May 5, 1959 R. D. HANSEN 2,885,238

WINDOW LOCKING MECHANISM

Filed Feb. 20, 1958

Fig. 2.

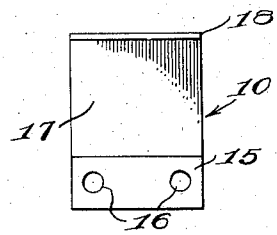


Fig. 3.

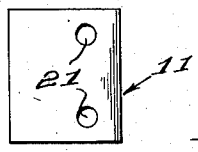


Fig. 1.

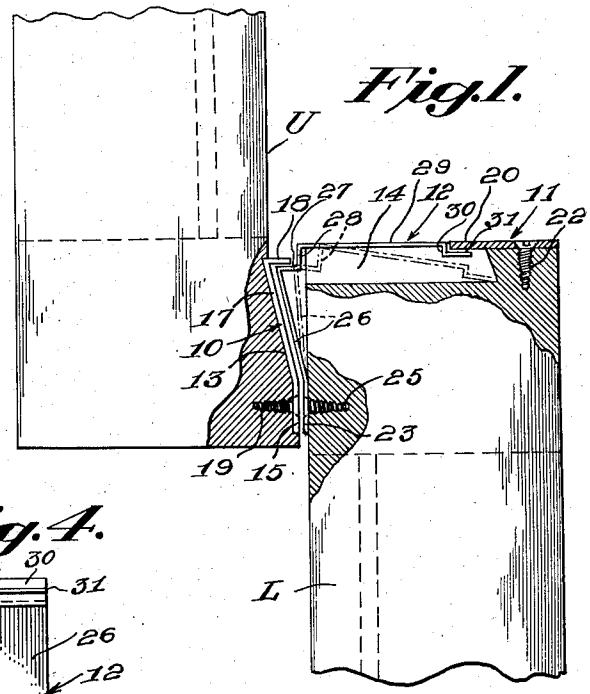
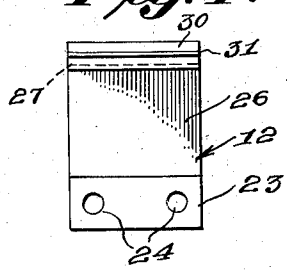


Fig. 4.



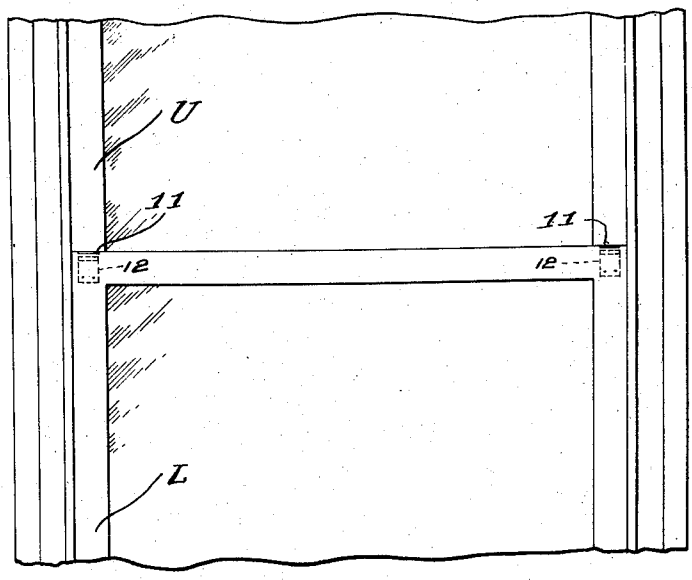


Fig. 5.

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WINDOW LOCKING MECHANISM

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1 Claim. (Cl. 292—87)

This invention relates to a window locking mechanism.

The invention is more particularly concerned with a novel mechanism for locking the lower vertically movable sash of a window in lowered or closed position relative to the upper normally closed sash.

A primary object of the invention is the provision of a locking mechanism for operative disposal adjacent the lower end of the upper sash and the upper end of the lower sash of a window which is yieldably constrained to a locking position and is capable of being released by the fingers of a person when grasping the upper horizontal cross member of the lower sash in an effort to raise same.

A further object of the invention is the provision of a locking mechanism which is substantially concealed from view whereby the appearances of sash windows is substantially unimpaired in the use of the improved mechanism.

A still further object of the invention is the provision of a window sash locking mechanism which is relatively simple in construction, dependable in operation and which is capable of manufacture at relatively low cost.

Other objects and advantages of the invention will become apparent in the course of the following detailed description, taken in connection with the accompanying drawing, wherein:

Fig. 1 is a fragmental edge elevational view of upper and lower window sash in their closed position and wherein said sash are partially in vertical section with a view of the improved locking mechanism in side elevation.

Fig. 2 is an outer face view of a keeper plate involved in the locking mechanism.

Fig. 3 is a top plan view of a stop plate involved in the locking mechanism.

Fig. 4 is a front elevational view of a resilient locking plate involved in the locking mechanism.

