

No. 847,963.

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J. C. MILHOLLIN.
SEPARABLE SPRING HINGE.
APPLICATION FILED MAY 26, 1906.

Fig. 1.

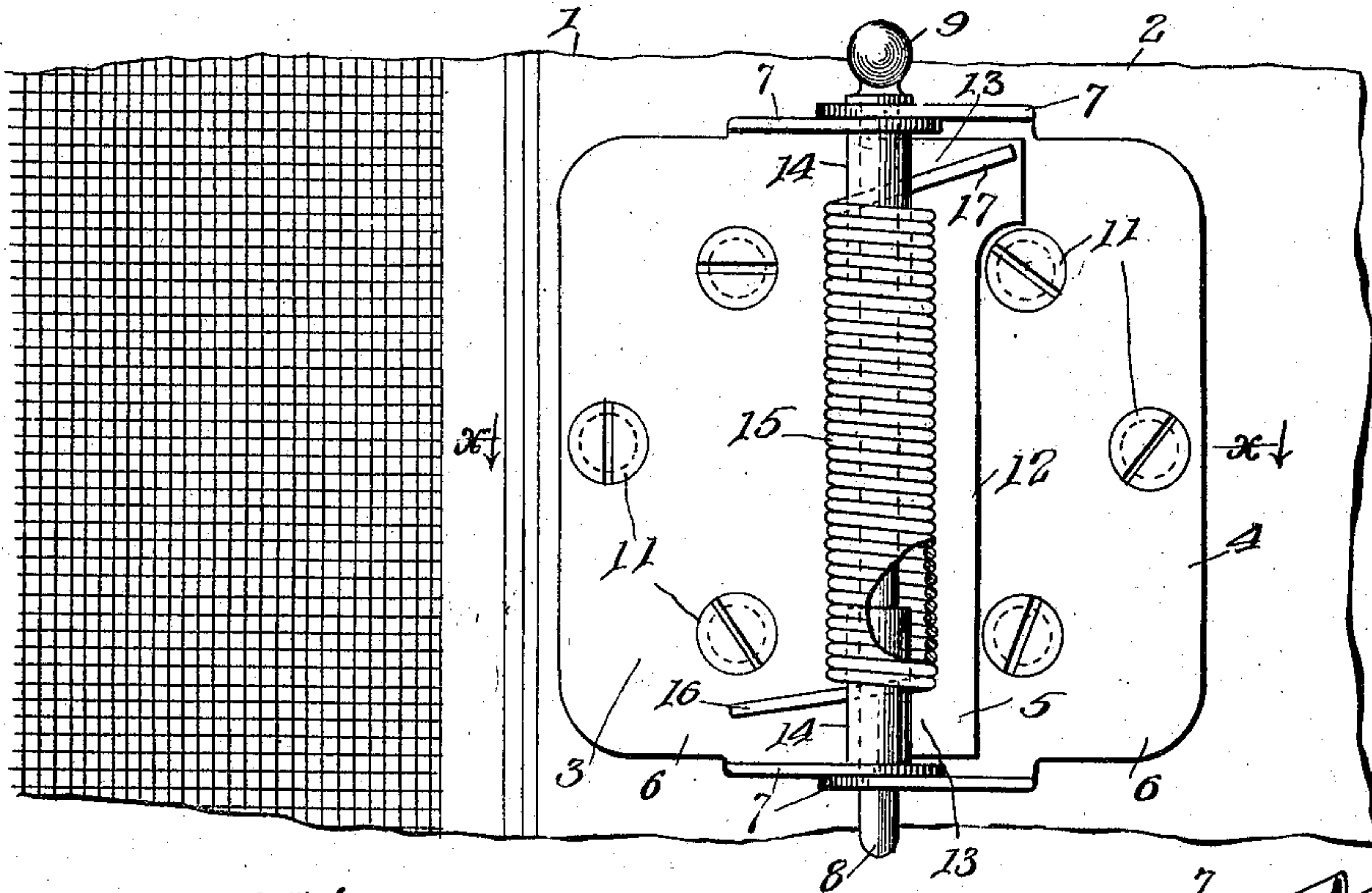


Fig. 2.

