate 6 is not an essential feature of this invention, and the said facing-plate and the side 5 of the door-frame may be formed integral, if desired, and other changes in and modifications of the construction described may be made without departing from the spirit of my invention or sacrificing its advantages. I prefer, however, to make the facing 6 independent of the side 5 of the frame in order to facilitate securing the casing 13 in place, and it will be observed that the spiral spring 23 is also conical in form at its outer end, so as to correspond with the form of the opening in the facing 6, and it will also be apparent that two, three, or more of these springs may be connected with each door.

Having fully described my invention, I

claim as new and desire to secure by Letters Patent—

5 The combination, with a door-frame having the chamber or socket provided with the flaring or spreading outer end portion forming a supplementary chamber with respect to the bore of the main chamber or socket, a slotted plate closing the outer end of said flaring chamber, a coiled spring mounted in said
10 socket or chamber and having the enlarged or flaring outer end portion seated in said corresponding supplementary chamber and forming a broad base to said spring, and a connecting device bearing upon the reduced

end of the spring and projecting to the enlarged or flared base, of a door carrying a yoke pivoted to said connecting device and projecting through the slotted plate and within the flaring base of the spring, substantially as set forth. 15 20

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 17th day of July, 1897.

OSCAR VOIGTLANDER.

Witnesses:

L. S. SKILLMAN,

BARTON B. HUTCHINSON.