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E. T. KUNOLD ET AL

2,190,187

STORM SASH HANGER

Filed May 12, 1939

Fig. 1.

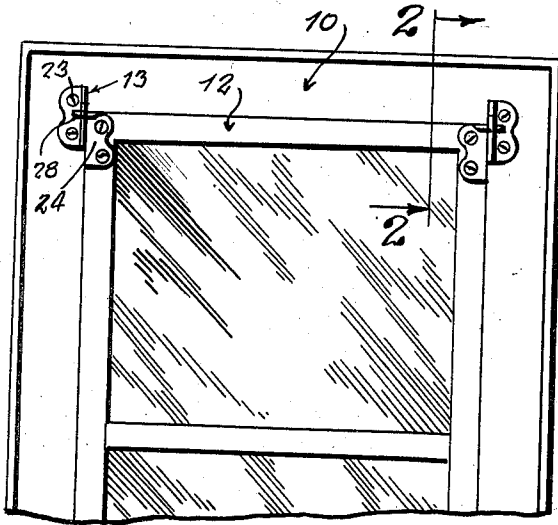


Fig. 2.

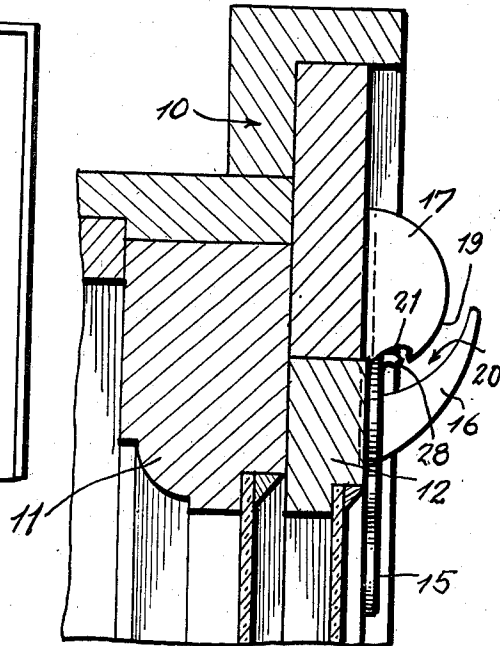


Fig. 5.

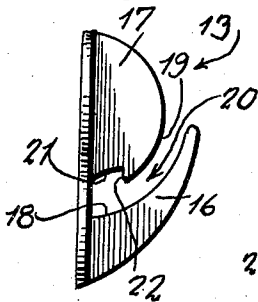


Fig. 6.

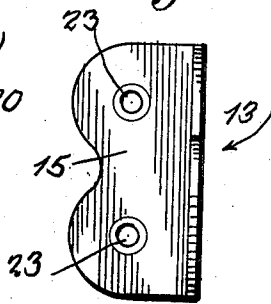


Fig. 3.

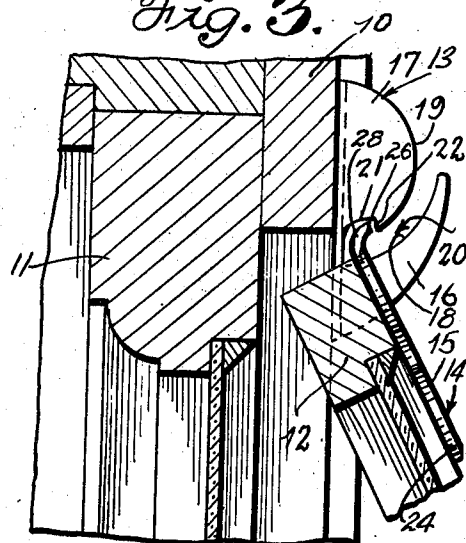


Fig. 7.

