

No. 862,014.

PATENTED JULY 30, 1907.

J. W. PIERCE.

HINGE.

APPLICATION FILED NOV. 10, 1906.

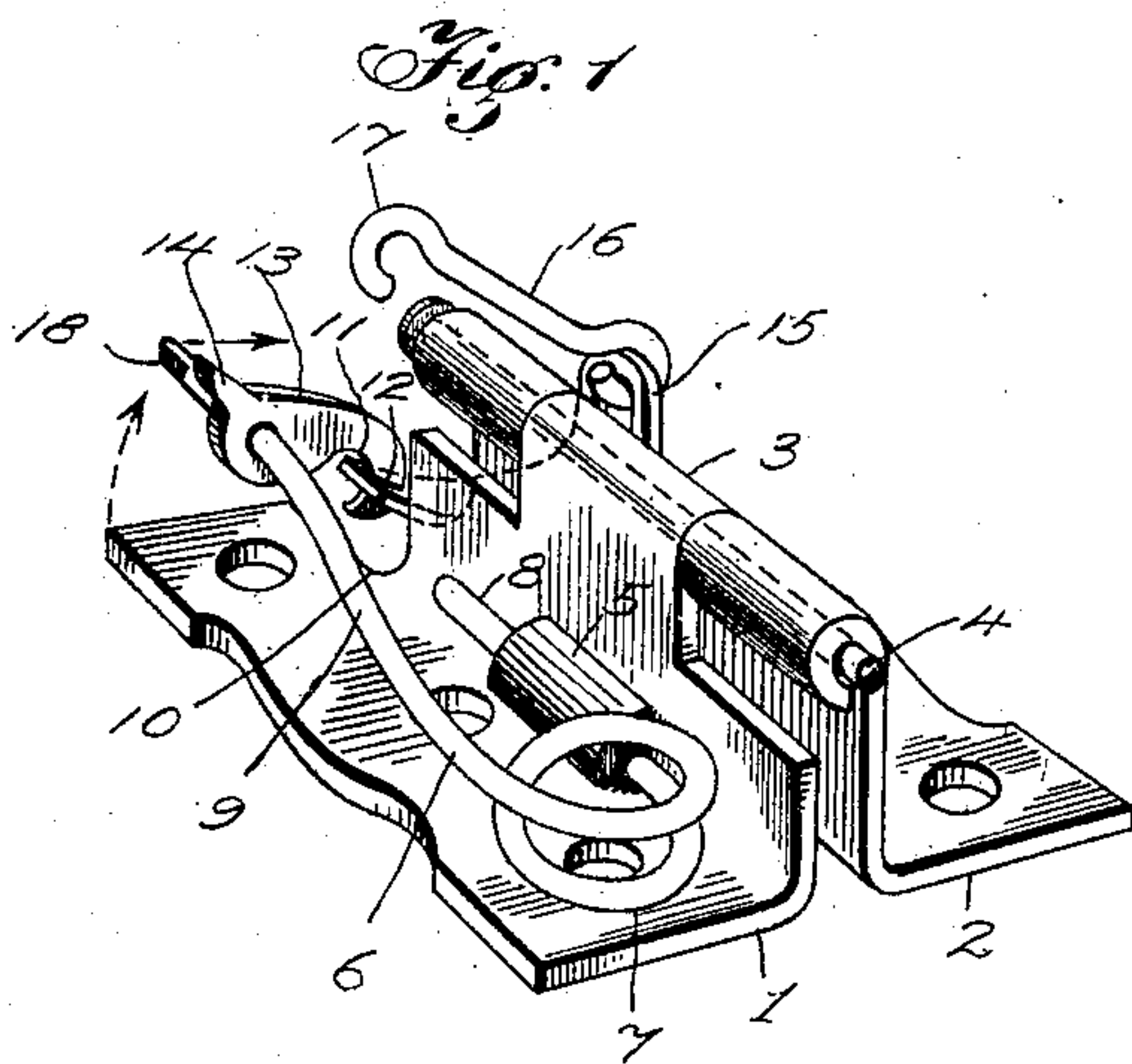


Fig. 2

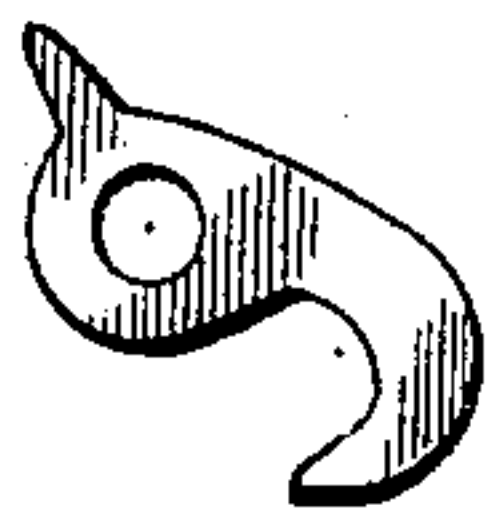


Fig. 3



Witnesses

Ree Laflin
Aime Brown

Inventor

John W. Pierce

By

Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

JOHN W. PIERCE, OF ARVONIA, VIRGINIA.

HINGE.

No. 862,014.

Specification of Letters Patent.

Patented July 30, 1907.

Application filed November 10, 1906. Serial No. 342,855.

To all whom it may concern:

Be it known that I, JOHN W. PIERCE, a citizen of the United States, residing at Arvonias, in the county of Buckingham and State of Virginia, have invented new and useful Improvements in Hinges, of which the following is a specification.

The invention relates generally to an improvement in hinges and particular to a hinge so constructed as to permit its convenient use as a spring hinge or ordinary hinge.

