

No. 888,049.

PATENTED MAY 19, 1908.

H. P. SQUIERS & E. A. BUCK.

HINGE.

APPLICATION FILED JULY 23, 1907.

Fig. 1.

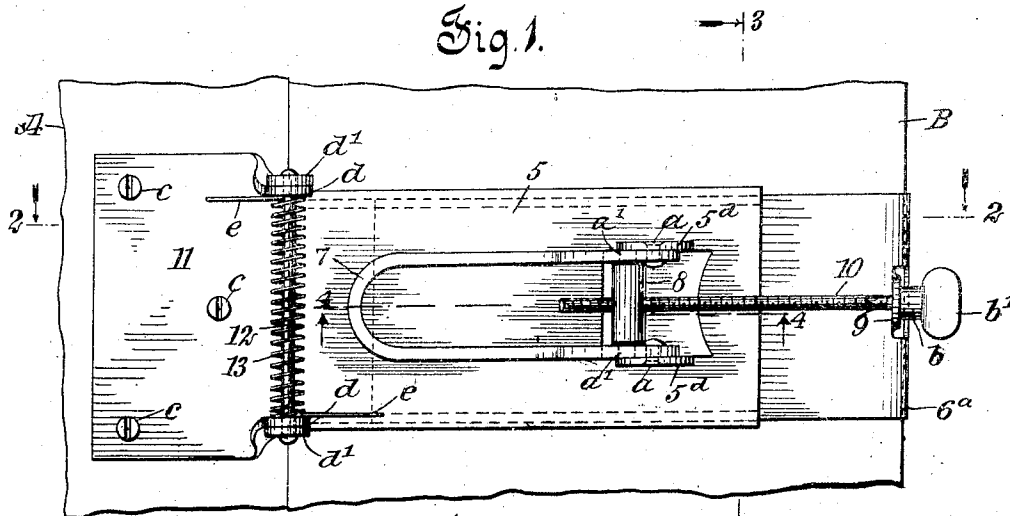


Fig. 2.

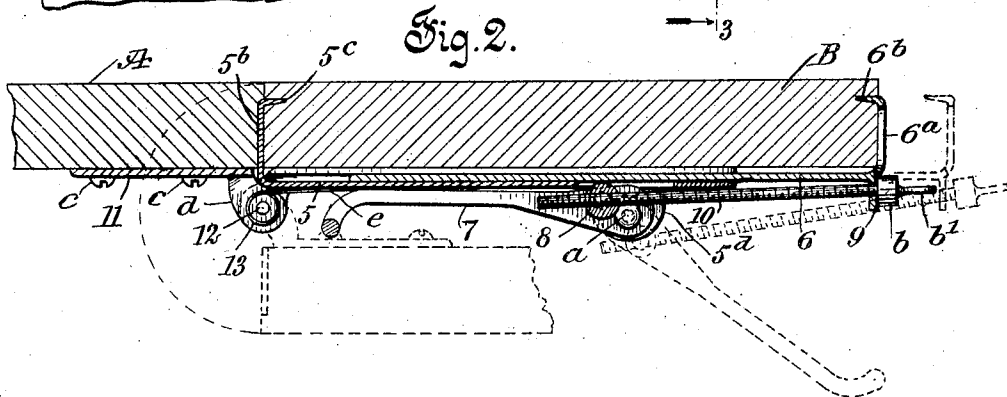


Fig. 3.

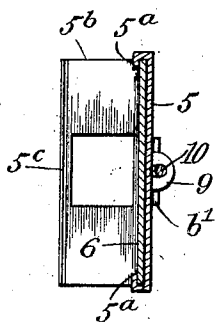
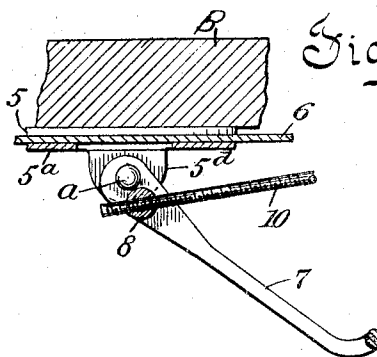


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

HARRY P. SQUIERS, OF PASSADUMKEAG, AND EVERETT A. BUCK, OF WEST ENFIELD, MAINE.

