R. HEINZELMAN.

SPRING CATCH.

APPLICATION FILED APR. 19, 1917.

1,263,319.

Patented Apr. 16, 1918.

Fig. 1.

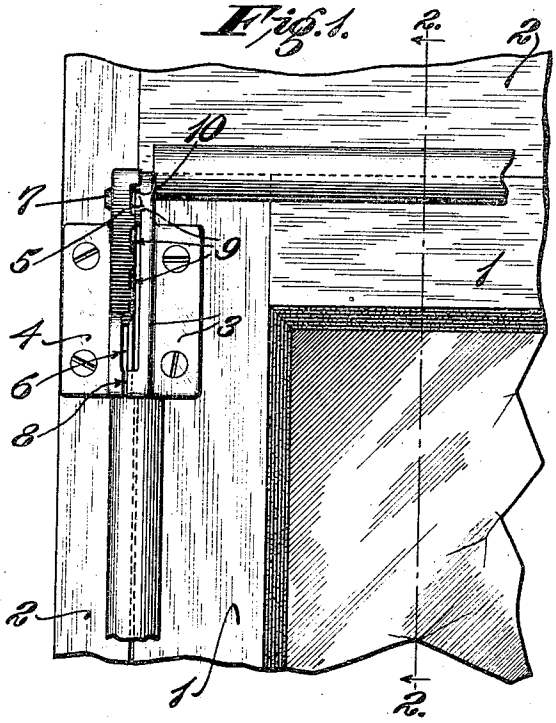


Fig. 2.

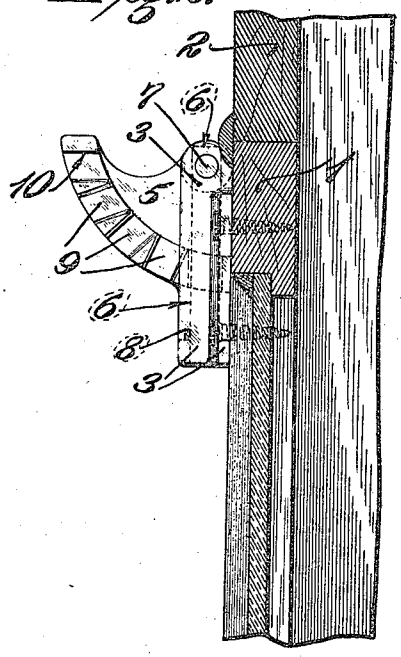
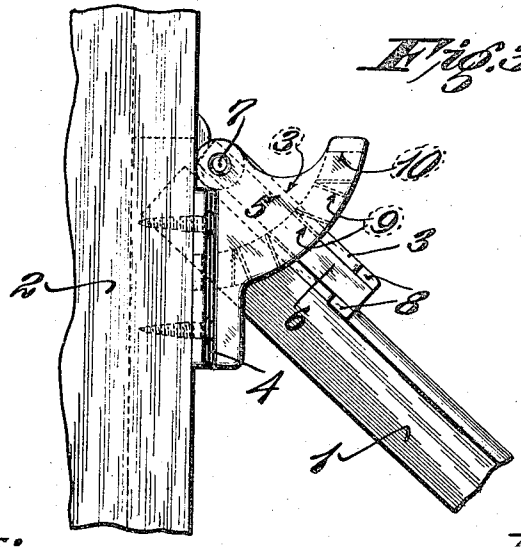


Fig. 3.



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UNITED STATES PATENT OFFICE.

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SPRING-CATCH.

1,263,319. Specification of Letters Patent. Patented Apr. 16, 1918.

Application filed April 19, 1917. Serial No. 163,109.

To all whom it may concern:

Be it known that I, REGINALD HEINZELMAN, a citizen of the United States, and a resident of the city of Belleville, county of St. Clair, and State of Illinois, have invented a new and useful Improvement in Spring-Catches, of which the following is a specification.

This invention relates to holding devices for hinged windows, particularly for small windows that are arranged to swing either on a horizontal axis, such as transom windows, ventilators, and wind shields for automobiles, or on a vertical axis such as casement windows and the like.

One of the objects of the invention is to provide means whereby the window may be readily opened to the desired position and firmly held in its adjusted position.

