O. M. EDWARDS.

SASH HOLDING DEVICE.

APPLICATION FILED JUNE 17, 1909.

Patented Dec. 7, 1909.

942,720.

Fig. 2

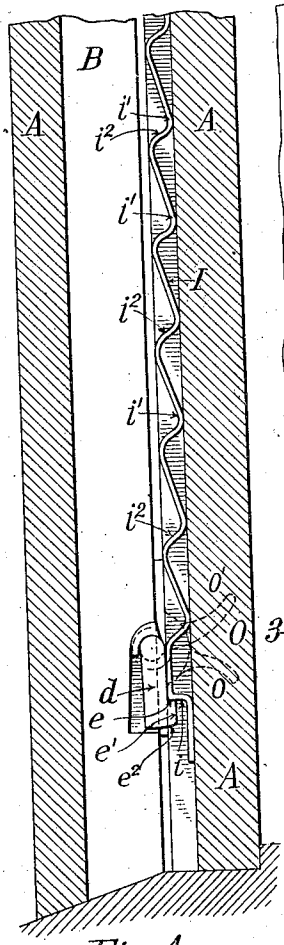


Fig. 1

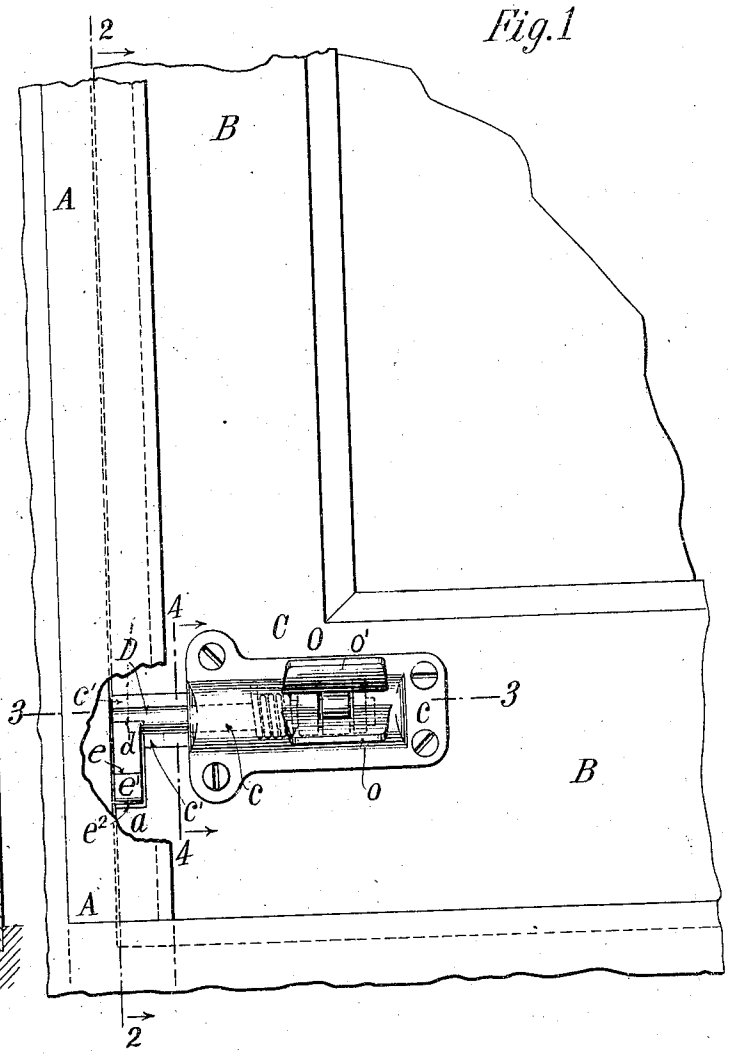


Fig. 4

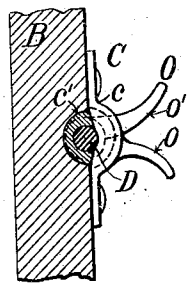
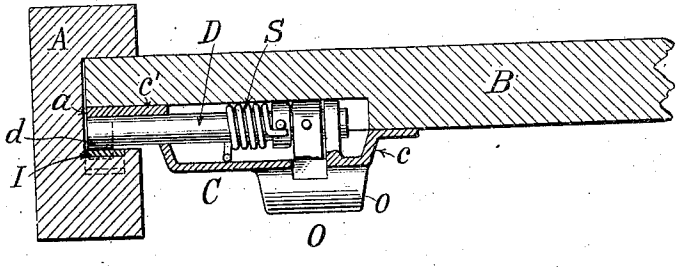


