

No. 745,428.

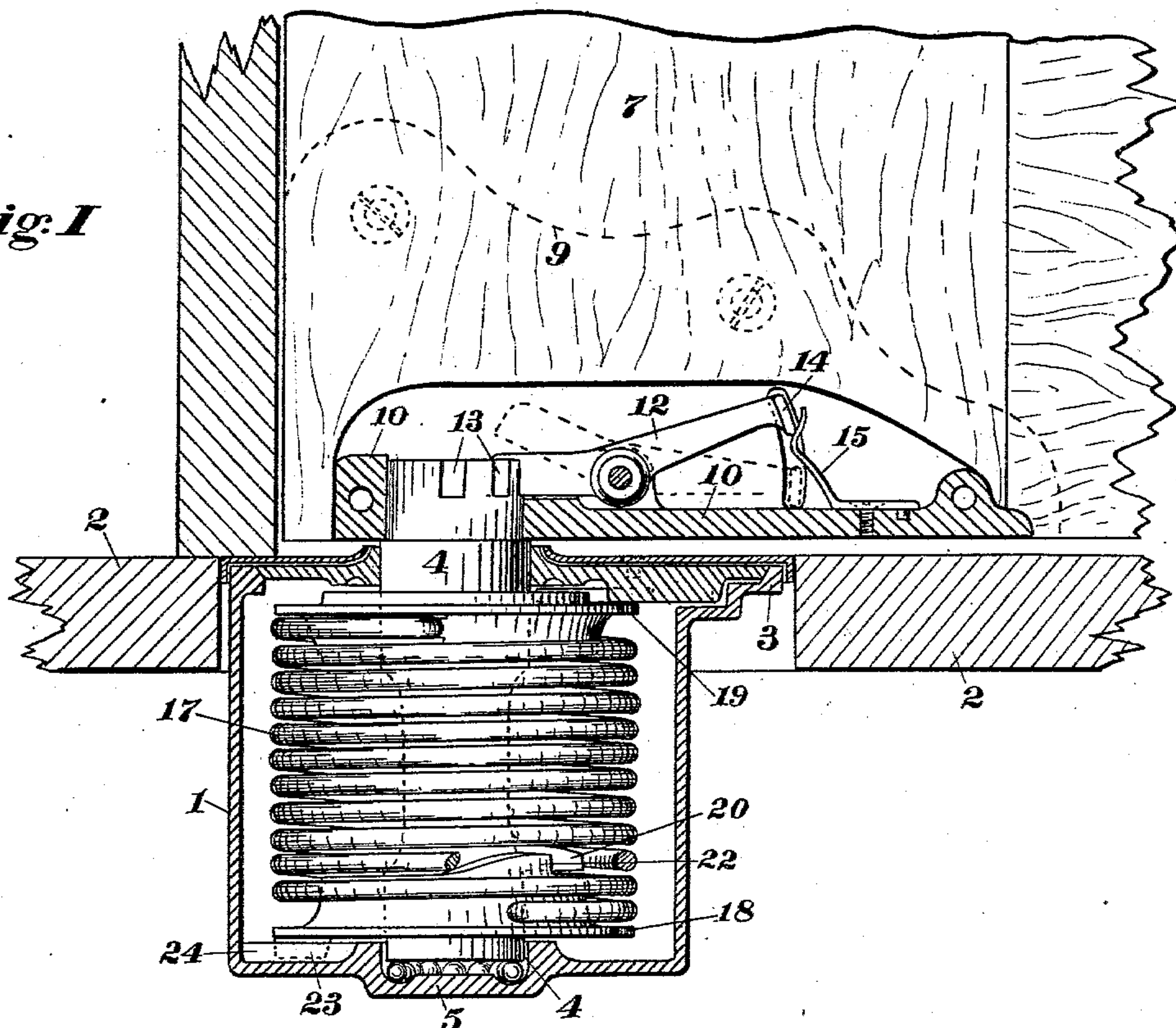
PATENTED DEC. 1, 1903.