Another object of the invention is to provide a combined hinge and device for automatically holding windows in open or partly open position. A further object of the invention is to provide a holding device for swinging windows which are subject to vibration, particularly to windows or wind shields of automobiles where it is very difficult to hold the window or wind shield in the desired open position, due to the constant vibration of the body of the automobile.

The invention consists in the parts and arrangements hereinafter more fully described, reference being had to the accompanying drawings, and is more particularly defined in the claims.

In the drawings, wherein the same reference characters refer to like parts in the several views,

Figure 1 is a front elevation of a portion of a window and frame provided with a spring locking hinge, embodying my invention;

Fig. 2 is a vertical section taken through the window and frame on the line 2—2 in Fig. 1; and

Fig. 3 is a side view of the window and hinge shown in Fig. 1, shown in partly open position.

The locking device illustrated in the drawings is shown applied to an outwardly swinging window hinged at the top. The window comprises a window sash 1, fitting in a window frame 2. Secured to the side of the sash near its top is an angle bracket 3, one flange of which is screwed to the outer side of the window sash, and the other flange projects outward from its vertical edge. An angle bracket 4 having a notched sector 5 is secured opposite the outwardly projecting flange of the angle bracket by means of a flange which is screwed to the window frame. A thin flat steel spring 6 is carried by the outwardly projecting flange of the angle bracket 3 on the window sash. The angle bracket and the notched sector are pivotally secured near their tops by a hinge pin 7 with the spring 6 between their adjacent faces. This pin 7 also passes through the upper end of the spring 6, holding it in position at the top. The spring is held in position at its lower end by a pair of lugs 8 on the outwardly projecting flange of the angle bracket 3.

The spring 6 engages any one of a series of notches 9 on the inner face of the sector 5. The edges of the notches 9 are beveled to permit the spring 6 to ride out of them when the window sash is swung by hand. The spring is stiff enough to hold itself in the notches under ordinary conditions, such as vibration and wind pressure. In the construction shown in the drawings, when the sash is swung outwardly the angle bracket 3, which is secured to the sash, moves with the sash, and the free middle portion of the spring moves across the notches on the inner face of the sector 4, and comes to rest in the notch corresponding to the desired angular position of the sash.

The top notch has a square shoulder 10 which prevents the edge of the spring from riding over it when the sash is in full open position. The sectors and angle brackets are made in rights and lefts, one of each being arranged on each side of the sash and window frame.

The invention can be applied to various types of windows and doors by merely reversing the parts, therefore I do not wish to be limited to the exact construction shown.

I claim the following as my invention:

1. A hinge for a swinging window or the like comprising a sector and a second member pivotally connected together and adapted for attachment to a window frame and a window sash respectively, and a flat

spring attached to said second member in position to frictionally engage the inner face of said sector.

2. A hinge for a swinging window or the like comprising a sector fixedly mounted on the window frame, said sector having inwardly projecting lugs with slanting sides forming notches thereon, an angle bracket mounted at the edge of the window adjacent to said sector, said sector and bracket being hinged to each other in alinement with the line about which the window swings, and a flat spring held by said bracket in position to frictionally engage the notches of the sector for holding the window against movement.

3. A spring catch for a swinging window or the like comprising a sector adapted to be fixedly secured at the edge of the window, the inner face of said sector having inwardly projecting lugs forming notches thereon, an angle bracket mounted at the edge of said swinging window adjacent said sector, a flat spring secured at its ends to said bracket, the free middle portion of said spring contacting flatwise with the notches on the sector and frictionally held thereby against movement whereby the window is held in adjusted position.

4. A combined spring catch and hinge for swinging windows comprising two members hinged to each other, one of said members being secured to the window frame and the other member being secured to the swinging window, said members having a flat spring interposed between the faces and secured to one of them, one of said members having notches arranged in a spiral curve around its hinge, the notches for the wider open positions of the window being farthest from the hinge, and the free middle portion of said spring frictionally engaging said notches nearer its end remote from the hinge as the window approaches the full open position.

Signed at St. Louis, Missouri, this 17th day of April, 1917.

REGINALD HEINZELMAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."