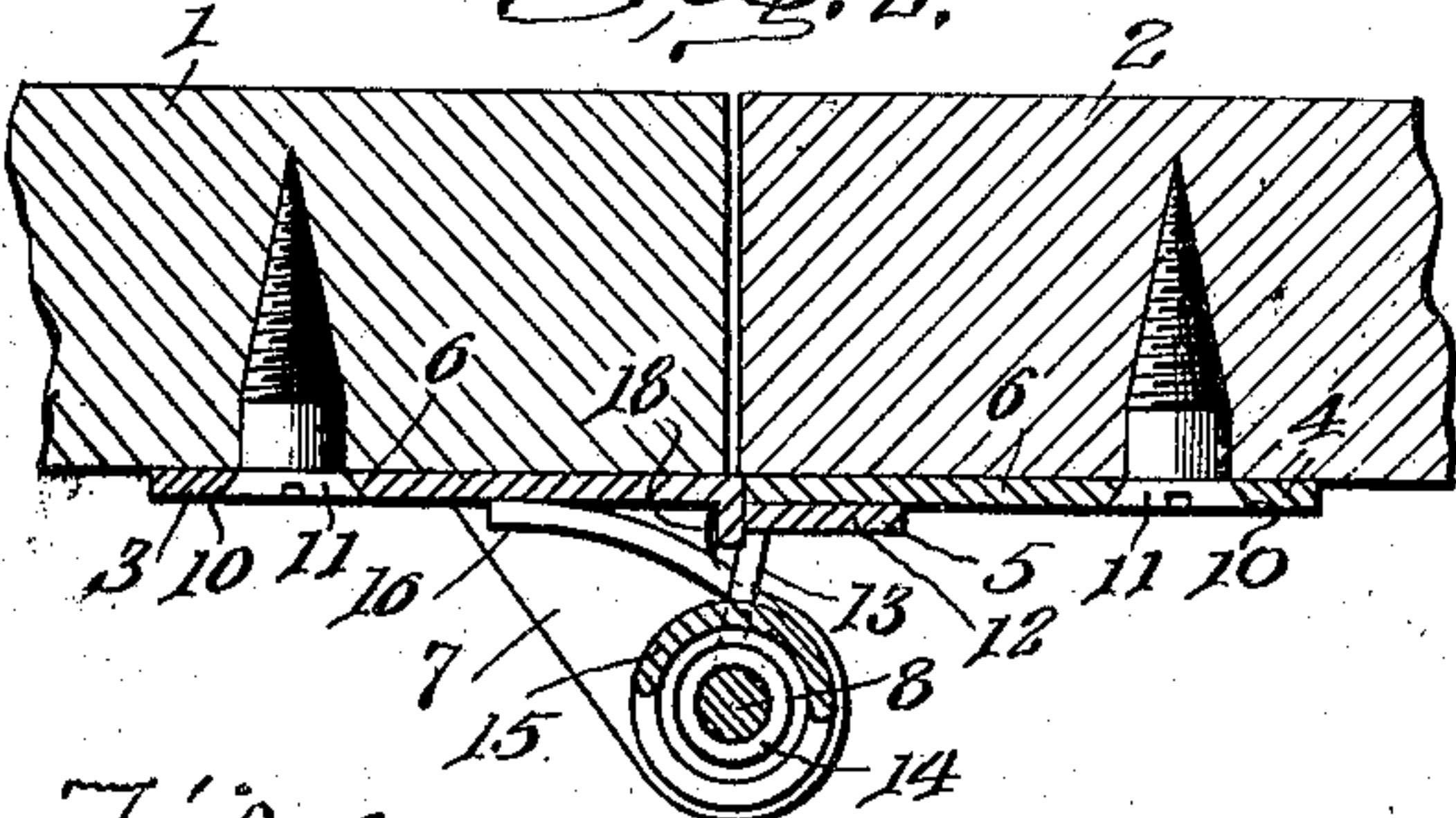


Fig. 3.

