

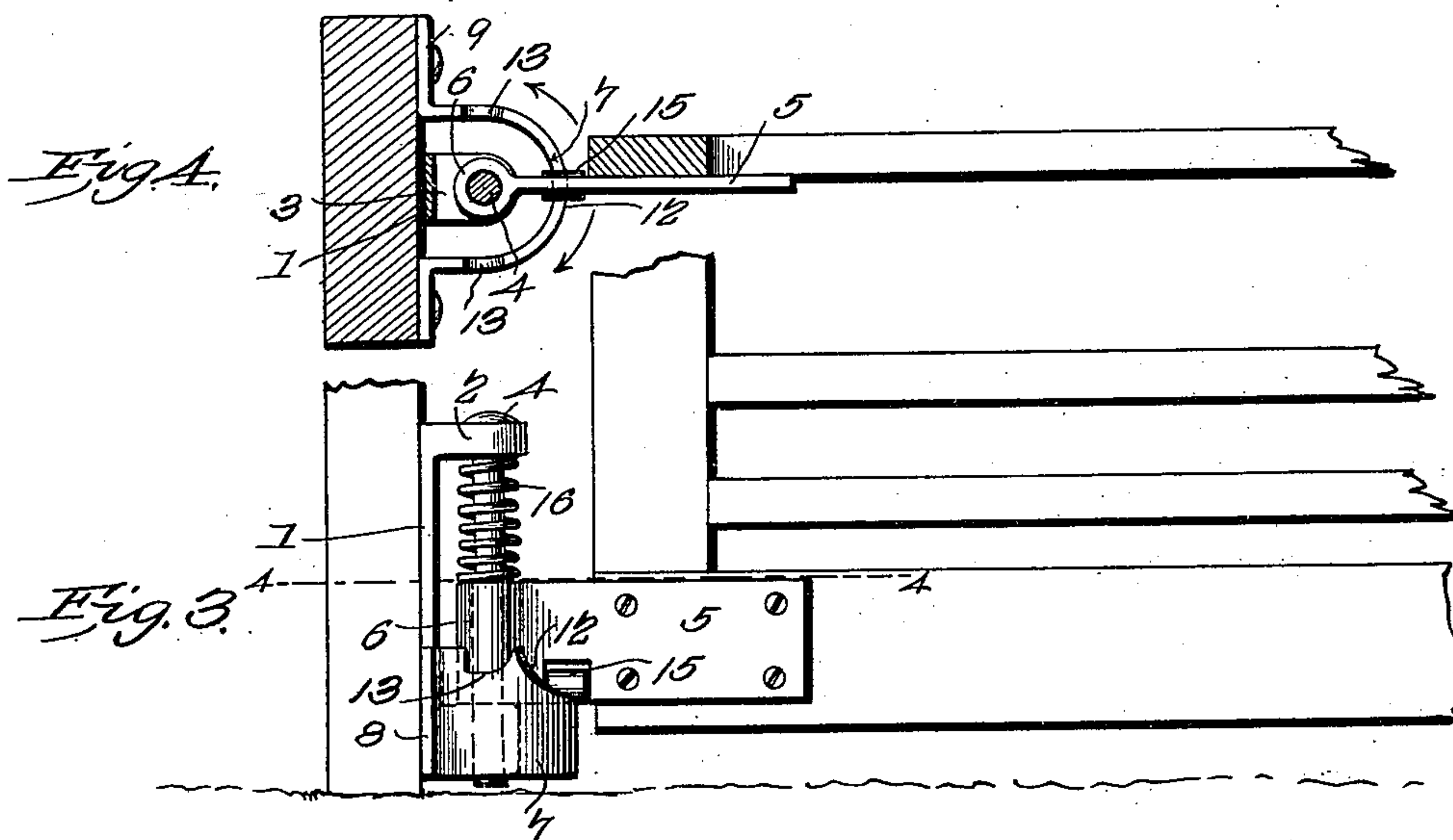
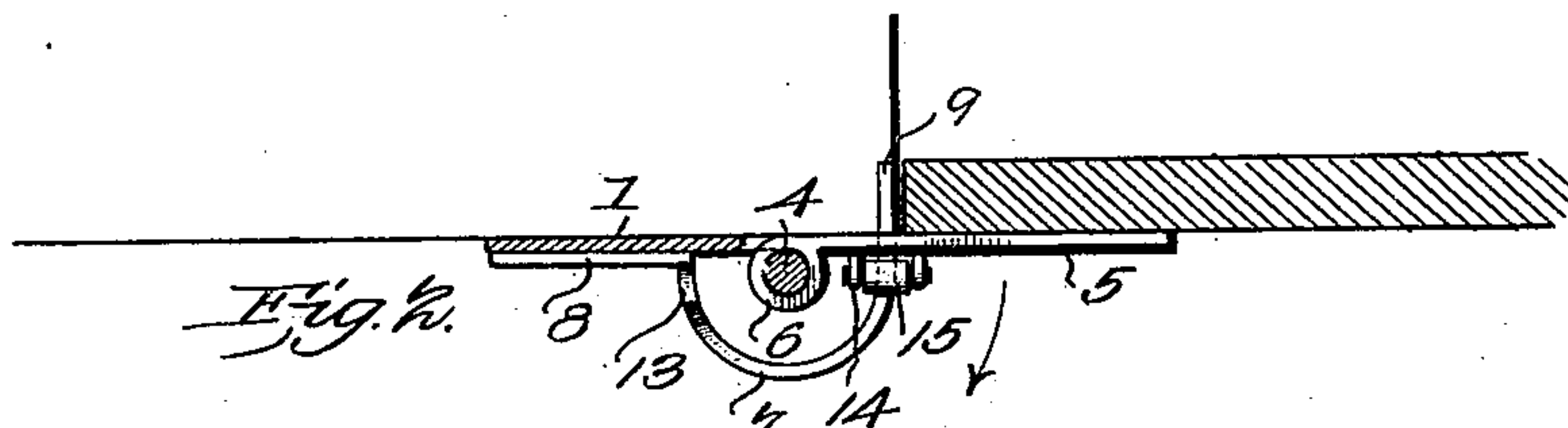