Fig. 5 is a fragmental front elevational view of the upper and lower sash and wherein the positions of the locking mechanism is indicated in dotted lines.

Referring now in detail to the drawing, the improved locking mechanism is shown in operative association with the lower end of the upper sash U and the upper end of the lower sash L. In other words, the locking mechanism is disposed in the region of the opposed horizontal transverse members of the upper and lower sash.

The elements entering into the locking mechanism comprise a keeper plate **10** (Fig. 2), a stop plate **11** (Fig. 3) and a locking plate **12** (Fig. 4).

As is indicated in Fig. 5, there is preferably a locking mechanism at each side of the window sash and the sash is modified as follows for operative association of the locking elements **10, 11** and **12**.

The upper sash U is provided with a downwardly and outwardly inclined surface **13** which may be localized at the positions of the locking mechanisms or may extend throughout the width of the sash.

The lower sash L is provided with a recess or pocket **14** at the location of each of the locking mechanisms and which recesses or pockets open through the upper and inner surfaces of the sash as indicated in Fig. 1 and for a purpose later to appear.

As is more clearly indicated in Fig. 1, a keeper plate **10** is disposed opposite the rear open end of each of said recesses **14** and the keeper plate **10** includes a lower portion **15** which is provided with a pair of screw receiving apertures **16** and the keeper plate further includes an elongated portion **17** which is disposed at an angle to the portion **15** and which terminates in a forwardly projecting flange **18**.

Each keeper plate **10** is secured in position by a pair of screws **19** traversing the apertures **16** and as is indicated in Fig. 1, the portion **17** rests upon the inclined surface **13** with the flange **18** disposed horizontally and projecting inwardly from the upper sash U opposing the open inner end of a respective pocket or recess **14**.

A stop plate **11** is disposed on the upper horizontal surface of the lower sash L in alignment with each of the recesses **14** and with a portion **20** thereof overhanging the outer end of the respective recess **14** and each plate **11** is provided with a pair of apertures **21** for receiving screws **22** which enter the lower sash and secure the stop plates **11** in position.

The locking plate **12** includes a lower portion **23** which is provided with a pair of screw receiving apertures **24** and which portion abuts the inner wall of lower sash L in opposition to portion **15** of plate **10** and is secured in position by means of a pair of screws **25**.

The locking plate **12** is resilient or at least must be capable of yielding at a point adjacent the lower secured portion **23** and the same comprises in addition to the portion **23**, a portion **26** which is disposed in angular relation to the portion **23** and which in normal position is substantially parallel to the portion **17** of plate **10**.

The plate **12** further includes a generally horizontal portion **27** which is normally disposed immediately beneath portion **18** of plate **10**, a further portion **28** normal to portion **27**, a further elongated horizontal portion **29** which terminates in the right angularly disposed portions **30** and **31**, the latter of which normally engages the under face of the overhanging portion **20** of plate **11**.

The plate **12** is preferably of a width corresponding to the respective recess **14** and plates **10** and **11** are preferably of the same width.

From the above, it will be apparent that with the sash L locked relative to sash U, as in Fig. 1, the sash L may be raised as in common practice by grasping the upper horizontal cross member with the fingers and in which instance corresponding fingers may be utilized to urge portions **29** of the locking plates **12** downwardly from the full line position in Fig. 1 to the dotted line position wherein the portions **27** disengage the flanges **18** with a resulting unlocking of the lower sash L. The recesses **14** provide accommodation for the portions **29, 30** and **31** and which recesses are normally closed by portions **29**.

When the sash L is in elevated position, the locking plate **12** will have resumed its normal position so that upon lowering of sash L, portion **26** will be cammed outwardly by flange **18** and portion **17** will again snap under flange **18** with a relocking of the sash L.

The recesses **14** are normally closed, as indicated in Fig. 1, with a concealment of the locking mechanism.

Having set forth the invention in accordance with a preferred structural embodiment thereof, what is

claimed and desired to be secured by U.S. Letters Patent is:

Locking mechanism for a lower vertically slidable window sash having an upper cross member horizontally opposed to the lower cross member of an upper sash in the closed positions of the sashes, said upper sash being provided with a rigid horizontal flange projecting toward said lower sash in horizontally spaced relation thereto and below the upper surface thereof, said lower sash being provided with a recess opening through the upper and outer faces of the upper cross member thereof, a stop plate secured to the upper face of said lower sash in overhanging relation to the inner end of said recess, and a resilient locking plate comprising a lower vertical portion engaged with and secured to the outer face of said lower sash, a second portion extending upwardly from said lower portion between said cross members and being inclined away from the upper cross member of the lower sash toward the lower

cross member of the upper sash, said locking plate further comprising a normally horizontal portion projecting toward said lower sash and which is disposed beneath said rigid flange, in the locked position of the lower sash, said locking plate further comprising a horizontal portion extending inwardly from said first horizontal portion and terminating in a portion disposed beneath and in contact with the outer edge portion of said stop plate in the locked position of the sashes, and said stop plate and said last horizontal portion providing a substantially smooth uninterrupted upper surface for the lower sash in the closed position thereof.

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