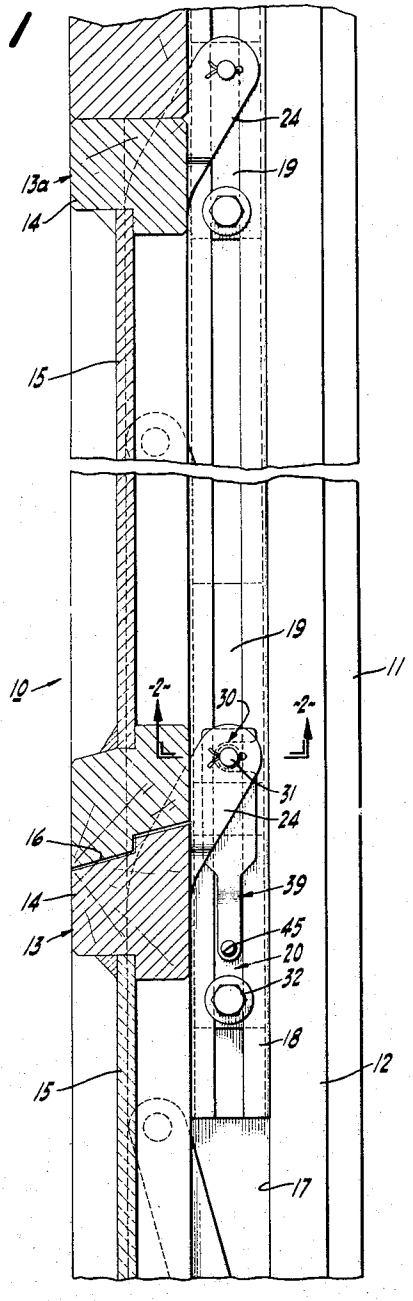
June 19, 1956 A. H. SOULE 2,750,635

WINDOW STRUCTURE HARDWARE

Original Filed Jan. 23, 1950

FIG. 1



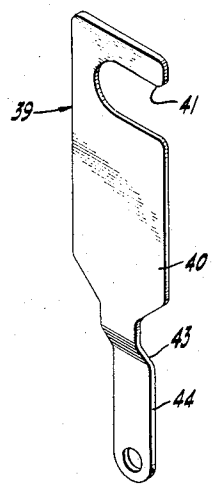


FIG. 3

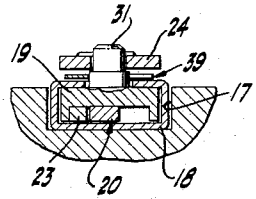


FIG. 2

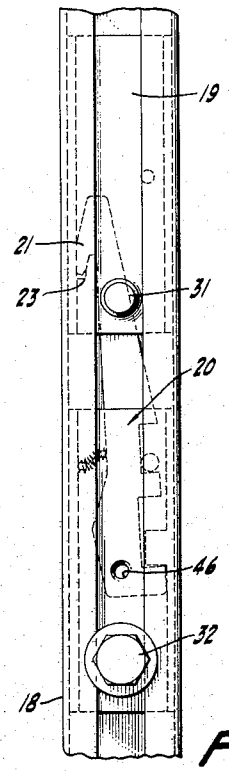


FIG. 4

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United States Patent Office 2,750,635 Patented June 19, 1956

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WINDOW STRUCTURE HARDWARE

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Continuation of abandoned application Serial No. 139,983, January 23, 1950. This application August 25, 1953, Serial No. 376,403

3 Claims. (Cl. 20—42)

This invention relates to window structure hardware. The present application is a continuation of my copending application Serial No. 139,983, filed January 23, 1950, now abandoned, and entitled "Window Structure Hardware" which application was copending with and a companion to the applications Serial No. 132,250, filed December 10, 1949, now abandoned in favor of continuation application Serial No. 321,753, filed November 21, 1952, now Patent No. 2,706,839, issued April 26, 1955, entitled "Multiple Window Structure," and Serial No. 132,249, filed December 10, 1949, now Patent No. 2,598,619, issued May 27, 1952, entitled "Independently Operable Multiple Window Structure" both in the name of Russell S. Strand.

In both of the companion and copending applications above referred to the invention relates to awning type windows in which a plurality of window sashes are mounted for pivotal movement on a horizontal axis and in which sash operating means are provided by which the movements of one sash are imparted to that of the companion sashes in the same frame.

