No. 887,548. PATENTED MAY 12, 1908.

C. B. TRUMBLE.

HINGE.

APPLICATION FILED MAY 16, 1907.

Fig. 1

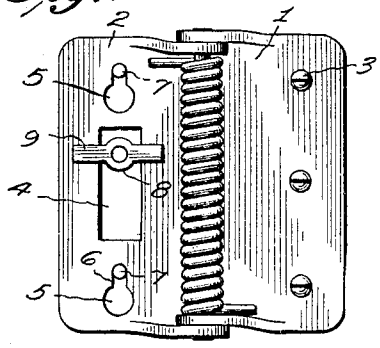


Fig. 3

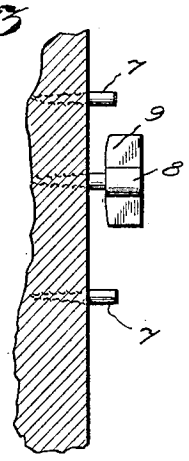


Fig. 2

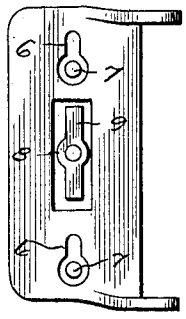


Fig. 4

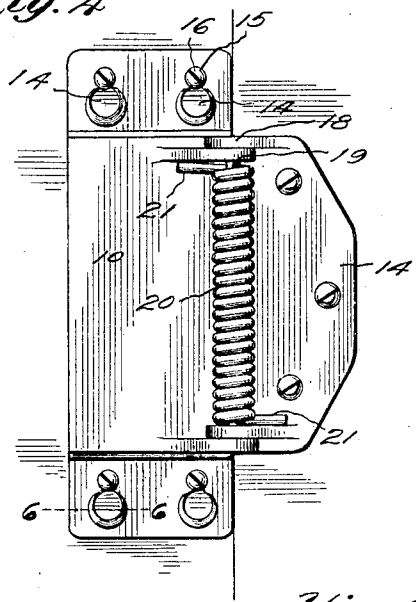


Fig. 5

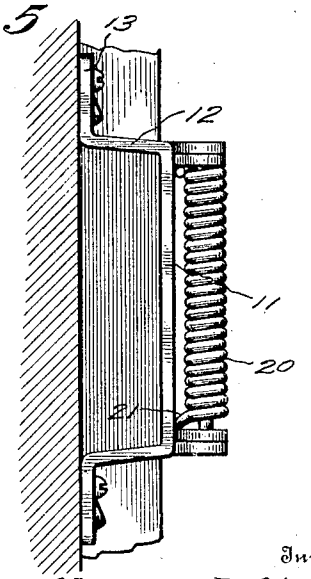


Fig. 6



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HINGE.

No. 887,548. Specification of Letters Patent. Patented May 12, 1908.

Application filed May 16, 1907. Serial No. 373,938.

To all whom it may concern:

Be it known that I, CHAUNCEY B. TRUMBLE, a citizen of the United States of America, residing at Syracuse, in the county of Onondaga and State of New York, have invented new and useful Improvements in Hinges, of which the following is a specification.

The invention relates to an improvement in hinges of the type designed for use with screen or similar doors.

The main object of the invention is the production of a hinge in which the leaf adapted to be secured to the door frame is constructed to permit its convenient removal or attachment to said frame without the necessity of removing the holding elements.

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

Figure 1 is a plan of the preferred form of hinge constructed in accordance with my invention, the parts being shown in secured position. Fig. 2 is a similar view of the detachable leaf with the parts shown in position to release the same from the frame. Fig. 3 is a sectional view illustrating particularly the hinge securing means connected to the frame. Fig. 4 is a plan of a modified form of hinge in applied position. Fig. 5 is a side elevation of the same. Fig. 6 is a section on line 6—6, of Fig. 4.

Referring particularly to Figs. 1, 2 and 3 of the drawings wherein is shown the preferred form of the invention, my improved hinge comprises leaves 1 and 2, the former being designed for attachment to a screen door by means of the usual screws 3, and will be hereinafter termed the fixed leaf, while the remaining leaf 2 is adapted to be secured for attachment to the door frame, and will be hereinafter referred to as the detachable leaf.

The invention is particularly adapted for forming the detachable leaf to permit its convenient attachment to and removal from the door frame without the necessity of detaching the connecting elements therefor. To this end the detachable leaf is centrally formed with an elongated opening 4, and between the ends of said opening and the edges of the leaf with keyhole openings 5, the reduced portion 6 of which project in the same direction longitudinally of the leaf.