HINGE.

No. 388,049.

Specification of Letters Patent.

Patented May 19, 1908.

Application filed July 23, 1907. Serial No. 385,110.

To all whom it may concern:

Be it known that we, HARRY P. SQUIERS and EVERETT A. BUCK, both citizens of the United States, and residents, respectively, of Passadumkeag, in the county of Penobscot and State of Maine, and of West Enfield, in the county of Penobscot and State of Maine, have jointly invented a new and Improved Hinge, of which the following is a full, clear, and exact description.

This invention relates to hinges that are applicable to doors, gates or the like, for their swinging support on a casement or post.

The purpose of the invention is to provide novel details of construction for a hinge, which are simple and practical, and that adapt the same for secure connection upon the jamb of a door casement or fence post, and dispense with screws for such connection; and furthermore, enable the quick detachment of the door and its hinges from the casement without the use of tools when this is desired.

The invention consists in the novel construction and combination of parts as is hereinafter described and defined in the appended claims.

Reference is to be had to the accompanying drawings forming a part of this specification in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is an outer side view of the improved hinge, applied upon a portion of a door, and of a casement jamb; Fig. 2 is a longitudinal sectional view, substantially on the line 2—2 in Fig. 1; Fig. 3 is a transverse sectional view substantially on the line 3—3 in Fig. 1, and Fig. 4 is a longitudinal sectional view of details of the hinge, substantially on the line 4—4 in Fig. 1.

In the drawings, 5 indicates a leaf of the hinge comprising a flat metallic plate of a suitable width and having parallel side edges that are return bent, thus providing two similar hook flanges 5^a thereat. Upon one end of the hinge leaf 5 a right angular flange 5^b is formed of a proper length, which terminates in a sharply edged tooth 5^c that is bent in a plane parallel with the body of the leaf 5 and over the same.

Complementary to the hinge leaf 5 is a clamping plate 6, that has parallel side edges and a width which adapts said clamping plate for a sliding engagement with the leaf 5, by its insertion within the spaces between

the flanges 5^a and the body of said hinge leaf as is clearly shown in Fig. 3.

The inserted end of the clamping plate 6 is plain or devoid of any lateral projection, but at the other end thereof, a right angularly bent flange 6^a is formed, that terminates in a bent tooth 6^b, this flange and tooth being similar to the flange and tooth on the leaf 5, and the teeth 5^c 6^b project toward each other preferably in the same plane.

Upon the hinge leaf 5, near its end opposite from that bearing the flange 5^b, two parallel perforated ears 5^d are formed, preferably integral with the body of said hinge leaf by cutting out portions thereof and bending the same outwardly in opposite directions so as to leave said portions free on all edges thereof except where they are connected with the hinge leaf, as is clearly shown in Fig. 4 for one ear.

Pivoted near its ends between the ears 5^d, is a bowed lever 7, said ends being laterally flattened and peripherally rounded, and at a suitable point near the center of the pivots *a*, a transverse rockable nut block 8 is pivoted upon the spaced members of said lever and between them as shown in Fig. 1 at *a'*.

A threaded perforation is formed centrally through the nut block 8 across its longitudinal axis.

An integral lug 9 is formed or secured on the clamping plate 6 at its transverse center and angular junction of the flange 6^a, said lug having a perforation therethrough.

An adjusting screw 10 is employed and preferably threaded on its entire body, that first is passed loosely through the perforation in the lug 9, and at its threaded end is screwed through the threaded perforation in the nut block 8. There is a collar *b* formed on the opposite end of the adjusting screw 10, and a thumb piece *b'* integral with said collar, is at this extremity of the screw, the collar in service having a bearing upon the lug 9. A co-acting hinge leaf 11 is employed, that is securable upon a door *A* by means of screws *c*, as indicated in Figs. 1 and 2, and said hinge leaf is connected with one end of the hinge leaf 5 by means of two pairs of ears *d*, *d'*. The ears *d* are integrally formed at the corners of the hinge leaf 11 and the ears *d'* on corresponding corners of the hinge leaf 5, said ears being lapped upon each other in pairs, and all perforated so as to adapt them for the loose reception of a pintle bolt

12 which is secured upon the ears d' , but works freely in the ears d .