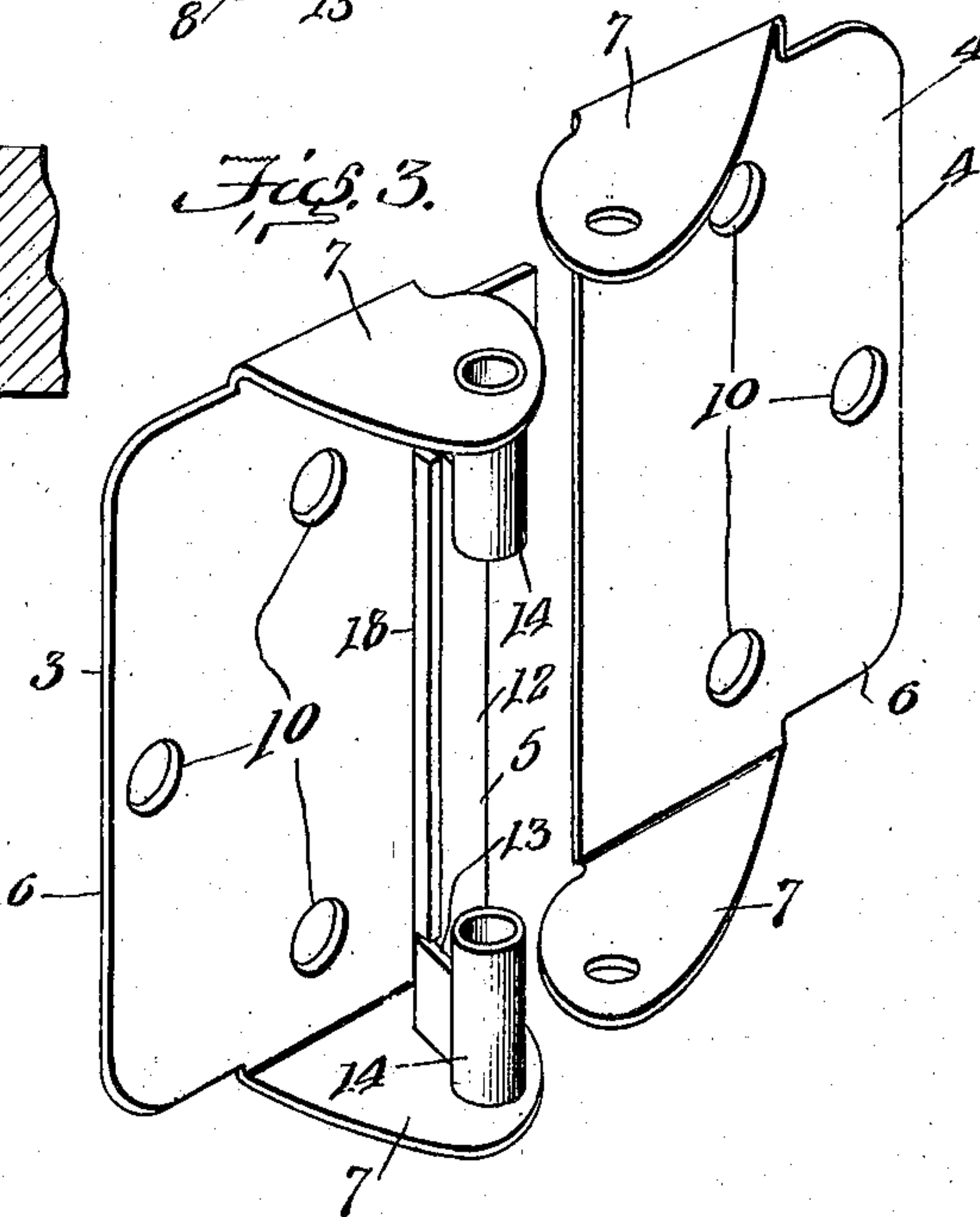
