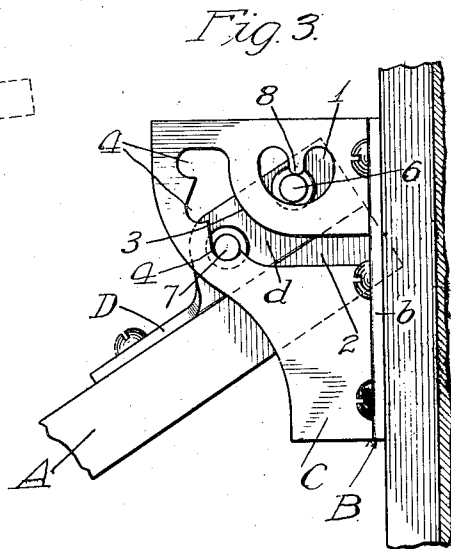
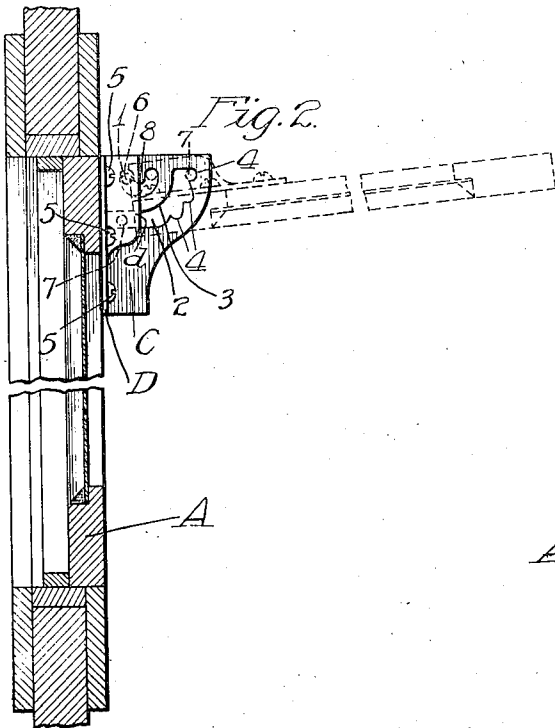
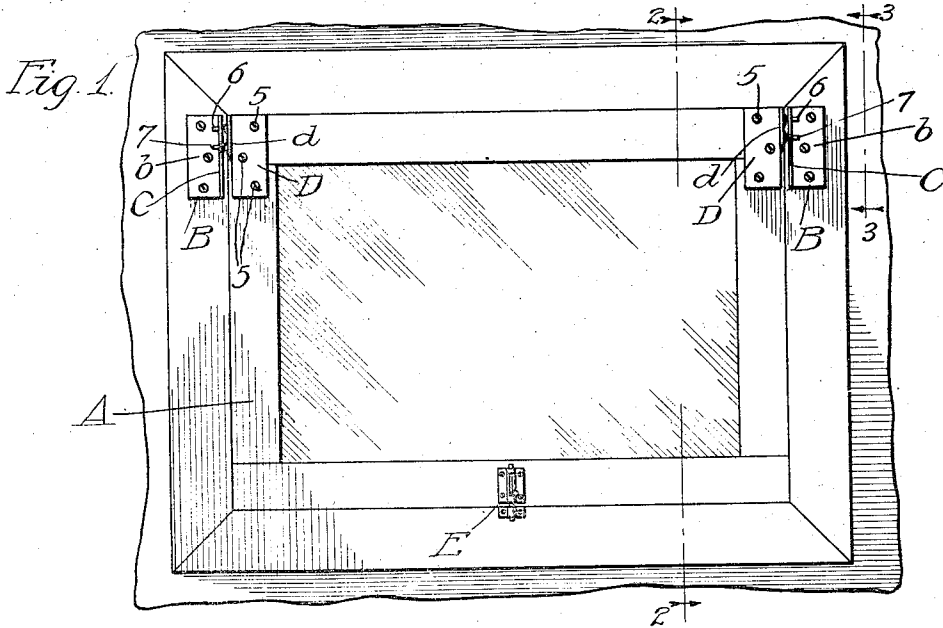


P. FRANTZ.
HINGE.

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1,200,477.

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UNITED STATES PATENT OFFICE.

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HINGE.

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To all whom it may concern:

Be it known that I, PETER FRANTZ, a citizen of the United States of America, and resident of Sterling, Whiteside county, Illinois, have invented a certain new and useful Improvement in Hinges, of which the following is a specification.

My invention relates to hinges in general, but more particularly to hinges for doors and windows, and especially those for basement windows.

Generally stated, the object of my invention is to provide a novel and improved hinge of such construction that it will automatically lock itself in open position, thus holding a swinging window, such as a basement window, in raised or open position, thereby obviating the necessity of using a hook or other device to temporarily hold the window in this position.

A special object is to provide a hinge of this character which can be made very economically from sheet-metal.

It is also an object to provide certain details and features of construction tending to increase the general efficiency and desirability of a hinge of this particular character.

To the foregoing and other useful ends, my invention consists in matters hereinafter set forth and claimed.

In the accompanying drawings:—Figure 1 is an inside view of a basement window, showing the two upper corners thereof provided with hinges embodying the principles of my invention. Fig. 2 is a vertical section on line 2—2 in Fig. 1. Fig. 3 is an enlarged detail section on line 3—3 in Fig. 1.

