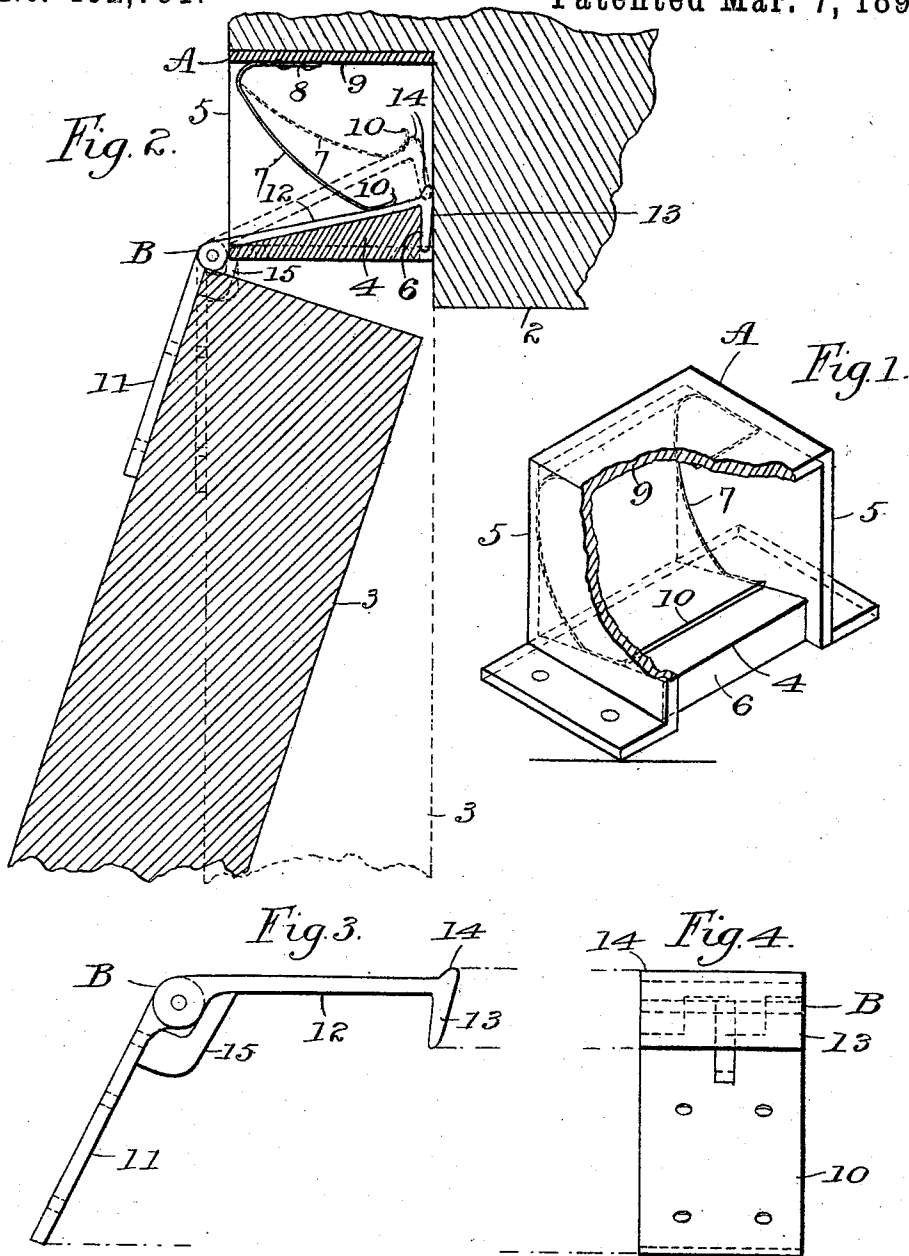


(No Model.)

F. W. FARRAR.
COMBINED HINGE AND HANGER FOR STORM SASHES.
No. 492,791. Patented Mar. 7, 1893.



Witnesses:-

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UNITED STATES PATENT OFFICE.

FRANK W. FARRAR, OF ST. PAUL, MINNESOTA.