Fig. 3



Witnesses:
Raphael Netter
C. D. Morrill

Oliver M. Edwards, Inventor
By his Attorney
H. L. Bowburg

UNITED STATES PATENT OFFICE.

OLIVER M. EDWARDS, OF SYRACUSE, NEW YORK.

SASH-HOLDING DEVICE.

942,720. Specification of Letters Patent. Patented Dec. 7, 1909.

Application filed June 17, 1909. Serial No. 502,686.

To all whom it may concern:

Be it known that I, OLIVER M. EDWARDS, a citizen of the United States, residing in the city of Syracuse, county of Onondaga, State of New York, have invented a certain new and useful Improvement in Sash-Holding Devices, of which the following is a full, clear, and exact description, reference being had to the drawing accompanying the same.

My invention relates generally to holding or locking devices for windows and similar structures and more particularly to that class which is provided with a shaft to which the holding or locking dog is secured.

One object of my invention is to provide a holding or locking device of the class mentioned having a shaft which controls the locking or holding dog with a support adapted to resist the thrust given to the dog, as by a falling sash or otherwise.

Another object is to provide such a holding or locking device with a casing, a portion of which projects from the surface on which it is mounted and is adapted to receive the shaft and operating means therefor the projecting portion of the casing being adapted to form a portion of the operating means.

Another object is to provide a holding or locking device having a shaft, one arm of which serves as the holding or locking dog with a casing adapted to be mounted on and project from the surface of the sash without letting the shaft of the holding device for its whole diameter into the stile or sash to which the casing is attached, thereby permitting of the extension of the shaft and casing to the extreme edge of the sash without unduly weakening the same or interfering with the stop bead on the frame behind which the holding or locking dog is arranged.

Another object is to provide such a holding or locking device with a casing forming a support for the shaft and that portion of the dog opposite the end thereof which receives the thrust in holding the sash in the open position.

Other objects will appear from the description hereinafter given.

The invention consists in the combinations herein set forth and particularly pointed out in the claims hereunto annexed and which form a portion of this specification.

Figure 1 shows in front elevation the corner portion of a window sash and frame to which is attached one embodiment of my invention, a portion of the guideway opposite the holding or locking dog being broken away for the better illustration of the parts there shown. Fig. 2 shows in vertical section the window frame with the sash and a portion of the holding means in side elevation as seen on line 2—2 of Fig. 1. Fig. 3 shows in horizontal section that which is seen on line 3—3 of Fig. 1, but with the guideway complete and the "dog" in position for the holding device to hold the sash at that point tightly in the window frame. Fig. 4 shows in vertical section that which is seen on line 4—4 of Fig. 1 when looking from left to right.

Like letters of reference, wherever they occur, indicate corresponding parts of the several figures of the drawing.

In practice it has been found desirable to make window sash, such for instance as are usually used in passenger cars, with comparatively thin stiles and when holding or locking means having a shaft with arms attached thereto for holding the sash in the desired position are applied to such sashes the shaft portions of such devices have to be either so placed on the sash that the stop bead against which the dog of the holding device acts is some distance away from the sash, which is objectionable, or the shaft portion of the device has to be let into the stile which unduly weakens the sash. It is desirable in this class of sash holding locking devices having a shaft which is provided with an arm to serve as a "dog" or holding part that such shaft be of some little length and the points at which it is mounted in the casing be some distance apart. The shaft ordinarily extends to the extreme edge of the shaft so as to be in position to coact with the guideway of the frame of the window. Car builders demand that the window frame shall substantially cover and conceal the holding dogs which coact with the guideway and form an ornamental trim or finish to such guideway in which the sash moves in opening and closing the window.