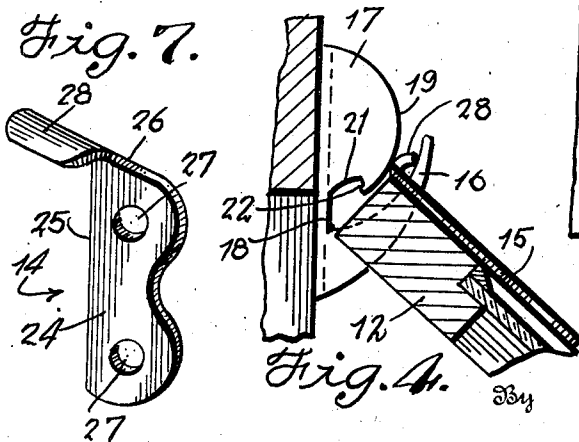


Fig. 4.

Inventors
Edward T. Kunold &
Jacob J. Friedman.

A. K. Bryant,
Attorney.

UNITED STATES PATENT OFFICE

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STORM SASH HANGER

Edward T. Kunold and Jacob J. Friedman,
Omaha, Nebr.; said Kunold assignor to Ruth
Friedman

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6 Claims. (Cl. 16--172)

This invention relates to certain new and useful improvements in storm sash hangers.

In the mounting of storm sashes, it has heretofore been the practice to provide the upper cross-rail of the storm sash with a pair of eye members in the form of apertured plates that are readily detachable from a pair of plate hooks secured to a window frame outwardly and upwardly of a window sash with the storm sash freely pivotally suspended on the plate hooks and with anchor means for securing the lower end of the storm sash in its closed position relative to the window sash and also for holding the storm sash in a position swung outwardly at the lower end thereof for ventilation purposes. It has been found that with such window sash mountings that strong blasts of air frequently raise the upper end of the storm sash when the same is swung outwardly at its lower end into ventilating position disengaging the apertured plates from the plate hooks resulting in serious damage to the storm sash.

It is therefore the primary object of this invention to provide a storm sash hanger that is extremely simple in construction, inexpensive to manufacture and one in which an interlocking connection is formed between the hanger members carried by the upper end of the storm sash and the window frame when the storm sash is swung outwardly at its lower end into ventilating position to prevent accidental disengagement of the storm sash at its upper end from the window frame.

With the above and other objects in view that will become apparent as the nature of the invention is better understood, the same consists in the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawing and claimed.

In the drawing:

Figure 1 is a fragmentary front elevational view of the window frame and storm sash equipped with the storm sash hangers constituting the present invention;

Figure 2 is a vertical detail cross-sectional view taken on line 2--2 of Figure 1, showing the storm sash in its closed position relative to the window sash;

Figure 3 is a fragmentary vertical detail sectional view, similar to Figure 2, showing the storm sash swung outwardly into ventilating position with the two parts of the sash hanger interlockingly engaged;

Figure 4 is a detail sectional view showing the

manner of engaging and disengaging the two parts of the storm sash hanger;

Figure 5 is a side elevational view of the storm sash hanger element that is mounted upon the window frame;

Figure 6 is a front elevational view of the storm sash hanger element shown in Figure 5; and

Figure 7 is a perspective view of the storm sash hanger element carried by the storm sash.

In the accompanying drawing, the reference character 10 designates in general a window frame having vertically slidable window sashes 11 mounted therein. The storm sash 12 is mounted on the window frame 10 outwardly of the window sash 11 as shown in Figures 1 and 2 in its closed position relative to the window sash.