The main object of the invention is the provision of a hinge having a spring member so arranged as respects one leaf of the hinge as to permit its ready attachment to or detachment from the other leaf, whereby the hinge is converted into a spring hinge or an ordinary hinge, as may be desired.

The invention will be described in the following specification, reference being had particularly to the accompanying drawings, in which:

Figure 1 is a perspective view of my improved hinge, Fig. 2 a side elevation of the connecting hook, Fig. 3 a bottom edge view of the same.

Referring particularly to the drawings, wherein similar reference numerals indicate like parts throughout the several views, my improved hinge comprises leaves 1 and 2 pivotally connected through the usual knuckles 3 and pintle 4, said leaves and their manner of connection, aside from the particulars hereinafter noted, form no material part of the present invention.

One of the leaves, as 1, is formed with a spring socket or sleeve 5, preferably arranged about centrally of its length and adjacent the inner or connected edge of said leaf. A spring member 6 is secured to the leaf 1 through the medium of the sleeve 5, said member preferably comprising a single length of spring wire centrally formed to provide coils 7 and projected from said coils to provide a terminal 8 designed to be secured within the socket 5 and an operating terminal 9, the latter being of greater length than the terminal 8 and designed to form the medium of connection for exerting the necessary spring pressure upon the remaining leaf of the hinge. The spring member is so disposed that the coils 7 rest against the upper surface of the leaf adjacent one edge thereof, whereby in the operation of the parts the coils bear upon the surface of the leaf and prevent rotation of the terminal 8 within the socket.

The edge of the leaf 1 opposite the coils 7 of the spring member is reduced in width, as at 10, and the opposing leaf 2 is correspondingly widened to provide a lip 11, the latter being inclined upwardly from its connection with the leaf and formed with an opening 12. A hook 13 is formed for cooperation with the terminal 9 of the spring member, said hook having an extension 14 to provide for convenient manual operation of the hook when necessary. The hook end of the

member 13 is designed to engage with the opening 12 in the hook 11 when the parts are assembled to provide a spring hinge, it being understood in this connection that the normal position of the member 9 under the influence of the coil 7 is such as to space said terminal a distance from the lip 11 considerably in excess of the length of the hook 13, so that when said hook is secured in the opening 12 the spring member 6 is under tension, as will be obvious. The leaf 2 is provided on the outer or free edge and in transverse alinement with the lip 11 with a projection 15 in which is secured a spring retaining member 16, having a hooked end 17. The terminal 9 of the spring member extends beyond the hook member 13 and is notched, as at 18, to permit cooperation of the hook 17 of the retaining member when desired.

With the hook 13 disengaged from the lip 11 of the leaf 2, it is apparent that the spring 6 is without effect in the hinge construction, so that the hinge is thereby a hinge of the ordinary non-spring type. When, however, it is desired to convert the hinge into a spring hinge the hook member 13 is engaged with the lip 11, so that as one or the other of the leaves is turned upon its pivotal connection in opening the door the lip 11 will tend to separate from the leaf 1, thereby drawing upon the terminal 9 of the spring member and exerting a continual increasing pressure upon the spring, so that upon release of the door the spring will instantly return the leaf 2 to a position in which the lip 11 is the shortest possible distance from the proximate edge of the leaf 1, or in other words to the normal position of the leaf.

With the hinge in use, as the ordinary non-spring hinge, and it is desired to convert the same into the spring type, the door is opened until the hook member 17 of the retaining member can be engaged with the notch 18 of the terminal 9 of the spring member. After such engagement the door is closed causing the retaining member 16 to draw upon the free end of the terminal 9, the movement of said terminal under the influence of the retaining member being such that when the door is practically closed said retaining member will be so arranged relative to the lip 11 as to permit the ready insertion of the hook member 13 therein. The door is then opened until the retaining member can be disengaged from the spring terminal, said terminal being held in position by the hook member 13. The retaining member being released the hook member operates to hold the spring in such position as to exert tension thereon in separating the leaves upon the opening of the door. With the parts of the hinge arranged to provide a spring hinge conversion to the ordinary form of hinge is readily accomplished by a reversal of the operation just described.

The construction provides, mainly through the use of the retaining member 16 for connecting or discon-

necting the hook member 13 from the leaf 2 of the hinge, whereby the hinge may be readily converted into a spring hinge or an ordinary hinge.

Having thus described the invention what is claimed
5 as new, is:—

1. A hinge comprising pivotally connected leaves, a spring member carried by one leaf, and a hook member adapted to connect the spring member with the other leaf, and independent means for holding the spring in position
10 to permit the convenient connection or disconnection of the hook member.

2. A hinge comprising pivotally connected leaves, a spring member connected with one leaf, a hook member connected with the spring member, a lip projecting from the other leaf and formed with an opening to receive the
15 hook member, and means to hold the spring in position to permit connection or disconnection of said hook member with the lip.

3. A hinge comprising pivotally connected leaves, a
20 spring member carried by one of the leaves, a lip formed

on the second leaf, a hook member connected with the spring member and adapted to engage the lip to put the spring under tension, and a retaining member carried by the second leaf to engage and hold the spring member in fixed relation to the lip without regard to the hook member. 25

4. A hinge comprising pivotally connected leaves, a spring member carried by one of the leaves, a lip formed on the second leaf, a hook member connected with the spring member and adapted to engage the lip to put the spring under tension, and a retaining member carried by
30 the second leaf to engage and hold the spring member in fixed relation to the lip without regard to the hook member, said spring member being formed with a notch to receive the retaining member.

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

JOHN W. PIERCE.

Witnesses:

R. C. ROOT,

D. L. PIERCE.