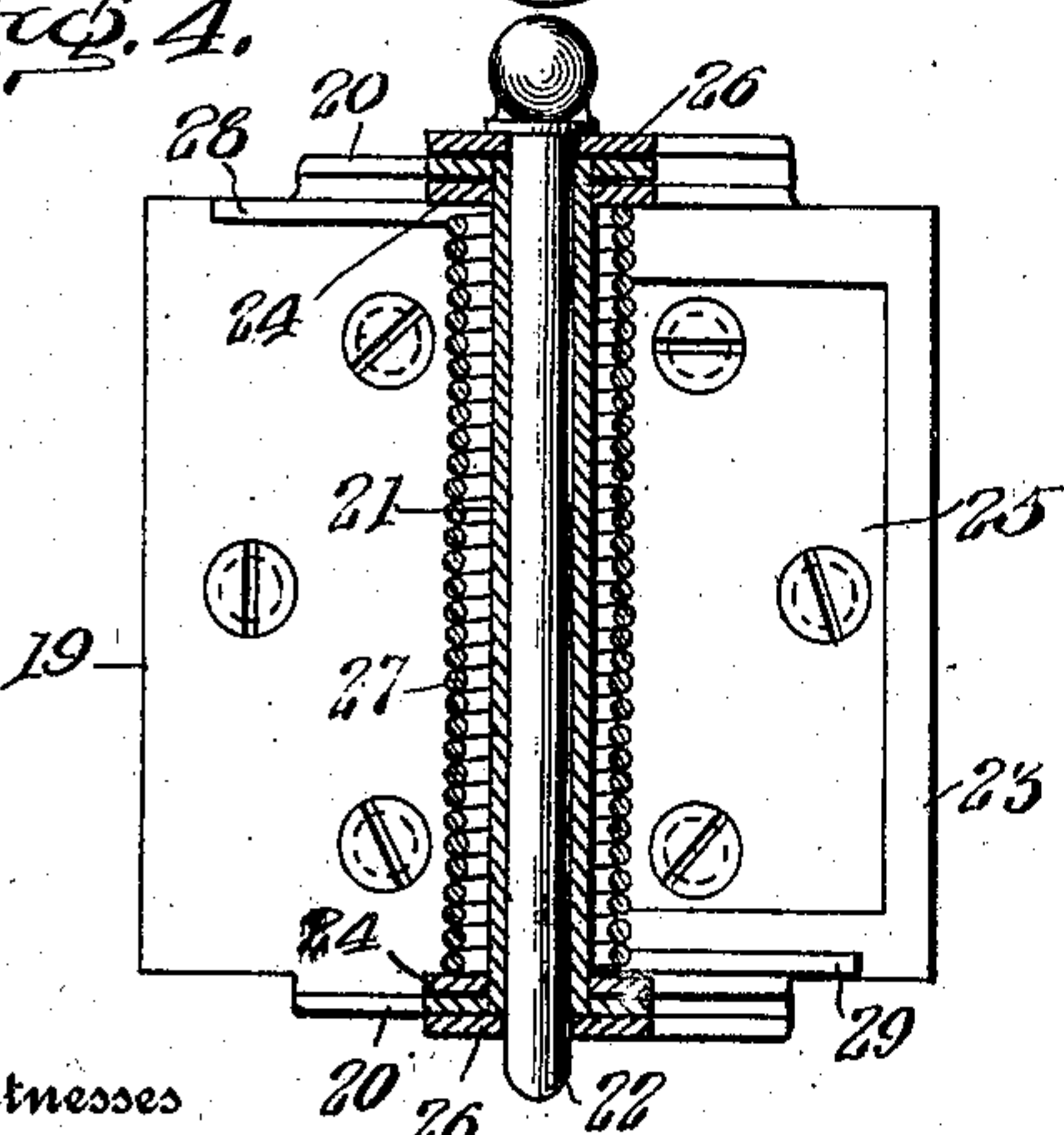