The mounting for the storm sash comprises two-part hangers, two of such hangers being associated with each storm sash and window frame, one hanger part being secured to the window frame and the other part of the hanger being secured to the storm sash. The two parts of the hanger are respectively designated in general by the reference characters 13 and 14 and these hanger parts are illustrated in detail in Figures 5 to 7. As shown in Figures 5 and 6, the hanger part 13 includes a base plate 15 of generally rectangular formation in plan view except for ornamental characteristics, the straight vertical side edge of the base plate 15 having an upwardly curved hook 16 projecting at right angles from the lower end thereof and a plate 17 projecting at right angles from said straight vertical edge of the base plate 15 in the plane of the hook 16 and spaced upwardly thereof as shown in Figure 5. The hook 16 has an upwardly curved upper edge 18 while the outer edge of the plate 17 overlying the hook 16 is substantially coincidentally curved as at 19 relative to the curved edge 18 of the hook to provide an arcuate passage 20 between the adjacent curved edges of the hook 16 and plate 17 which slightly widens at the outer end thereof. The lower side of the curved edge 19 of the plate 17 is cut away as at 21 to provide an abutment shoulder 22 for purposes presently to appear. The base plate 15 is provided with spaced openings 23 for the passage of fastening screws to anchor the hanger part 13 to the window frame 10 as shown in Figure 1, it being understood that the hanger parts 13 and 14 are constructed for mounting on the window frame 10 at opposite sides and at the upper end of the opening in the window frame in which the storm sash is mounted, the

plate 17 and hook 16 being disposed substantially in the vertical plane of the opposite edges of the storm sash.

The cooperating storm sash hanger part 14 is shown in detail in Figure 7 and two of these parts are respectively secured to the upper corners of the storm sash for pivotal supporting engagement with the adjacent hanger part 13. The hanger part 14 comprises a base plate 24 of generally rectangular formation in plan view with one straight vertical side edge 25 and an upper edge 26 extending at right angles to the vertical side edge 25, the other two edges being of fanciful design characteristics and said base plate 24 has vertically spaced openings 27 therein to facilitate the passage of anchor screws for securing the hanger part 14 to the storm sash 12. A bearing finger 28 projects laterally of the upper end of the base plate 24 from the straight side edge 25 thereof, said bearing finger being transversely curved as illustrated and when the base plate 24 of the hanger part 14 is secured to the storm sash 12 with the straight side edge thereof substantially flush with the adjacent vertical side edge of the storm sash, the bearing finger 28 is positioned in the slot or space 20 between the hook 16 and plate 17 of the hanger part 13 in support of the storm sash.

When the storm sash 12 is in its closed position as shown in Figure 1, relative to the window casing 10 and window sash 11, the bearing finger 28 carried by the hanger part 14 is engaged with the upper edge 18 of the hook 16 of the hanger part 13 and is disposed beneath the cut-away portion 21 in the lower edge of the plate 17 overlying the hook 16. The free forward edge of the bearing finger 28 is slightly above the lower end of the abutment shoulder 22 at the forward end of the cut-away portion 21 to restrain the upper end of the storm sash 12 against movement outwardly of the window frame when the lower end of the storm sash is anchored in the usual manner to the window sill. When it is desired to swing the lower end of the storm sash outwardly for ventilation purposes, as shown in Fig. 3, the lower anchor devices are released and upon outward swinging movement of the lower end of the storm sash away from the usual inclined window sill, the storm sash is slightly lowered with the bearing finger 28 resting at its inner or rear edge on the upper edge of the hook 16. Upon outward swinging movement of the lower edge of the storm sash, the lower edge of the bearing finger 28 pivots on the upper edge of the hook 16 while the forward edge of the bearing finger 28 moves upwardly into the cut-out portion 21 and is positioned rearwardly and upwardly of the abutment shoulder 22 whereupon the two parts of the storm sash hanger become interlocked with each other so that the upper edge of the storm sash 12 cannot be moved outwardly relative to the window casing and window sash. To remove the storm sash from the window casing, the anchor means at the lower end of the storm sash is released and slight outward pressure at the lower end of the storm sash will cause the storm sash to be slightly lowered with the bearing finger 28 positioned below the abutment shoulder 22 for movement into the inner end of the space 20 between the plate 17 and opening 16 whereupon the storm sash may then be bodily swung outwardly and upwardly with the bearing finger 28 moved outwardly through the opening 20, the storm sash being mounted in a similar manner by reverse operation.

From the above detailed description of the invention, it is believed that the construction and operation thereof will at once be apparent and while there is herein shown and described the preferred embodiment of the invention, it is nevertheless to be understood that minor changes may be made therein without departing from the spirit and scope of the invention as claimed.