To the door frame in position to engage the detachable leaf 2 are secured pins 7 corresponding in diameter with the reduced portion 6 of the keyhole openings and so spaced as to permit simultaneously insertion in said openings in the application of the leaf. Between the pins 7 is arranged a turn button 8, the relatively inner surface 9 of which is normally spaced from the door a distance equal to the thickness of the detachable leaf, while said turn button is slightly less in length and width than the similar dimensions of the opening 4.

In applying the hinge to the door frame after application of the fixed leaf to the screen door, the turn button 8 is arranged longitudinally of the frame, and the detachable leaf placed in position with the pin 7 in the keyhole openings and the turn button projecting through the opening 4. The hinge is then moved longitudinally to dispose the pin 7 in the reduced portion of the keyhole openings, and the turn button 8 arranged transversely of the leaf so that it overlies and bears upon the side walls of the opening 4 in position to securely bind the leaf to the frame.

If preferred, the pin 7 may be headed in the usual screw form, with the heads of greater diameter than the width of the reduced portion 6 of the keyhole slots, so that after application of the hinge as described, the pins may be slightly turned to securely bind them onto the outer surface of the leaf.

In Figs. 4 and 5 is shown a slightly modified form of leaf in which the detachable leaf 10 is centrally offset to provide a plate 11 from the ends of which depend side portions 12, terminally projected laterally to provide lips 13. The plate 11 provides in effect the leaf portion to which the fixed leaf 14 is secured, while the lips 13 are designed to bear upon the frame structure and to be removably secured thereto. The length of the side portions 12 of the leaf are equal to the thickness of the door into which the fixed leaf is secured, so that the hinge of this form is particularly adapted to dispense with the usual blocks secured upon the frame to offset the hinge of the ordinary type in securing the screen door in place.

In the modified form of hinge the respective leaves 13 are formed with keyhole openings 14, preferably arranged in pairs in each leaf, the reduced portions 15 of the openings

being of less diameter than the heads 16 of the screws with which this form of hinge is secured in place. By preference the wall of the enlarged portion of each keyhole opening immediately adjacent the opening is formed with an offset or projection 17, which at the juncture of the enlarged portion with the reduced portion 15 coincides with the surface of the lip, and from this point said projection gradually increases or inclines upwardly toward the remote point of the enlarged portion. The projections prevent binding of the screw on the edge of the enlarged portion of the opening in securing the hinge in place.

In the modified form the screws 16 are loosened and the hinge engaged therewith by inserting the heads of the screws through the enlarged portions of the openings. The hinge is then moved downward to cause the shanks of the screws to enter the reduced portions, after which the screws are tightened to secure the hinge in place. As the screws require but a half turn to permit the application of the hinge, it is obvious that the projecting wall 17 of the enlarged portion of the opening will extend above the heads of the screws, as shown in Fig. 6, thereby preventing the screws from engaging the wall of the opening.

In both forms of hinges the detachable leaf and fixed leaf are each provided with projecting ears 18 formed with openings adapted to be alined to receive a pivot rod 19. A spring 20 is coiled about the rod with the terminals 21 projecting in opposite directions and bearing upon the respective leaves, thereby providing a simple form of spring hinge.

The hinge of my invention is adapted for ready connection to or disconnection from the frame, permitting the application or removal of the hinge and connected door without the necessity of removing the securing means by which the hinge leaf is connected to the frame. These connecting members will therefore remain in position, insuring the application of the door when the same is hung in correct position.

Having thus described the invention, what I claim is:

1. A hinge comprising a detachable leaf and a fixed leaf, a spring connection between the leaves, the leaf being formed with keyhole openings arranged in longitudinal alinement, the reduced portions of the openings projecting in the same direction, and pins projecting from a fixture and adapted to engage the reduced portion of the keyhole openings and secure the hinge in applied position.

2. A hinge comprising a fixed leaf and a detachable leaf, the detachable leaf being centrally offset, the fixed leaf being approximately equal in length to the length of the offset portion of the detachable leaf, a spring connection between the leaves and serving to normally maintain the fixed leaf in the plane of the offset portion of the detachable leaf, said detachable leaf being formed beyond the offset portion with keyhole openings to receive pins projecting from the structure.

3. A hinge comprising a fixed leaf and a detachable leaf, the detachable leaf being centrally offset, the fixed leaf being approximately equal in length to the length of the offset portion of the detachable leaf, a spring connection between the leaves and serving to normally maintain the fixed leaf in the plane of the offset portion of the detachable leaf, said detachable leaf being formed beyond the offset portion with keyhole openings to receive pins projecting from the structure, the enlarged portion of the keyhole openings being formed with a wall projecting above the plane of the contiguous portion of the leaf, said projection inclining toward the reduced portion of the keyhole opening.

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

CHAUNCEY B. TRUMBLE.

Witnesses:
E. C. WRIGHT,
WESLEY HOOK.