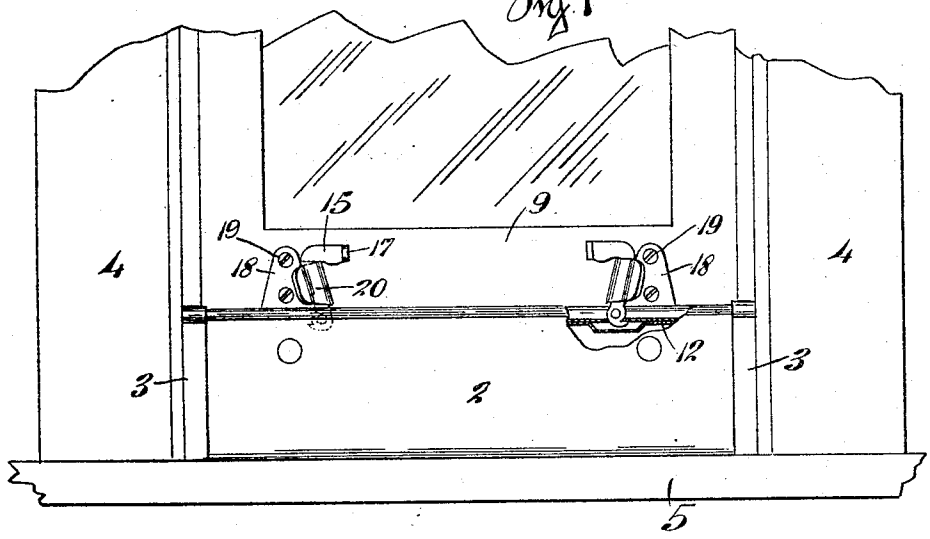
H. HIGGIN.

HOOK FASTENER.

APPLICATION FILED APR. 14, 1914.

1,197,630. Patented Sept. 12, 1916.

Fig. 1



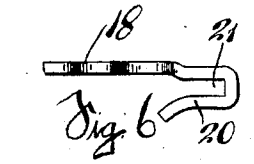


Fig. 6

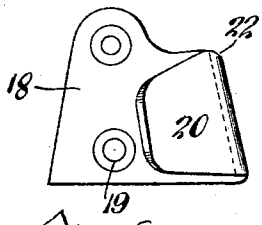


Fig. 5

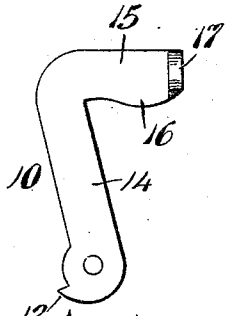


Fig. 4

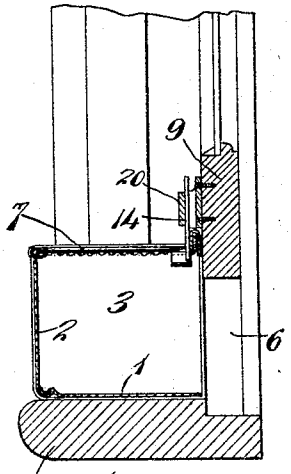


Fig. 2

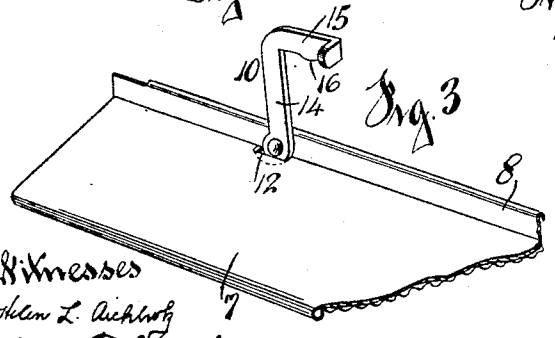


Fig. 3

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HENRY HIGGIN, OF NEWPORT, KENTUCKY, ASSIGNOR OF ONE-HALF TO THE HIGGIN MANUFACTURING COMPANY, OF NEWPORT, KENTUCKY, A CORPORATION OF WEST VIRGINIA.

HOOK-FASTENER.

1,197,630. Specification of Letters Patent. Patented Sept. 12, 1916.

Application filed April 14, 1914. Serial No. 831,767.

To all whom it may concern:

Be it known that I, HENRY HIGGIN, a citizen of the United States, and a resident of the city of Newport, in the county of Campbell and State of Kentucky, have invented certain new and useful Improvements in Hook-Fasteners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to means for detachably securing the ventilator plate to the window sash in that style of ventilator such as is shown in my Patent No. 1064730, of June 17, 1913.