Fig. 4.



Witnesses

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SEPARABLE SPRING-HINGE.

No. 847,963.

Specification of Letters Patent.

Patented March 19, 1907.

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To all whom it may concern:

Be it known that I, JOHN C. MILHOLLIN, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Separable Spring-Hinges, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to separable spring-hinges, and has for its object to provide a spring-hinge designed for use more particularly in connection with screen-doors, although capable of use in other connections, which hinge is so constructed that the removal and replacing of the door may be readily accomplished, the hinges which support the same being separable and the removal of the door merely requiring the removal of the hinge-pintles, the spring remaining in position on one of the members and requiring no special provision for holding it in proper position.

To these ends my invention consists in certain novel features, which I will now proceed to describe and will then particularly point out in the claims.

In the accompanying drawings, Figure 1 is an elevation of a structure embodying my invention in one form, the same being shown partly broken away. Fig. 2 is a detail sectional view taken on the line *xx* of Fig. 1 and looking in the direction of the arrows. Fig. 3 is a detail perspective view showing the two main hinge members slightly separated and the auxiliary hinge member in position on one of the main members, and Fig. 4 is a detail sectional view illustrating a modification.

In the said drawings, 1 indicates a door, shown in the present instance as a screen-door, and 2 the door-jamb, to which the door is hinged. In the present instance I have shown only one of the hinges, the same being composed of two main members 3 and 4 and an auxiliary member 5. Each main member comprises a base 6 and lugs 7, which latter are arranged at right angles to the base, the lugs of the two main members being arranged to overlap and being apertured for the passage of the hinge-pintle 8, which is removable and which is provided with a head 9 to hold it in position and facilitate its removal. The base portion 6 of the main members serves to secure the same respectively to the door and jamb, said bases being provided with aper-

tures 10 for the passage of screws 11 or other suitable fastening means. The auxiliary member 5 also comprises a base 12 and lugs 13, by means of which said auxiliary member is also pivoted on the pintle 8. In my preferred construction, which is that shown in Figs. 1 and 2, the lugs 13 are provided with sleeves 14 at their ends, which latter receive the pintle 8, said sleeves also extending into the apertures of the lugs 7 of the main hinge member 3, thereby serving to pivotally connect the auxiliary member to one of the main members.

15 indicates the spring, which is coiled around the pintle and around the sleeves 14, one of the ends of said spring (indicated at 16) bearing upon the hinge member 3, to which the auxiliary member is pivoted, while the other end of said spring (indicated at 17) bears upon the auxiliary member.

The bases of the members 3 and 4 are, as usual, flush with each other at the back, as shown in Fig. 2, and when the parts of the hinge are assembled the auxiliary member bears upon the base of the member 4, to which it is not pivoted so as to transmit to said member the pressure of the spring. In order to prevent displacement of the spring and auxiliary member when the main hinge members are separated, the hinge member 3, to which the auxiliary member is pivoted, is provided with a suitable stop to limit the movement of the auxiliary member under the influence of the spring. I prefer to construct this stop in the manner shown, in which the member 3 is provided with a projection in the form of a flange 18, formed by turning outward the inner edge of the base 6 thereof, the edge of the base 12 of the auxiliary member 5 abutting against said flange, as shown in Fig. 2.