A represents the window frame having the guideway *a*, in which the sash moves, a portion of which may be removable or not as desired, and B represents the window sash to which the "dog" or holding part and casing are attached, so that such holding device is carried by the sash and moved corre-

spondingly as the sash moves. The holding or locking device C has a casing *c* in which the shaft D provided with an arm *d* preferably formed integral therewith, as shown, is mounted, so as to have partial rotation in its bearings formed in the casing. The casing *c* is preferably provided with flanges having laterally extending ears or portions which point in opposite directions, as shown, which are adapted to receive screws or other fastening devices for securing that portion of the casing firmly to the sash, the other end of the casing being preferably without ears and adapted to receive fastening or other securing means by which it may be secured in position on the sash. These laterally extending ears are somewhat widely separated from one another and, consequently, that portion of the casing which is most liable to displacement or damage in use is securely held to the sash. The formation of the flange portions of the casing as shown permits of these holding devices being used on sashes having extremely narrow bottom rails and side stiles as the end of the casing farthest from the holding device may extend along the bottom rail while the extending ears are attached to the side stile and one ear portion may extend considerably beyond the point where the bottom rail joins the side stile. The casing *c* has the extension *c'* which extends, as seen in Figs. 1 and 2, to the edge of the sash B which is in the guideway *a* of the window frame. The extension *c'* with the inwardly projecting portion of the casing is preferably arranged relatively to the shaft D as shown, so that no portion of such extension extends beyond the outer line of such shaft and there is a greater thickness of material adjacent to nearly opposite portions of the shaft than there is between such portions, as is more particularly seen in Figs. 3 and 4 of the drawings, that is, there is a less thickness of material in the casing and extension at the bottom of the depression than there is near the outer edges thereof. This permits of the sash being cut to a less depth than would be the case if the semicircular portion of the extension and casing, which is to be received in the depression in the sash, were concentric with the axis of the shaft. This arrangement of the extension *c'* and casing affords the same support to the shaft and holding dog that would be afforded if such portions were concentric with such axis. The outwardly circular projecting portion of the casing *c* is preferably arranged substantially concentric with the axis of the shaft D and it is preferably provided with a still further projecting portion which, with the circular portion, forms a portion of the operating means O by which the sash is opened and closed and the shaft D moved sufficiently to release the sash and permit it to move freely in the guideway. When the holding device is used in the manner seen in the drawing the fore finger of the hand of the operator engages with the under side of the projecting portions of the casing and such portions form a "lift" by which the sash can be lifted in opening the same. Such portions also form a support for the hand of the operator when he grasps or presses down upon the movable part of the operating means with his thumb in controlling the holding dog and the movements of the sash. As shown the movable portion *o'* of the operating means is the upper one of the two seen in Figs. 1, 2 and 4 of the drawings and to move the dog out of holding position such upper portion is moved toward the fixed or stationary lower portion *o* which forms the "lift" for the sash. It will be observed that the projecting portions of the casing do not interfere with the use of the device as the operating means are actuated precisely the same and occupy no more space than they would occupy if there were no projecting circular portions of the casing.

The shaft D has mounted thereon a spring S, the tension of which tends to move the holding or locking dog into holding or locking position. The shaft D is also provided with operating means O consisting, as shown, of a stationary "lift" or finger piece *o* preferably formed integral with the casing *c* and a thumb or movable finger piece *o'* preferably secured to the shaft D, the parts *o* and *o'* being so related to one another that when the movable finger or thumb piece *o'* is moved toward the stationary portion *o*, the free end of the holding dog will be moved toward the sash B and thereby be moved out of holding position, releasing the sash so as to permit it to move freely in the guideway.

