No. 747,866. PATENTED DEC. 22, 1903.

J. DIEHL.

STORM SASH FASTENER.

APPLICATION FILED DEC. 3, 1902.

NO MODEL.

Fig. 3.

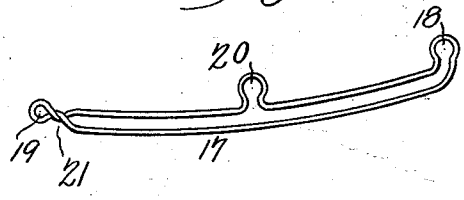


Fig. 1.

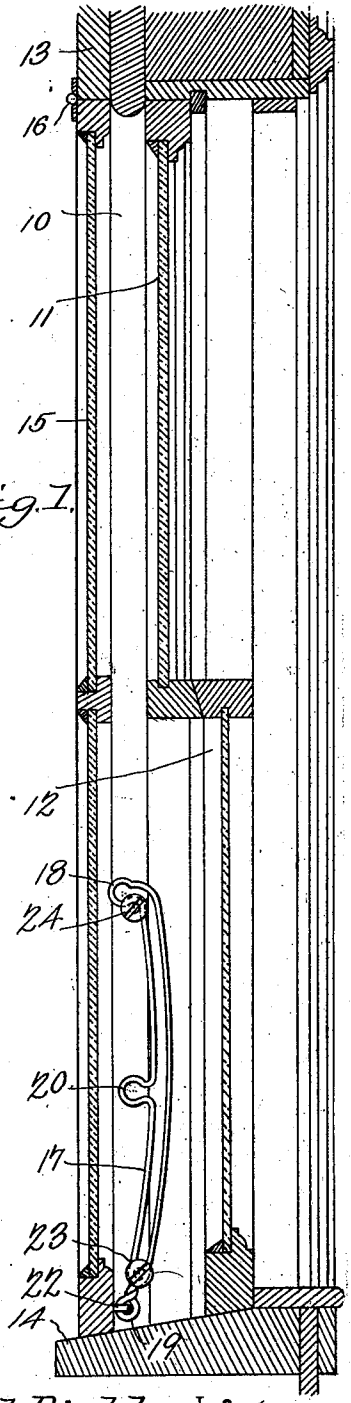
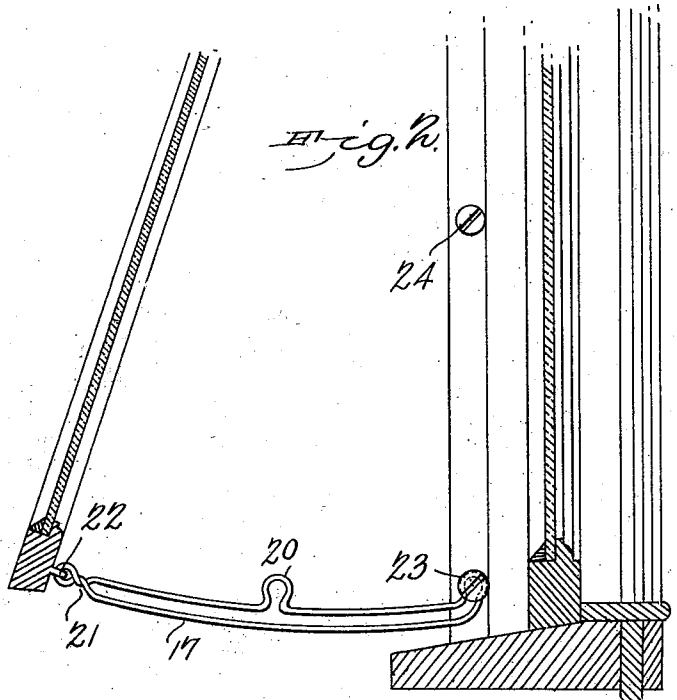


Fig. 2.



Witnesses
C. F. Stewart
C. M. Woodward.

Jacob Diehl, Inventor.
by C. A. Snow & Co
Attorneys

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

No. 747,866. Patented December 22, 1903.

UNITED STATES PATENT OFFICE.

JACOB DIEHL, OF SHEBOYGAN, WISCONSIN.

STORM-SASH FASTENER.

SPECIFICATION forming part of Letters Patent No. 747,866, dated December 22, 1903.

Application filed December 3, 1902. Serial No. 133,743. (No model.)

To all whom it may concern:

Be it known that I, JACOB DIEHL, a citizen of the United States, residing at 1816 North Fifth street, Sheboygan, in the county of Sheboygan and State of Wisconsin, have invented a new and useful Storm-Sash Fastener, of which the following is a specification.

This invention relates to devices employed for the purpose of locking swinging sash in their closed position and for supporting them extended or open and which may be applied to any form of swinging sash or other closures of a similar kind, but which are more particularly applicable to storm-sash; and the object of the invention is to produce a combined supporting and locking means whereby the sash may be locked in its closed position or supported in its open position.