It will be seen that when the parts are assembled the hinge acts as an ordinary spring-hinge, the spring acting directly on the main member to which the auxiliary member is pivoted and indirectly on the other main member through the auxiliary member, which is pressed against it by the spring. When it is desired to remove the door, it is only necessary to remove the pintles of the hinges, whereupon the main hinge members separate in the manner indicated in Fig. 3, from which, however, the spring has been omitted for the sake of clearness. When thus separated, the member 4 remains at-

tached to the part to which it is applied and the member 3, with the auxiliary member and spring, remains attached to its part, the auxiliary member being held by the spring against the stop on said main member, thereby preventing the spring from uncoiling. In placing the door in position again it is only necessary to cause the apertures in the lugs of the main spring members to register, whereupon the pintle is inserted and the hinge is again operative. No special provision for holding the spring is required either in separating or uniting the parts of the hinge, and all that is necessary is the mere removal or insertion of the pintle. The stop holds the auxiliary member in a position such that the two main members may be brought together so as to cause their pivot-lugs to register without compressing the spring, the auxiliary member being so positioned when the main members are separated that it comes into parallelism with the main member on which it bears when in operation upon the bringing together of the two main members with their bases in the same plane and their pivot-apertures registering.

Obviously the invention is applicable to other types of spring-hinges than that illustrated in Figs. 1, 2, and 3 of the drawings, and in Fig. 4 of the drawings I have shown the invention as applied to a well-known type of hinge in which the member 19, corresponding with the member 3 of the construction already described, has its lugs 20 connected by a continuous sleeve 21, through which the pintle 22 passes. The auxiliary member 23 has its lugs 24 pivoted on this sleeve, while the other main hinge member 25 has its lugs 26 arranged outside of the lugs 20 of the main member 19. The spring 27 is coiled around the sleeve 21, one end bearing against the member 19, as indicated at 28, while the other end bears against the auxiliary member 23, as indicated at 29. It is also obvious that the base of the auxiliary member may be of any suitable size and shape, and in the construction illustrated in Figs. 1, 2, and 3 I have shown it as being in the form of a strip merely sufficient in size to have a proper bearing upon the main hinge member to which it is not pivoted, while in Fig. 4 I have shown it as of dimensions equal to those of the said main hinge member, but centrally cut away, so as to give access to the screws which fasten said main member in position.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described, for obvious modifications will occur to a person skilled in the art.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A separable spring-hinge comprising

two main members for attachment to the door and jamb respectively, and a removable pintle connecting the same, in combination with a spring supported by one of said members, and an auxiliary member pivoted to said spring-supporting main member and bearing against the other main member, the spring acting on said auxiliary member and on the main member to which it is pivoted, substantially as described.

2. A separable spring-hinge comprising two main members for attachment to the door and jamb respectively, and a removable pintle connecting the same, in combination with a spring supported by one of said members, and an auxiliary member pivoted to said spring-supporting main member and bearing against the other main member, the spring acting on said auxiliary member and on the main member to which it is pivoted, said last-mentioned main member being provided with a stop to limit the movement of the auxiliary member, substantially as described.

3. A separable spring-hinge comprising two main members for attachment to the door and jamb respectively, said main members being provided with overlapping apertured pivot-lugs, in combination with an auxiliary member adapted to bear on one of said main members and provided with sleeves engaging the apertures of the pivot-lugs of the other member, a removable pintle passing through said pivot-lugs and sleeves, and a spring coiled around said sleeves and pintle and bearing at one end on the auxiliary member, its other end bearing on the main member to which the auxiliary member is thus pivotally connected, substantially as described.

4. A separable spring-hinge comprising two main members for attachment to the door and jamb respectively, said main members being provided with overlapping apertured pivot-lugs, in combination with an auxiliary member adapted to bear on one of said main members and provided with sleeves engaging the apertures of the pivot-lugs of the other member, a removable pintle passing through said pivot-lugs and sleeves, and a spring coiled around said sleeves and pintle and bearing at one end on the auxiliary member, its other end bearing on the main member to which the auxiliary member is thus pivotally connected, said last-mentioned main member having the inner margin of its base flanged to form a stop for the auxiliary member, substantially as described.

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

JOHN C. MILHOLLIN.

Witnesses:

E. O. HAGAN,

F. W. SCHAEFER