We claim:

1. In a storm sash hanger of the character described, a hanger comprising two separably connected parts adapted for respective attachment to a window frame and a storm sash, and cooperating means carried by said parts to effect an interlocking engagement therebetween when the storm sash is swung outwardly at its lower end into ventilating position, the cooperating means including an upwardly curved hook carried by the window frame hanger part and an overhanging plate above and in the plane of the hook with a cut-away portion in the lower edge of the plate forming an abutment shoulder, and a bearing finger carried by the storm sash hanger part positionable between the hook and plate and movable into the cut-away portion with the free edge of the finger in a plane above the abutment shoulder and rearwardly thereof when the storm sash is swung outwardly into ventilating position.

2. In a storm sash hanger of the character described, a hanger comprising two separably connected parts adapted for respective attachment to a window frame and a storm sash, and cooperating means carried by said parts to effect an interlocking engagement therebetween when the storm sash is swung outwardly at its lower end into ventilating position, the cooperating means including an upwardly curved hook carried by the window frame hanger part and an overhanging plate above and in the plane of the hook with a cut-away portion in the lower edge of the plate forming an abutment shoulder, and a bearing finger carried by the storm sash hanger part positionable between the hook and plate and movable into the cut-away portion with the free edge of the finger in a plane above the abutment shoulder and rearwardly thereof when the storm sash is swung outwardly into ventilating position, the opposed edges of the hook and plate being substantially coincidentally curved and spaced to provide a guide slot with the bearing finger movable through the slot during placement and displacement of the storm sash.

3. In a storm sash hanger of the character described, a hanger comprising two separably connected parts adapted for respective attachment to a window frame and a storm sash, and cooperating means carried by said parts to effect an interlocking engagement therebetween when the storm sash is swung outwardly at its lower end into ventilating position, the cooperating means including an upwardly curved hook carried by the window frame hanger part and an overhanging plate above and in the plane of the hook with a cut-away portion in the lower edge of the plate forming an abutment shoulder, and a bearing finger carried by the storm sash hanger part positionable between the hook and plate and movable into the cut-away portion with the free edge of the finger in a plane above the abutment shoulder and rearwardly thereof when the storm sash is swung outwardly into ventilating position, the storm sash hanger part comprising a base plate, the bearing finger projecting

laterally and forwardly of the upper end of the base plate and being transversely curved.

4. In a storm sash hanger of the character described, a hanger comprising two separably
5 connected parts adapted for respective attachment to a window frame and a storm sash, and cooperating means carried by said parts to effect an interlocking engagement therebetween when
10 the storm sash is swung outwardly at its lower end into ventilating position, the cooperating means including an upwardly curved hook carried by the window frame hanger part and an overhanging plate above and in the plane of the
15 hook with a cut-away portion in the lower edge of the plate forming an abutment shoulder, and a bearing finger carried by the storm sash hanger part positionable between the hook and plate and movable into the cut-away portion with the free edge of the finger in a plane above the abutment
20 shoulder and rearwardly thereof when the storm sash is swung outwardly into ventilating position, the opposed edges of the hook and plate be-

ing substantially coincidentally curved and spaced to provide a guide slot with the bearing finger movable through the slot during placement and displacement of the storm sash, the storm sash hanger part comprising a base plate, the bearing
5 finger projecting laterally and forwardly of the upper end of the base plate and being transversely curved.

5. A storm sash hanger of the type set forth in claim 3, characterized by the inner lower edge
10 of the bearing finger resting upon said hook when the storm sash is in ventilating position with the forward edge of the finger positioned upwardly and rearwardly of the abutment shoulder.

6. A storm sash hanger of the type set forth in
15 claim 4, characterized by the inner lower edge of the bearing finger resting upon said hook when the storm sash is in ventilating position with the forward edge of the finger positioned upwardly and rearwardly of the abutment shoulder.
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EDWARD T. KUNOLD.
JACOB J. FRIEDMAN.