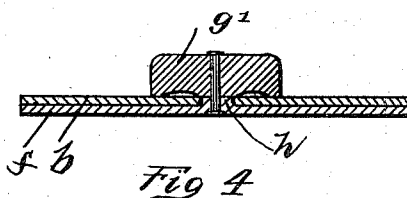
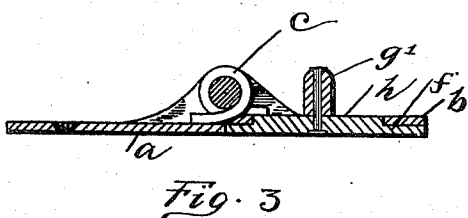
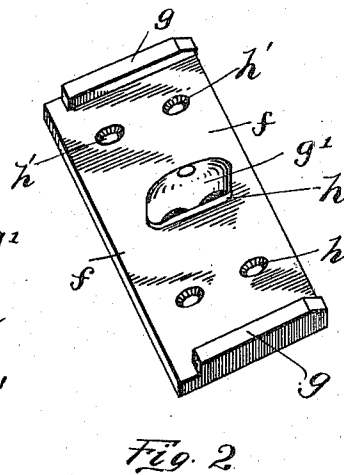
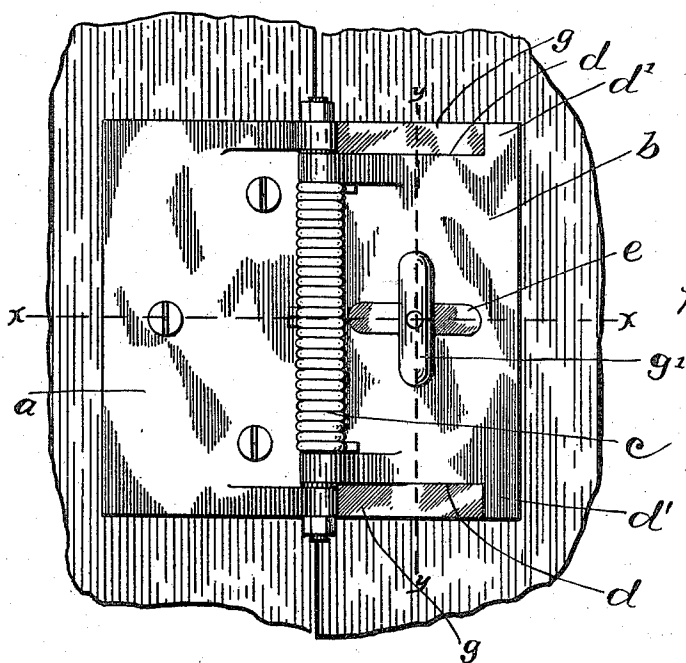


(No Model.)

F. J. WILLIAMS.
HINGE.

No. 580,441.

Patented Apr. 13, 1897.



WITNESSES:

Laurence L. Barnard
A. L. Phelps

INVENTOR

Frank J. Williams
BY
C. Shepherd
ATTORNEY

UNITED STATES PATENT OFFICE.

FRANK J. WILLIAMS, OF COLUMBUS, OHIO.

HINGE.

SPECIFICATION forming part of Letters Patent No. 580,441, dated April 13, 1897.

Application filed July 2, 1896. Serial No. 597,862. (No model.)

To all whom it may concern:

Be it known that I, FRANK J. WILLIAMS, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Hinges, of which the following is a specification.

My invention relates to the improvement of hinges, and although the same may be employed for other purposes my improved hinge has particular relation to hinges for spring-actuated screen-doors.

The objects of my invention are to so construct and arrange the parts of a hinge whereby a door may be readily and properly hinged in a door-frame without the employment of screws or other similar means for securing said hinge in place and to produce other improvements in details of construction and arrangement of parts which will be more fully pointed out hereinafter. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 represents one of my improved hinges in use. Fig. 2 is a view in perspective of the permanent door or frame attachment which I employ. Fig. 3 is a sectional view on line *xx* of Fig. 1, and Fig. 4 is a similar sectional view on line *yy* of Fig. 1.

Similar letters refer to similar parts throughout the several views.

Of my improved hinge, *a* and *b* represent, respectively, the leaves, which are jointly connected in the usual or any desirable manner and which may be provided with a suitable form of spring *c*, which is adapted to keep said leaves extended. In the construction of the hinge-leaf *b* I form the same with end recesses *d*, the latter extending from the inner edge of the leaf to points near the outer edge thereof, resulting in the formation between said recesses and the outer edge of the plate of projections or shoulders *d'*. At the center of the length of the leaf *b* I provide a transverse slotted opening or mortise *e*.

f represents an attaching-plate of equal width and length with the leaf *b*, this attaching-plate having, however, instead of the end recesses of said leaf outwardly-projecting end lugs *g*, the latter being of such form as to fit within said recesses *d* of the hinge-

leaf. The outer face of the plate *f* is provided centrally with a transverse pivoted button *g'* of such form as to admit of its being passed through a slotted opening *e* of the leaf *b*. This button *g'* is preferably pivoted upon a raised boss or base *h*, formed on said plate *f*.

As indicated in the drawings, plates *f* are designed to be secured to the door-frame at the points usually occupied by the hinge-leaf *b*, said plate *f* being provided with suitable screw-holes *h'* to facilitate this attachment. The plates *f* being thus secured to the door-frame and the leaf *a* of the hinge being secured to the door, the operation of hanging said door is as follows: The buttons *g* are turned until in the transverse position indicated in Fig. 2 of the drawings. The door, having the hinge-body secured thereto, as shown in Fig. 1 of the drawings, is then placed in its proper position, the buttons *g* being made to enter the slotted openings *e* and the lugs *g* likewise entering the recesses *d* until the outer faces of said lugs are flush with the face of said leaf *b*. This being accomplished, the buttons *g'* are turned at right angles or to the position indicated in Fig. 1 of the drawings, thereby locking the hinge in its proper connection with the plate *f*.

Although the plate *f* is shown and described as connected with a door-frame, it is obvious that the positions of the hinge and plate might be reversed, said plate being permanently attached to the door and the hinge being similarly attached to the door-frame.

From the construction and operation which I have herein shown and described it will readily be seen that simple, reliable, and effective means are provided for producing a detachable hinge connection of a door with a frame and that the means thus employed are such as to obviate the necessity of using screws or other similar means of attachment whenever the door is to be hung. It is evident that these means of attachment are such as will admit of a door being adjusted and hung in position in an exceedingly short space of time and with but slight labor.

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

In a hinge the combination with the joint-

edly-connected hinge-leaves *a* and *b*, a slotted opening in said leaf *b* and a recess in each end thereof, of a plate *f* having means of attachment to a door or frame, lugs *g* projecting from the ends of said plate and adapted to fit in said leaf-recesses and a button *g'* pivotally connected with said plate and adapt-

ed to enter said leaf-slot, substantially as and for the purpose specified.

FRANK J. WILLIAMS.

In presence of—

A. L. PHELPS,

LAURENCE L. BARNARD.