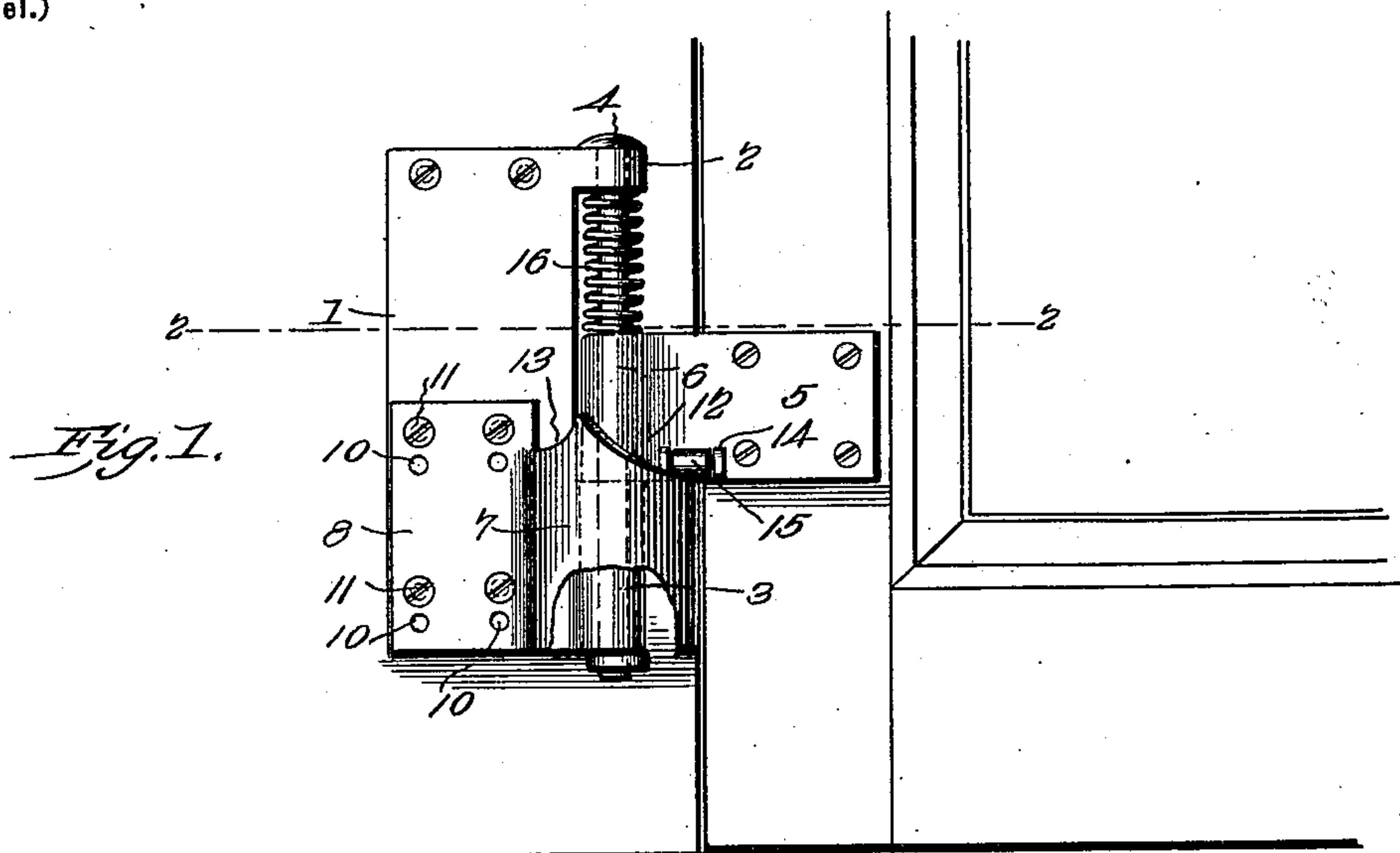
No. 700,694.