A. F. ENQUIST.  
SPRING HINGE.

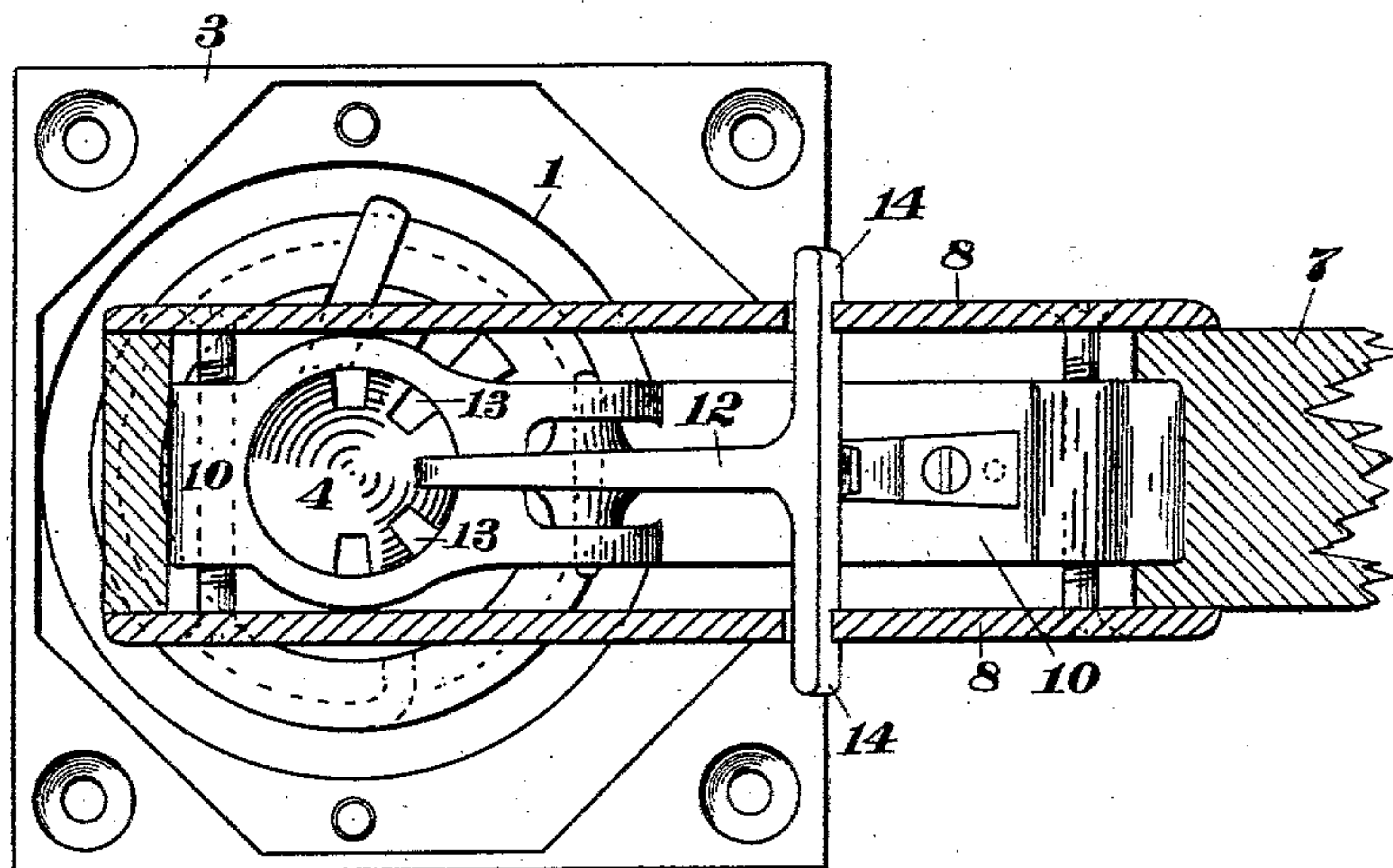
APPLICATION FILED AUG. 5, 1903.

NO MODEL.

**Fig. I**



**Fig. II**



WITNESSES:

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# UNITED STATES PATENT OFFICE.

AXEL F. ENQUIST, OF SAN FRANCISCO, CALIFORNIA.

## SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 745,428, dated December 1, 1903.

Application filed August 5, 1903. Serial No. 168,322. (No model.)