COMBINED HINGE AND HANGER FOR STORM-SASHES.

SPECIFICATION forming part of Letters Patent No. 492,791, dated March 7, 1893.

Application filed April 12, 1892. Serial No. 428,771. (No model.)

To all whom it may concern:

Be it known that I, FRANK W. FARRAR, of St. Paul, Ramsey county, Minnesota, have invented certain Improvements in Hinges and Hangers for Storm-Sashes, of which the following is a specification.

The object of my invention is to provide a detachable hinged support for a storm sash in a window frame, by means of which the sash can be secured in place and removed from inside the window, and which will permit the sash when secured in place, to be swung open on the hinges, for the purpose of ventilation.

My invention further consists in the specific construction and combination hereinafter described and pointed out in the claims.

In the accompanying drawings forming part of this specification. Figure 1 is an isometrical projection of my improved device, partly broken away to show the construction and arrangement of the parts. Fig. 2 is a side elevation of the same, the side wall being removed, and the connected sash and window frame being shown in section. Fig. 3 is a side elevation of the hinge, and Fig. 4 is a rear elevation of the same.

In the drawings 2 represents the top of the window frame and 3 the storm sash to be secured therein. Permanently secured in or upon the window frame, is the box A, preferably rectangular in form, with its bottom 4 inclined toward the rear, and slightly shorter than the side walls 5, thus forming an abutment or stop 6. The flat bent spring 7 has its upper end 8 secured to the top 9 of the box and its lower end provided with an upturned edge 10 bearing upon the bottom 4. The hinge or butt B has its flap or member 11 secured to the sash 3, as shown in Fig. 2. Its other flap or member 12 is provided with the hook 13, which, when the flap lies upon the bottom 4 of the box, will extend down and engage with the abutment 6. The flap has also an upwardly projecting shoulder 14, against which the upturned edge 10 of the spring 7 bears when the flap is raised so as to be disengaged from the abutment, as shown by the dotted lines in Fig. 2. The flap 11 is fitted also with an inner projection or stop 15, which is adapted to strike against the flap 12, to prevent the hinge from closing together beyond

a limited angle. This angle is greater than a right angle so that when the sash stands in place in the window frame, the flap 12 will be lifted by the stop 15 into the dotted line position in Fig. 2, its hook 13 being entirely freed from the abutment 6. It will thus be seen that when the sash is standing in place in the frame, its top will be held in place solely by the pressure of the spring against the projection 14 on the flap 12, but when the sash is swung outward at the bottom into the full line position of Fig. 2, the flap 12 is free to turn downward under the tension of the spring 7, until it rests upon the bottom 4 with the hook 13 engaging the abutment 6, thus forming a perfectly secure support or hanger for the sash. The sash as opened farther will turn on the hinges, and when closed will again lift the flap 12 disengaging the hook from the abutment.

My device is operated as follows: The boxes 4 being mortised or otherwise permanently secured in or upon the top of the window frame, as indicated in Fig. 2, and the sash being fitted at its top with hinges B in such position that the flaps 12 of the hinges will enter the boxes, the sash is passed outward from the window and its bottom placed on the bottom of the window frame. The top of the sash then being pulled inward, the flaps 12 enter the boxes, lifting and passing under the springs 7, until the sash has reached a vertical position, when the springs will engage the shoulders 14, thus holding the top of the sash from falling outward, the relative positions of the parts being indicated by the dotted lines in Fig. 2. The bottom of the sash can then be swung outward, the springs 7 first throwing the flaps 12 downward so that their hooks 13 engage the abutment 6, the hinges flexing with the further movement of the sash, and the hooks 13 furnishing a perfectly secure support. In order to remove the sash bodily when standing in a vertical or closed position, the top is pushed outward, the springs 7 slipping over the shoulders 14, thus disengaging the flaps 12 of the hinges, when the sash can be lifted free from the frame and taken in at the window.

I claim—

1. In a device of the class described, the combination with the frame, of the sash fitted thereto, the hinges attached to said sash, and

devices on said frame for automatically engaging said hinges when the sash is placed in said frame, substantially as described.