Patented May 20, 1902.

S. E. LE MARR.  
HINGE.

(Application filed July 9, 1901.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

SAMUEL E. LE MARR, OF PALMYRA, ILLINOIS, ASSIGNOR TO JOHN W. DUNCAN AND JOSEPH B. DUNCAN OF PALMYRA, ILLINOIS.

## HINGE.

SPECIFICATION forming part of Letters Patent No. 700,694, dated May 20, 1902.

Application filed July 9, 1901. Serial No. 67,652. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL E. LE MARR, a citizen of the United States, residing at Palmyra, in the county of Macoupin and State of Illinois, have invented a new and useful Hinge, of which the following is a specification.

This invention relates to hinges, and has for its object to provide an improved hinge which is arranged to elevate the door or gate when being swung open, so as to obviate dragging of the lower edge thereof, and also to lock the door or gate against accidental closing, though permitting of the door being closed whenever desired. It is furthermore designed to have the hinge-spring actuated and to have the parts adjustable to elevate the door or gate should it become necessary through sagging thereof.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a front elevation of a hinge embodying the present invention, parts being broken away to show the mounting of the lower end of the hinge-pintle. Fig. 2 is a cross-sectional view taken on the line 2 2 of Fig. 1. Fig. 3 is an elevation of a modified hinge for gates or the like which swing to opposite sides of a hinge-post. Fig. 4 is a cross-sectional view on the line 4 4 of Fig. 3.

Like characters of reference designate corresponding parts in all of the figures of the drawings.

Referring to the drawings, 1 designates the fixed member of the hinge, which is provided with top and bottom eyes or knuckles 2 and 3, which are designed to receive the pintle 4. The movable member 5 is flat and is secured to the door by suitable fastenings and has an eye or knuckle 6 formed at its outer edge

lying between the two eyes of the fixed member and receiving the pintle. The distance between the eyes of the fixed member is considerably greater than the length of the eye of the movable member, whereby the latter is capable of a vertical movement upon the pintle.