Upon the pintle bolt 12, a coiled spring 13 is mounted, and at the ends of said spring, arms e are formed, that project in opposite directions and rest respectively upon the hinge leaf 5 and hinge leaf 11, the torsion of the spring being adapted for returning the hinge leaf to the plane of the hinge leaf 5 after the door A has been swung open and then released.

The distance between the centers of the journals a' on the ends of the nut block 8 and the pivots a which loosely connect the ends of the lever 7 with the ears 5^a , is such that when the lever is rocked into a vertical position or approaching it, the nut block will be raised from the hinge leaf 5, and when the lever is folded down upon said hinge leaf, the adjusting screw 10, that had been raised from the hinge leaf, as shown by dotted lines in Fig. 2, will be disposed flat upon the hinge leaf, as is represented in the same view.

To effect the attachment of the two-part hinge-leaf, comprising the leaf 5 and the clamping plate 6, removably upon the jamb or vertical member B of a door casement, the lever 7 is first rocked outward and the screw 10 slackened, which will permit the clamping plate 6 to be longitudinally adjusted upon the leaf 5, so that the teeth on the flanges 5^b and 6^a may be disposed in contact with the opposite vertical edges of the member B. The lever 7 is now folded flat upon the hinge-leaf 5, and by the connection of the screw 10 with the lug 9, this adjustment of the lever will shorten the distance between the teeth 5^c and 6^b , the lever having a toggle action which will forcibly embed these teeth into the edges of the stile or jamb of the door casement B to which they are to be connected.

In order to reinforce the bite of the teeth 5^c 6^b , and take up any slight looseness that might result from jar due to the impingement of the door upon the casement, the adjusting screw 10 should be turned in a direction to exert a pull upon the nut block 8 which will further draw upon the clamping plate 6 and hinge leaf 5, and prevent any possible accidental release of the hinge connection with the door casement.

It is to be understood that in service, the hinge is to be duplicated, or as many be employed as is necessary for the proper swinging support of the door.

Obviously, if desired, the hinges may be released for a removal of the door by manip-

ulation of the screw 10 and the lever 7. This is very advantageous for the connection of a temporary door, such as a screen door with a door casement, as it permits an attachment of the door therewith without marring the casement by screw holes therein, and enables the instant removal of the door without the use of tools.

Having thus described our invention, we claim as new and desire to secure by Letters-Patent.

1. In a hinge, the combination with a hinge-leaf, comprising two members, one slidable on the other, each member having a tooth that may be oppositely embedded in a wooden strip or the like, and means to secure the teeth embedded, of a co-acting hinge-leaf jointed at one end upon an end of one member of the longitudinally adjustable leaf.

2. In a hinge, the combination with a hinge-leaf comprising two members, one member sliding beneath return-bent flanges on the other member, and a flange at one end of each member having a lateral tooth, and a toggle lever rockable on one member and adapted to draw the teeth toward each other when said lever is folded, of a co-acting hinge-leaf hinged on one end of one member of the longitudinally adjustable hinge-leaf.

3. In a hinge, the combination with a hinge-leaf comprising two members, one member slidable beneath return bent flanges on the other member, each member having a right angular flange bent at one end, said flanges each having a lateral tooth thereon, a looped lever hinged by its ends on one member of the two-part hinge-leaf, and means connecting the other member with said lever, whereby the teeth are drawn toward each other when the lever is folded, of a hinge-leaf that is jointed upon one end of one member of the two-part hinge-leaf.

Signed by HARRY P. SQUIERS at Passadumkeag in the State of Maine, this 31 day of March 1908.

HARRY P. SQUIERS.

Witnesses to the signature of Harry P. Squiers:

ALEX MITCHELL,

JOHN L. SLACK.

Signed by EVERETT A. BUCK at West Enfield in the State of Maine, this 15 day of April 1908.

EVERETT A. BUCK.

Witnesses to the signature of Everett A. Buck:

EVERETT A. EMERSON,

CHARLES CROCKETT.