In the second mentioned application above referred to, the window structure hardware by which the operation of one sash is imparted to that of another includes a latch mechanism by which one sash, preferably the lower, may be used to actuate the other sashes of frame but may also be unlatched so as to have independent pivotal movement with respect to the other sashes. In assembling windows and the operating means of the character set forth in the above referred to second mentioned application considerable difficulty is experienced in providing a suitable predetermined set difference in spacing of the slidable shoe of the lower sash with respect to the fixed latch which is carried by the interconnecting operating track.

In the usual manner of installing windows of the type set forth in the above application, the operating brackets and fixtures, or hardware, of the window is assembled at the plant and delivered to the job at which place the track is inserted in a suitable channel of the window frame and the pivoting arms for the sashes are secured thereto, the shoes are then inserted in the track of the operating mechanism and are adjusted and secured in their adjusted position. However, with respect to the securement of the latching mechanism if the space originally set between the sliding shoe of the lower sash and the latch of the track are spaced too far apart the sashes will, of course, not close tightly; if, on the other hand, the spacing is too small the sashes will jam and will not function properly. It is of course possible by careful measurement to determine the proper spacing between the sliding shoe and the latch, or it is possible by a cut and trial method to ultimately determine the proper distance. It is of course obvious that neither of these methods is desirable.

It is therefore among the objects of the present invention to provide means by which the proper spacing between a slidable member and a latch member may be determined at the point of assembly of such parts and

before delivery of such parts to the place of installation so that gauging, measuring or cut and trial methods will not be required when the devices are installed.

It is a further object of the present invention to provide a disposable bracket which may be assembled with a latch and latching member so as to retain the parts in a predetermined assembled relation until such parts are secured at the final point of use, whereupon the bracket may be removed and discarded, having served the purpose of accurately locating the parts for their assembly.

It will of course be understood that while the structure of the present invention is particularly designed for use in connection with a particular type of window operating mechanism, such as disclosed in the copending application above-mentioned, the inventive concept is broadly applicable to various types of latching mechanisms and to various types of window operating mechanisms as well as to other structures of widely varying types.

One form which the present invention may assume is exemplified in the following description and illustrated by way of example in the accompanying drawings in which:

Fig. 1 is a fragmentary side elevation of a window and window operating mechanism to which the present invention is applied.

Fig. 2 is a horizontal transverse section taken along the line 2—2 of Fig. 1.

Fig. 3 is a perspective view of the bracket of the present invention.

Fig. 4 is a plan view of the track and latch mechanism but with spacing bracket removed.

The invention herein set forth may be generally defined as a simple, elongated bracket preferably of thin, metallic material which includes at one end a hooked portion adapted to engage one portion of one element of a pair of normally relatively movable elements while the opposite end is provided with means, here shown as a simple aperture, by which the opposite end of the member may be engaged with a companion member, as by means of a screw, so that such members may be set and retained at a predetermined desirable spacing. Such assembly is preferably accomplished at the shipping place for such parts and the parts may be thus retained until being secured in permanent position at the place of use whereupon the member may be removed and discarded. In the present form of the invention the upper portion of the member is of substantially greater width than the lower portion, and the lower portion is inwardly bent to conform to the specific structure of the latching mechanism for which this particular form of the invention is specifically designed.

As an example of one preferable form of the present invention, reference may be had to the drawings in which a window frame 10 is shown comprising usual sill 11 and one of the stiles 12. A lower sash 13 and an upper sash 13*a* are shown as mounted in the frame. It will be evident of course that any desired number of sashes may be provided and from the following description it will be apparent that three or more sashes may be operated in the same manner as two sashes here shown.

Each window comprises the usual sash 14 and pane 15 and the sashes are rabbeted at 16 in the usual manner. The window frame 10 is formed on each side with a longitudinal channel 17 to slidably receive a channel shape track member 18, each sash 13 and 13*a* is connected with the window frame 10 by a pair of pivotal arms (not shown) and each sash is operated by means of a sash plate 24, there being one sash plate on each side of each sash connected at one end to the sash. The opposite end of each sash plate is pivotally connected with a shoe 19, the shoes of the upper sash being fixed within the track member 18 while the shoe of the lower, operation controlling sash 13 is slidable within the track.

The latch mechanism by which the shoe of the lower sash is releasably secured with the track is indicated generally by the numeral 20. It will be understood of course that when the structure is to be installed the track is mounted within the groove 17 of the frame and the sash plates are then secured to the sash. It is then necessary to secure the latch mechanism 20 to the track in a properly adjusted position with respect to the shoe so that there may be the desired lost motion connection whereby the shoe may be moved towards the latch and may be moved away from the latch to establish latching and unlatching operation so as to permit the lower sash to be freely moved without actuating the track.