In order that the movable member may be elevated during the opening thereof, it is designed to have the same travel over a cam device which has its intermediate portion bowed or substantially semitubular in shape, as at 7, with its opposite ends extended into attaching flanges or members 8 and 9, of which the part 8 is provided with a plurality of vertically-alined perforations 10 for the reception of suitable fastenings 11, whereby the part may be adjustably connected flat against the fixed member of the hinge, while the opposite part 9, as shown in Fig. 2, is disposed at substantially right angles to the part 8, so that it may be secured to the edge of the door-frame or hinge-post which is adjacent to the hinged edge of the door or gate, whereby the upper edge of the bowed portion of the device is located in the path of the lower edge of the movable member 5, which overlaps the joint between the door and the frame. The upper edge of the bowed portion 7 is made cam-shaped, as at 12, so as to rise or incline upwardly from the movable hinge member in its closed position. The highest point of the cam edge is located adjacent to the fixed member, from which point the said upper edge is notched downwardly, as at 13, to form a socket or seat.

That portion of the lower edge of the movable member which travels over the cam is cut away, with the opposite cut-away portions bent laterally outward to form bearing-ears 14 for an antifriction-roller 15, which is designed to travel over the cam.

It will be understood that the bowed portion 7, which forms the cam, is arranged concentrically with respect to the hinge-pintle, so that the roller may travel upon the cam for the entire length thereof.

From the foregoing description it is apparent that when the door is opened the movable member will travel over the cam edge



12, thereby rising and carrying the door or gate therewith until the roller reaches the highest portion of the cam, when the door will be nearly at its open limit, and then the roller  
 5 will drop into the notch or seat 13, thereby locking the hinge against accidental movement—as, for instance, under the influence of drafts—it of course being possible to forcibly move the door to elevate the roller out of  
 10 the seat onto the cam edge, when the door will close under the action of gravity as the roller runs down the inclined edge. To insure a prompt action of the door, a coiled or helical spring 16 is placed upon the pintle  
 15 to bear in opposite directions against the upper eye of the fixed hinge member and the single eye of the movable member.

To arrange the hinge for doors and gates that swing to opposite sides of the hinge-post,  
 20 it is necessary to interpose the hinge between the adjacent edges of the post and gate, as shown in Figs. 3 and 4, wherein the cam edge 12 is double or rises in opposite directions from the center and terminates at opposite  
 25 ends in the corresponding notches or seats 13, whereby the movable hinge member has the same action in its opposite directions of swing.

What is claimed is—

30 1. A hinge, comprising a fixed member provided with opposite eyes, a pintle passed through the eyes, a movable member having an eye located between the former eyes and receiving the pintle, said movable member  
 35 having a vertical slidable movement and a swinging movement upon the pintle, and an independently-adjustable cam device disposed concentrically with respect to the pintle and having an upwardly-inclined portion  
 40 lying in the path of the swinging movement of the movable member, the highest point of the cam portion terminating in a socket or

seat for the reception of a portion of the movable member.

2. A hinge, comprising a fixed member, a 45 swinging and vertically-movable member, and a vertically-adjustable independently-mounted cam located in the path of the swinging movement of the movable member.

3. A hinge comprising a fixed member, a 50 swinging and vertically-movable member, and an independently-adjustable substantially semitubular member having its upper edge located in the path of the swinging movement of the movable member and inclined to form 55 a cam edge, the opposite ends of the member being formed into attaching elements.

4. In a hinge, the combination of a fixed member having opposite eyes, a movable member having an eye located between the 60 opposite eyes, a pintle passed through the eyes, the movable member having a pivotal and a slidable movement upon the pintle, a helical spring embracing the pintle and bearing in opposite directions against the upper eye of 65 the fixed member and the eye of the movable member, the latter having a roller mounted at its lower edge, and an independently-mounted cam device consisting of a semitubular part located concentrically with the pin- 70 tle, having its upper edge in the path of the roller at a point between the ends of the pintle, and provided with an inclined or cam portion which terminates at its highest point in a notch or seat, the opposite ends of the 75 semitubular part being extended into attaching elements.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

SAM. E. LE MARR.

Witnesses:

T. E. SOLOMON,  
 W. A. HARR.