The invention consists in a slotted arm movably connected by one end to the sash and with a curved loop at the other end adapted to movably engage a pin upon the window-frame or other structure to which the sash is attached, and likewise yieldably engage another pin when the sash is in its closed position, whereby the sash may be supported in either its closed or open position by the same slotted arm.

Other novel features of the invention will appear in the annexed description and be specified in the claims following.

In the drawings illustrative of the invention, in which similar designating characters will be employed to denote like parts in each figure of the drawings, Figure 1 is a longitudinal sectional elevation of a window-frame and the sash, with a storm-sash, likewise in longitudinal section, in position thereon and the improvement applied as a locking means for supporting the storm-sash closed. Fig. 2 is a sectional detail illustrating the improved device applied in position to support the storm-sash open. Fig. 3 is a side view of the slotted lock-bar detached.

The improved device may be applied to support a swinging sash or other swinging closure, but, as before stated, is more particularly applicable to swinging storm-sash, and for the purpose of illustration the device is shown applied to a sash of this character; but I do not wish to be limited to the application of the device to any specific form of sash or other structure to which it is applicable and reserve the right to the employment of the device to any structure or in any locality to which it is adapted.

In the drawings the window-frame is indicated at 10, the upper sash at 11, the lower sash at 12, the outside casing at 13, the window-sill at 14, and the storm-sash at 15, the latter being connected by its upper end movably to the outside casing 13, as by hinge 16, all these parts being of the ordinary construction and may be varied as circumstances may require, the improved device being applicable to all the various modifications in the form of the sash and frame.

The improved device consists in a slotted arm 17, adapted to be attached by one end to the sash and provided at the other end with a backwardly-curving lateral loop 18, forming a yieldable hook, the body of the arm being preferably formed in a curved shape, as shown. The slotted arm will preferably be formed in a single piece of wire bent to shape, with an eye 19 at one end and the backwardly-curved lateral loop 18 at the other end and with one or more intermediately-disposed lateral loops 20, as shown more particularly in Fig. 3, which represents the slotted arm enlarged and detached.

The eye portion 19 may be connected and formed in any suitable manner and may be connected to the body of the arm by twisting the ends of the wire, as at 21; but I do not wish to be limited to any specific means for forming the arm, as it may be formed in any suitable manner and of any suitable size and length, according to the circumstances and the form of the structure with which it is employed. It is preferably formed arc-shaped or curved throughout its length, and the hook-shaped end 18 is curved in the same direction as the curvature of the body portion of the arm. The eye portion 19 will be connected, as by an eyebolt 22, to the sash 15, preferably at the lower end of the sash, as shown.

Extending from the frame 10 are spaced pins or studs 23 24, the pin 23 engaging the bar 17 by its slot, as shown in Figs. 1 and 2, the arm being slidable over the pin, as will be obvious. When in its extended position, the arm 17 will engage the pin 23 by the loop.

18, and thus support the sash 15 in the extended position shown in Fig. 2 or which may be partially extended by engaging the pin 23 with the loop 20. By this simple means the sash 15 may be supported firmly in its open position or partially open, as may be desired, to secure the requisite ventilation. When the sash 15 is closed, as in Fig. 1, the arm 17 will be in position to be turned vertically with the backwardly-curving loop 18, adapted to be forced over the pin 24, the inwardly-curving form of the loop forming a hook and providing for this forcible engagement of the arm with the pin, the hooked loop being sufficiently resilient to bind the arm fast to the pin with sufficient force to prevent accidental displacement of the sash, while at the same time the arm may be disconnected from the pin by the exercise of sufficient force to overcome the spring of the loop. When in the position shown in Fig. 1, the pin 23 becomes a fulcrum between the eyebolt 22 and the free end of the arm 17 and transforms the arm into a binding-lever, by which the sash may be firmly clamped into its closed position and locked in that position by engaging the yieldable loop 18 with the pin 24. The arc-shaped slot permits the arm to slide freely on the pin 23 without any binding thereon.

This makes a very simple, complete, and easily-operated device for the purpose designated and may be readily applied and easily operated.

The arm 17 may be made of any sized material and of any suitable length and may be provided with any desired number of the intermediate loops 20 to enable the sash to be extended to any desired degree.

The pins 23 24 will preferably be formed with laterally-extending heads to prevent the displacement of the slotted arm when in action.

Having thus described the invention, what is claimed is—

1. As a new article of manufacture, a fastener for swinging sash consisting of an arm slotted throughout its length for engagement with a projection on the window-frame and having means at one end for attachment to the sash and the other end bent to form a hook-shaped loop opening into the slot in the body of the arm, said hook-shaped loop being adapted to slidably engage said projection and to be hooked over another projection on the window-frame to lock the sash in closed position.

2. As a new article of manufacture, a fastener for swinging sash formed from a single loop of wire entwisted at one end to form an eye and bent at the other end to form a hook-shaped loop, the side members thereof being spaced apart to form a longitudinal slot, said fastener being adapted to engage a projection on the window-frame by its slot and loop.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JACOB DIEHL.

Witnesses:
F. H. DENISON,
M. G. THIMMIG.