*To all whom it may concern:*

Be it known that I, AXEL F. ENQUIST, a citizen of the United States, residing at San Francisco, county of San Francisco, and State of California, have invented certain new and useful Improvements in Spring-Hinges; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to certain improvements in spring-hinges for self-closing doors and to means for the more convenient manipulation of such doors, as hereinafter described, and illustrated by drawings that form a part of this specification.

My improvements consist in a pivotal door-support provided with a spring that tends to close the door automatically and hold it shut after it has been swung to the right or left; and it consists especially in a means of attaching and detaching the spring-operated door-pivot to and from the door so that the latter may swing free in the usual manner when detached or when attached to said spring-operated pivot by the means provided the door may be set to stand closed or wholly or partly open and when swung will return to the same position.

The object of my invention is to permit convenient adjustment of doors which can be made self-closing, adjusted to various positions, or swing free, as may be desired.

Referring to the drawings, Figure I is a section in the plane of a door provided with one of my improved pivots, and Fig. II a plan view of the devices shown in Fig. I.

In mounting self-closing doors it is often desirable and is a common custom to support the door on a pivot at the bottom contained in a case or housing that projects downward into or through the floor on which the door is mounted. Such devices take the place of common or compound hinges, and as the space occupied is below the floor-line and concealed the appearance is more neat and the effect the same as when common hinges are employed. As, however, such pivotal mountings when provided with closing-springs are inconvenient in the case of sweeping through doors or when for any reason it is desirable to have a door stand open or ajar I provide for dis-

engagement of the closing-spring, so the door will swing free or be engaged in different positions, so the door can be set ajar, as may be desired. To this end I provide a containing case 1, that is set down flush with the floor 2 and fastened thereto by the flange 3. In this case 1 is placed an oscillating stem 4, that is supported vertically in the casing in bearings 60 at the top and bottom, the lower bearing being a footing at 5 to sustain the weight of the door 7.

The door-mountings consist of the plates 8, that are attached to the sides of the door 7 by screws, as indicated by dotted lines at 9 in Fig. I, and between these plates is secured a base-plate 10, fitting loosely around the top of the stem 4, as seen in Fig. II. To this base-plate is secured the pivoted pawl 12 for engagement with the stem 4 by means of the notches 13 in the top of the said stem and is provided with lateral extensions 14, that pass out at each side through slots in the plates 8. The pawl 12 is engaged and disengaged by means of these extensions 14, and the pawl 12 is held in either an open or closed position by means of a spring 15.

The coil-spring 17 is placed around the stem 4 and at its ends is attached to the disks 18 and 19, that fit loosely on the stem 4. The bottom disk 18 is clutched to the stem 4 in one direction by the jaws 20 and 22, as seen in Fig. I, also is clutched in the same direction to the case 1 by a detent 23 and bar 24. (Also shown in Fig. I.) The disk 19, at the top, is similarly but oppositely clutched to the stem 4 and the casing 1 by similar devices, so that when the door 7 is moved either way, the pawl 12 being engaged, the spring 17 is wound and offers an elastic force opposing such movement of the door.

The door 7 is supported at the top by any suitable pivot in alinement with the stem 4, and the various metal parts are made or adjusted to fit doors of different thickness.

When an attendant desires to set the door free, one of the extensions 14 is pressed down by the foot or by hand and will remain out of contact by means of spring 15 and can be again engaged by raising one of the extensions 14 and allowing the pawl to fall into any of the notches 13 at the desired position of the door. It will be understood that for the piv-



oted pawl 12 can be substituted a sliding bolt or detent, the effect being the same. The devices shown operate well in practice. This latter-described mechanism, including the casing 1, also the base-plate 10 when the latter is rigidly fixed to the stem 4, is well known in practice and does not form a part of my invention; but

What I claim as new, and desire to secure by Letters Patent, is—

In self-closing door-hinges, a vertical oscillating rotary stem on which the door is supported and swings, a coil-spring about this stem clutched right and left thereto, and en-

gaging and disengaging means between the oscillating stem and door, by which they may be connected and disconnected in different positions relatively, so as to return the door to the chosen position, or the door released to swing free, substantially as specified.

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

AXEL F. ENQUIST.

Witnesses:

HENRY C. DROGER,  
P. W. J. LANDER.