It will be observed that the spring S and the parts *o* and *o'* form operating means by which the holding or locking dog is moved in one direction by the tension of the spring and such dog is moved in the opposite direction by the movable thumb or finger piece *o'* being moved against the tension of such spring. It will also be observed that the free end of the part *o'* will move in a circle concentric with the axis of the shaft D and consequently the circular portion of the casing will not interfere with the use of the operating means.

The form of holding or locking means herein shown may be used in connection with a sash and frame such as are herein set forth having surfaces for the holding or locking dog to coact with of the form shown in Figs. 1 and 2, or with sashes and frames having other specific forms of coacting surfaces for the holding or locking dog and other surfaces for such dog to coact with, as desired. These coacting surfaces may be formed on a strip, as I, or they may be other-

wise formed as desired. When used as herein shown the surface e on dog d engages with the surface i on the strip I attached to the frame of the window in the guideway to hold the sash in the closed position and the surface e' engages with the surface i' to hold that part of the sash tightly in the guideway by the tension of the spring S acting on the dog d through the shaft D. Also the surface e^2 of the dog d engages with the surfaces i^2 on the strip I secured to the frame in the guideway, and pressure applied to such surface e^2 tends to move the opposite portion of the dog d into close contact with the support formed on the extension c' of the casing. The surfaces and the dog as d may be formed as herein shown or in any other desired manner adapted to do the work of holding the sash in the guideway, as the specific form of surfaces for the dog, as d, and the surfaces with which the dog coacts do not form an essential part of the present invention.

What I have herein shown and described will naturally suggest to those skilled in this art somewhat different embodiments of this invention than the specific one herein illustrated, therefore, I do not wish to limit myself to the one herein set forth, but wish to include all embodiments which contain the spirit of this invention as particularly pointed out in the claims hereunto annexed forming a portion of this specification.

What I desire to claim as new is:—

1. In a sash holding device having a shaft to which the holding dog is secured the combination, substantially as set forth, of a casing adapted to receive the shaft and operating means, a support for the dog arranged in position relatively thereto to receive and support the dog upon the application of force thereon in a direction tending to move it toward the support, and operating means adapted to move the dog and hold it in operative position.

2. In a sash holding device having a shaft to which the holding dog is secured the combination, substantially as set forth, of a casing adapted to receive the shaft and operating means, which casing is provided with an extension arranged in position to form a support for the holding dog upon the application of force thereto tending to move it toward the same, and means adapted to move the dog into holding position.

3. In a sash holding device the combination, substantially as set forth, of a casing having flange portions by which it may be secured to the sash and a shaft receiving portion which projects in opposite directions beyond such flange portions and is adapted to receive the shaft, a shaft mounted in bearings formed in the receiving portion of the casing, a holding dog secured to the shaft, and operating means adapted to move the shaft and dog, a portion of which is connected with such shaft.

4. In a sash holding device the combination, substantially as set forth, of a casing provided with portions adapted to project beyond a line coincident with the line of the face of the sash in substantially opposite directions and to receive a shaft, lengthwise portions of which are mounted in such projecting portions, a shaft mounted in bearings formed in the casing, a holding dog secured to the shaft, and operating means adapted to move the shaft and dog a portion of which is connected with such shaft.

5. In a sash holding device having a shaft to which the holding dog is secured the combination, substantially as set forth, of a casing adapted to receive a shaft and operative means and having an extension adapted to support the holding dog, which casing is adapted by reason of its construction to be received in a depression in the face of the sash with no portion of such extension to extend beyond the outer line of the shaft received in said casing, and operating means adapted to move the dog into and out of holding position.

6. In a sash holding device having a shaft to which the holding dog is secured the combination, substantially as set forth of a casing adapted to receive the shaft and operating means and having an extension adapted to support the holding dog, which casing is adapted by reason of its construction to be received in a depression in the face of the sash with those portions of the casing and extension to be received near the bottom of such depression of less thickness of material than those portions near the outer edges thereof, and operating means adapted to move the dog into and out of holding position.

7. In a sash holding device having a shaft to which the holding dog is secured the combination, substantially as set forth, of a casing adapted to receive the shaft and operating means and having an extension adapted to support the holding dog, which casing is adapted by reason of its construction to be received in a depression in the face of the sash with a portion of such shaft on one side of a line drawn along the face of the sash and another portion of such shaft on the other side of such line, and operating means adapted to move the dog into and out of holding position.