In the ventilator construction of my prior patent, the ventilator box, open at the top, is mounted on the window sill to close the window opening when the sash is raised, and the top plate for the box is detachably secured to the window sash and rides up and down within the limits of the box when attached to the sash.

To relieve the window sash entirely from the ventilator, the plate is detached from the sash, leaving the sash free to be raised beyond the limits of the ventilator.

The object of my invention is to provide a simple, cheap, durable and effective lock to thus detachably secure the ventilator plate to the sash, and it consists of that certain novel construction and arrangement of parts to be hereinafter particularly pointed out and claimed.

In the drawings, Figure 1 is a front elevation of the ventilator and sash, showing the lock. Fig. 2 is a transverse section of the same. Fig. 3 is a perspective view of a portion of the ventilator plate, with hook attached. Fig. 4 is a plan view of the hook. Fig. 5 is a plan view of the catch. Fig. 6 is a top plan view of the same.

The ventilator comprises a box structure, preferably of sheet metal, with bottom 1, front wall 2, and end wall 3, 3 of a size adapted to fit between the window jambs 4, 4, and to rest upon the window sill 5. The ventilator box has an open side to register with the opening 6 underneath the sash and the top plate of the ventilator 7 is perforated and is adapted to ride up and down between the end walls 3, 3 of the box, as the sash is raised or lowered.

For securing the plate 7 to the sash 9, I provide an upstanding flange 8 for the plate, and pivot thereto at convenient distances apart, one near each end of the plate, the hooks 10. The pivot end of each of these hooks extends down through a slot 12 cut in the plate and is provided with a nose 13 to engage under the plate to prevent the hook from being turned beyond a vertical position.

Each hook is formed with a straight shank 14 and a hook member 15. The lower edge of the hook member is formed with a cam surface 16 and the outer end of the hook with a lip 17 to serve as a finger hold.

For coupling the hook to the sash, I provide a catch plate 18 preferably secured to the sash by the screws 19. This catch plate has a lateral wing 20 which is folded back on itself to form a groove 21 to receive the shank 14 of the hook, the outer end of the wing flaring outwardly to guide the shank into its seat in the catch. The upper edge 22 of the catch plate is formed so that as the cam edge 16 of the hook bears against it in pushing the hook to place, the two parts will be drawn together and the hook will lock itself on the catch plate. When in this locked position, the locking point of the hook will be directly above the pivot of the hook, so that in raising and lowering the sash within the limits of the ventilator box, the strain will be in a direct vertical line.

As is evident from the foregoing description, the hook and catch plate are constructed so as to be strong and durable, the one locking into the other so as to avoid looseness of fit and any liability of becoming unfastened. When the hooks are disconnected from the catch plates, they are prevented from being turned inwardly and they are always ready for slipping into the catch plate. With an ordinary hook and eye, when the ventilator plate which carries the hook would come in contact with the sill by lowering the sash, there would be a tendency to release the hook from the eye; but in the present construction, with the long channel or groove 21 for the shank of the hook, there is no liability of the hook becoming detached. In the present construction, no springs of any kind are required to maintain tension between the parts. The fact that the shank of the hook is flat and fits

into the rectangular groove in the plate insures closeness of fit and prevents the parts wearing loose and rattling.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a hook and fastener for securing two members together in vertical relation, comprising a hook on the lower member, having a shank and a hooked end, means on the hook for preventing the shank thereof from assuming a vertical position, a locking plate having a channel therein for the shank of the hook, said channel being disposed at an angle, and a cam surface on the hooked end of the hook to engage over the edge of the locking plate with the hooked end of the hook turned outwardly to serve as a finger hold, for the purpose described.

2. In a hook and fastener for securing two members together in vertical relation, comprising a hook on the lower member shaped in the form of a **7**, with a cam edge on the horizontal portion thereof, and a locking plate on the upper member having an angularly disposed channel formed therein for the upwardly extending portion of the **7**-shaped hook, and an edge for engagement with the cam edge of the hook, whereby the hook may be locked without its upwardly extending portion assuming a vertical position with the hooked end of the hook turned outwardly to serve as a finger hold.

3. In a hook and fastener for securing two members together in vertical relation, comprising a hook on the lower member shaped in the form of a **7**, with a cam edge on the horizontal portion thereof, and a locking plate on the upper member having an angularly disposed channel formed therein for the upwardly extending portion of the **7**-shaped hook, and an edge for engagement with the cam edge of the hook, whereby the hook may be locked without its upwardly extending portion assuming a vertical position, and means on the hook for preventing said portion from assuming a vertical position with the hooked end of the hook turned outwardly to serve as a finger hold.

HENRY HIGGIN.

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