In the latching mechanism here shown by way of example, the member 20 carries a pivotally mounted latch finger 21 which is receivable within a latch retainer 23 of the shoe carried by the lower sash plate. As indicated at 30 the latch plate is mounted over a pin 31 carried by the sliding shoe. In order to secure the shoe and the latch in properly adjusted position before they leave for delivery to the point of installation, the bracket 39 of the present invention is provided.

By reference particularly to Fig. 3 of the drawings, it will be noted that the bracket 39 comprises a body portion 40, which is of substantially the same width as that of the track with which it is to be associated and that of the shoe which is slidable within the track. At the upper end of the body 40 there is a transversely extending recess 41 open to the outer face of one edge of the body. The opening 41 is adapted to receive the pin 31 of the sliding shoe which is subsequently adapted to receive the sash plate. Below the body 40 there is a depending narrow extending arm 44 and an inwardly turned shoulder 43 by which the bracket may lie parallel with the outer surface of the shoe and extend inwardly therebelow to engage the latch mechanism. The terminal end of the extending arm is apertured to receive a screw 45 by which it may be temporarily engaged with the latch mechanism being suitably threaded as at 46 to receive the securing screw 45. When parts are assembled for delivery, the shoe is mounted within the track, the latch mechanism is mounted within the track and the bracket is secured around the pin 35 and engages the latch mechanism by the screw 45, thus retaining the shoe and latch in predetermined spaced relation. The parts may then be transmitted to the place of use. At such place of use the sashes are fitted within the window frame, the sash plate is secured on the pin 35 and the latch mechanism may then be tightened for fixed securement in the track by means of the bolt 32. With parts thus accurately assembled, the screw 45 is removed and the bracket 40 is removed and discarded whereupon the structure is ready for operation, the shoe being free to slide relative to the latch mechanism the limited extent necessary to latch and unlatch the shoe by means of the detents carried by the sliding member by which the latch is actuated for securement and release of the shoe with respect to the latch mechanism and thus with respect to the sliding track.

Having thus described my invention, it will be seen that it provides a novel, effective and efficient means for maintaining parts which are to be subsequently applied and fitted to alter structures in a predetermined relation prior to such application. It will of course be understood that the present inventive concept is not limited to the exact structure herein disclosed and that numerous changes and modifications thereof may be resorted to

without departure from the spirit or scope of the present invention.

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

1. In a window operating structure of the character described, first and second slide members adapted to slide independently or together, latching means for connecting and disconnecting said slide members to slide together or independently, a retainer clip for retaining said first and second slide members in adjusted position relative to one another during shipment and installation thereof, said clip member comprising an elongated flat body member of substantially rigid disposable material, means formed on one end of said clip for engaging one of said slide members, said means comprising a hook formed by a transversely extending recess adjacent said end, and means at the opposite end of the clip to engage the other of said slide members, said last mentioned means comprising an apertured neck portion through the aperture of which a pin may extend to engage said second slide member to retain said element in predetermined spaced relation.

2. In a window operating structure of the character described first and second slide members adapted to slide independently or together, latching means for connecting and disconnecting said slide members to slide together or independently, a retainer clip comprising a substantially thin flat elongated metallic body including a relatively broad upper portion having a transverse recess extending inward from one side edge thereof to provide a hook, and a depending relatively narrow vertical offset apertured portion constructed and arranged to permit the hook to engage one of said slide members, while a securing means extending through the aperture may engage the second slide member to temporarily secure said elements in predetermined relation during shipment and installation thereof.

3. A window structure of the character described comprising first and second slide members adapted to slide independently and latching means for connecting and disconnecting said slide members to slide together or independently, said latching means comprising a latch lever mounted on the first slide member, a complemental latch member mounted on the second slide member to engage the latch lever, a fulcrum mounted on the first slide member, said latch lever being shifted relative to the fulcrum, means mounted on the first slide member to urge the latch toward or away from the complemental latch member according to the position of the latch relative to its fulcrum, and means operated by the second slide member for shifting the latch, in combination with a retainer clip comprising a substantially thin, flat elongated metallic body including a relatively broad upper portion having a transverse recess extending inwardly from one side edge thereof to provide a hook and a depending relatively narrow vertical offset apertured portion constructed and arranged to permit the hook to engage one of said slide members, while a securing means extending through the aperture may engage the second slide member to temporarily secure said elements in predetermined relation during shipment and installation thereof.

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