8. In a sash holding device having a shaft to which the holding dog is secured the combination, substantially as set forth, of a casing adapted to receive a shaft and operating means and having an extension adapted to support the holding dog which casing is provided with a projecting portion adapted to be received in a semicircular depression in the face of the sash and to engage

therewith and coact with securing means in holding the casing in operative relation to the sash, securing means adapted to attach the casing to the face of the sash and operating means adapted to move the dog into and out of holding position.

9. In a sash holding device having a shaft to which the holding dog is secured the combination, substantially as set forth, of a casing adapted to receive the shaft and operating means, which casing is provided with flange portions for securing it to the sash and has a portion projecting beyond the flange portion with a portion of the shaft mounted in said casing outside of the face line of the sash, and operating means a portion of which is fixedly attached to the projecting portion of the casing and another portion of which is secured to the shaft and is movable therewith, the free end thereof being arranged outside of the projecting portion of the casing.

10. In a sash holding device having a shaft to which the holding dog is secured the combination, substantially as set forth, of a casing adapted to receive the shaft and operating means and be secured to the sash, which casing projects from the face of the sash with a portion of the shaft inside such face line, a support for the holding dog secured to the sash, and operating means a portion of which is formed integral with the casing and extends at right angles to the shaft beyond the projecting portion of the casing and another portion of which is secured to the shaft and is movable therewith, the free end thereof being arranged outside the projecting portion of the casing.

11. In a sash holding device having a shaft to which the holding dog is secured, the combination, substantially as set forth, of a casing provided with flanges to secure it to the face of the sash and adapted to receive the shaft and operating means, which casing in line with the shaft is provided with an extension adapted to support the holding dog and such casing also projecting outwardly from the flanges, and operating means a portion of which is formed integral with said projecting portion and another portion of which is secured to the shaft and is movable therewith, the free end being arranged outside of the projecting portion of the casing, whereby the holding dog is supported and the operating means is graspable from the flanges outwardly when such means is operated for moving the shaft and holding dog.

12. In a sash holding device having a shaft to which the holding dog is secured the combination, substantially as set forth, of a casing provided with flanges for securing it to the face of the sash and adapted to receive the shaft and operating means, which casing in line with the shaft is substantially circular in cross section and projects outwardly from the flanges substantially between the graspable portions of the operating means, and operating means a portion of which is formed integral with the casing and as an extension of the circular projecting part thereof and another portion of which is secured to the shaft and is movable therewith, the free end thereof being arranged outside of the projecting circular portion of the casing, whereby the operating means is graspable from the flanges outwardly when such means is operated.

13. In a sash holding device the combination, substantially as set forth, of a casing having flange portions adapted to be placed against the face of the sash which in part are formed of laterally extending ear portions pointing in opposite directions, which ear portions are adapted to receive fastening means for securing that portion of the casing to the sash and a shaft receiving portion extending outwardly from the flange portions and adapted to receive and inclose a shaft arranged lengthwise of the casing between the securing flange portions thereof, a shaft adapted to receive a holding dog and be connected with operating means, a holding dog secured to the shaft, and operating means a portion of which is connected with the shaft.

14. In a sash holding device the combination, substantially as set forth, of a casing having flange portions adapted to be secured to the face of the sash which in part are formed of laterally extending ear portions pointing in opposite directions, which ear portions are located at the end of the casing adjacent to the holding dog and are adapted to receive fastening means for securing that portion of the casing to the sash, a shaft receiving portion arranged between the flange portions which extends therefrom in opposite directions and is adapted to receive and inclose from view a shaft mounted in the casing adapted to receive and hold a dog, a dog secured to the shaft, and operating means a portion of which is secured to the shaft and extends through the shaft receiving portion of the casing.

OLIVER M. EDWARDS.

Witnesses:
F. E. NEWBURY,
WARREN T. DIEFENDORF.