2. The combination with the window frame and sash, of the hinges having one flap secured to said sash, the devices upon said frame adapted to receive the other flaps of said hinges when the sash is placed in the frame, and to automatically secure said flaps therein so as to hold said sash in place and to serve as a support therefor, substantially as described.

3. A hinge and hanger, comprising in combination a hinge having one flap secured to the removable part, devices upon the fixed part to receive the other flaps of said hinges, and to automatically engage the same so as to support the removable part, substantially as described.

4. A hinge and hanger, comprising in combination the hinge having one flap secured to the sash, the box rigidly secured to the frame adapted to receive the other flap of the hinge, and the spring catch engaging and holding said flap in said box against a limited strain, substantially as described.

5. In a device of the class described, the hinge and hanger comprising in combination, the box secured to the frame, the hinge attached to the sash, the hinge flap adapted to enter said box as the sash is placed in position, the spring catch engaging said flap and holding the same in said box against a limited strain, and the rigid stop adapted to be engaged by said flap under the tension of said spring catch when the sash is turned outward on said hinge, substantially as described.

6. The combination with the frame and the sash fitted thereto, of the box secured to said frame, the hinge secured to said sash, the flap on said hinge adapted to enter said box when the sash is placed in position, means for automatically securing said flap in said box against a limited strain when the sash is in a vertical position, and means for automatically securing said flap to a fixed support when the sash is turned outward upon said hinge, substantially as described.

7. In a device of the class described, the combination with the frame, and the sash fitted thereto, of the hinges upon said sash, the devices upon said frame adapted to receive the free flaps of said hinges when the sash is placed in vertical position in the frame, and to automatically engage and hold the same against a limited strain, and also adapted to automatically lock said flaps firmly in place when said sash is swung outward on said hinges, substantially as described.

8. In a device of the class described, the combination with the frame and the sash fitted thereto, of the boxes rigidly secured to said frame, the butts each having one flap secured

to said sash and the other flaps in position to enter said boxes when the sash is placed vertically in the frame, spring controlled devices for automatically engaging said flaps and holding them in said boxes against a limited strain, and means for automatically engaging said flaps and locking them in said boxes when the sash is turned outward on said hinges, substantially as described.

9. In a device of the class described, the combination with the frame and the sash fitted thereto, of the boxes fitted to said frame, the butts each having one flap secured to said sash and the other flap adapted to enter a box when the sash is in place in the frame, the spring catch automatically engaging said flap and securing the same in said box, against a limited strain while the sash is in the frame, and the fixed stop automatically locking said flap in said box when said sash is swung outward on its hinges, substantially as described.

10. The combination with the frame and the sash fitted thereto of the boxes secured to said frame, the hinges secured to said sash, having their free flaps adapted to enter said boxes, the spring catches in said boxes adapted to engage said flaps, the hooks upon said flaps, and the stops in said boxes adapted to be engaged by said hooks when the sash is turned on its hinges, substantially as described.

11. In a device of the class described, the combination with the frame and the sash, of the hinges, each having one flap secured to said sash, the stops adapted to engage the other flaps and limiting the closing movement of the hinges, the spring controlled catches adapted to engage the free flaps when the sash is placed in the frame, and to yield to a predetermined strain, the hooks upon said flaps, and the fixed stops adapted to be engaged by said hooks when the sash is turned outward on the hinges, substantially as described.

12. In a device of the class described, the combination with the frame and sash, of the boxes rigidly secured to said frame, the hinges upon said sash adapted to fit into said boxes, spring controlled means for automatically locking the same in said boxes so as to support said sash in an open position, means for disengaging said hinges from said locking devices operated by the closing of said sash, and automatic means engaging said hinges and securing them in said boxes against a limited strain with the sash in closed position, substantially as described.

In testimony whereof I have hereunto set my hand this 5th day of April, 1892.

FRANK W. FARRAR.

In presence of—

T. D. MERWIN,
H. S. JOHNSON.