As thus illustrated, the swinging window sash A can be of any suitable, known or approved character, such as those ordinarily used for basement windows. The hinges for the two upper corners of this sash are similarly constructed, and a description of one will be sufficient for both. The one shown at the right in Fig. 1 comprises, for example, a sheet-metal bracket B having a portion *b* which is secured by screws to the window frame, and which has its inner edge portion bent outward at right angles thereto. This outwardly extending portion C is provided with upper and lower slots 1 and 2, the former being curved about a center disposed between its two upper end portions, and the latter having an edge 3 which is also curved

about said center. The lower portion of the slot 2 is, it will be seen, horizontal and extends straight backward from the curved edge 3 to the face of the plate section B, in the manner shown in Fig. 3. The edge of this slot 2, which is directly opposite the edge 3, is provided with a series of notches 4, three of these notches being shown in the drawings. It will be understood, however, that a suitable or desired number can be employed.

The plate D is of sheet-metal and is secured flatwise to the swinging window sash, being provided at one vertical edge thereof with an out-turned portion *d*, and being secured in place by screws 5, or by any suitable means. This right-angle portion *d* is immediately inside of the portion C, the two portions being parallel and close together. The portion *d* is provided with upper and lower pins 6 and 7, the pin 6 working in the slot 1 and the pin 7 extending into the slot 2, whereby the sash is, in effect, hinged and supported at its upper corners. The pins 6 and 7 are so relatively positioned that when the sash is closed, the pin 6 is held in the inner end portion of the slot 1, as shown in Fig. 2, and at such time the pin 7 is near the inner end of the slot 2, in the manner shown. At this time, the depending portion 8, which separates the two ends of the slot 1, engages the pin 6 and prevents the top of the sash from falling outward.

In opening the window, the lower edge of the sash is swung outward, and if it be desired to open it very widely, the sash is raised to the position shown in dotted lines in Fig. 2. In this position the pin 6 is in the outer end of the slot 1 and the pin 7 is resting in the uppermost notch 4, whereby the sash is held in raised position. On the other hand, if it be desired to only partially open the window, then the sash is raised to the position indicated in Fig. 3, for example, thereby bringing the pin 7 into the lowermost notch 4, and causing the pin 6 to pass under the portion 8, as shown in Fig. 3, and to then assume a position at the upper end of the slot 1, in a manner that will be readily understood. The middle notch 4 may engage the pin 7, thereby maintaining the pin 6 within the outer and upper end of the slot 1, when it is desired to open the window more widely than is shown in Fig. 3, and a little less than is indicated by dotted lines in

Fig. 2. It follows, therefore, that no hooks or other retaining devices are necessary for holding the sash in raised or open position. The hinges 6 are sufficient for this purpose.

5 A catch E, of any suitable or desired character, can be employed for securing the lower edge of the sash in closed position, in the usual and well-known manner.

It will be seen that the upper and rear slot 1 is U-shape in form, and that the pin 6 is in the inner end of this slot when the window is closed, or when the pin 7 is at the bottom of the slot *d*, as shown in full lines in Fig. 2. However, when the window or other closure is open, then the pin 6 is in the outer end of this U-shape slot and the pin 7 is in one of the notches of the other slot. When the window is closed, the pin 7 is slightly in rear of the pin 6, instead of being directly in line therewith vertically, so that when the two pins 6 and 7 are in the same horizontal plane, as shown in dotted lines in Fig. 2, the said window or closure is then higher at its free or outer edge than it is at its hinged or inner edge, and in this position the window may be said to be wide-open. The two slots 1 and 2 are formed concentrically, with the exception of the straight lower portion of the slot 2, in the manner shown.

What I claim as my invention is:—

1. A hinge for holding a swinging closure in open position, comprising a bracket-plate, and means secured on the closure to engage said plate and hold said closure in raised position and permit swinging motion thereof about a plurality of relatively fixed axes which are movable to different points on said plate during the general operation of raising and lowering said closure.

2. A hinge for holding a swinging closure in open position, comprising a bracket-plate, and means secured on the closure to

engage said plate and hold said closure in raised position, said plate having a portion 45 formed with concentrically curved slots, one slot having one or more notches, said means including relatively fixed pins which slide in said slots when the closure is opened or closed, said notch or notches engaging one 50 pin to hold the closure in raised position.

3. A hinge for holding a swinging closure in open position, comprising a bracket-plate, and means secured on the closure to engage said plate and hold said closure in raised 55 position, said plate having concentrically formed slots, one above and in rear of the other, the front slot having one or more notches, the rear slot being U-shape, said means including upper and lower pins 60 which slide in said slots, the upper pin being in the front end of said rear slot when the other pin engages a notch to hold the closure in raised position, and said upper 65 pin being in the rear end of said U-shape slot when the lower pin is at the bottom of the front slot.

4. A hinge for holding a swinging closure in open position, comprising a bracket-plate, and means secured on the closure to engage 70 said plate and hold said closure in raised position, said means including upper and lower pins, each of said pins forming an axis of tilting motion for said closure, the lower pin being slightly in rear of the upper 75 pin to hold said closure with the free edge thereof higher than its hinged portion when the two pins are in the same horizontal plane.

Signed by me at Sterling, Illinois, this 80 29 day of Jan., 1916.

PETER FRANTZ.

Witnesses:

MAURICE DOW,
W. R. ROLLO.