Dec. 6, 1949 J. C. CORCORAN 2,490,676

SASH RETAINER

Filed Nov. 1, 1946

FIG. 1.

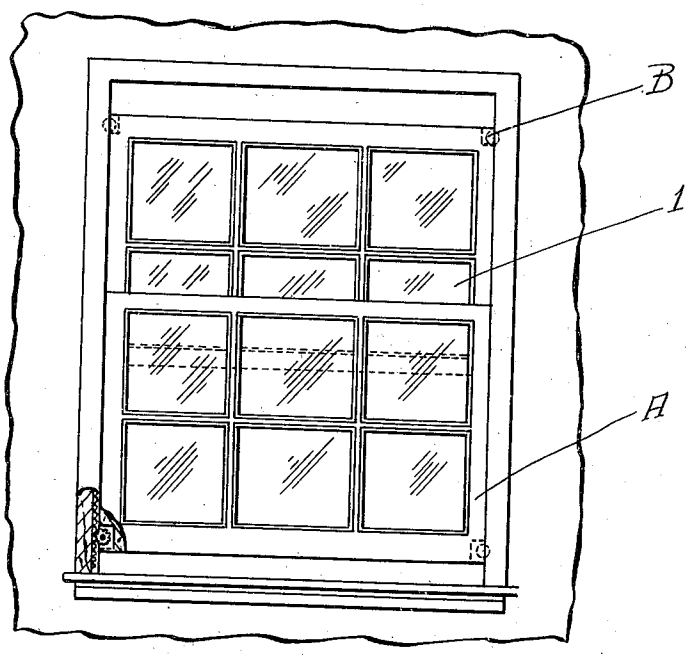


FIG. 2.

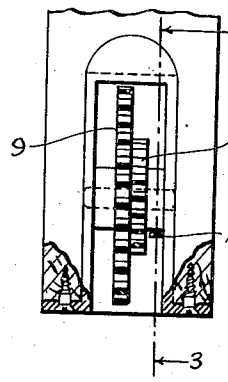


FIG. 5

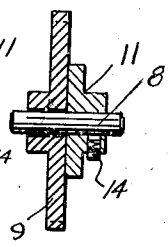


FIG. 3.

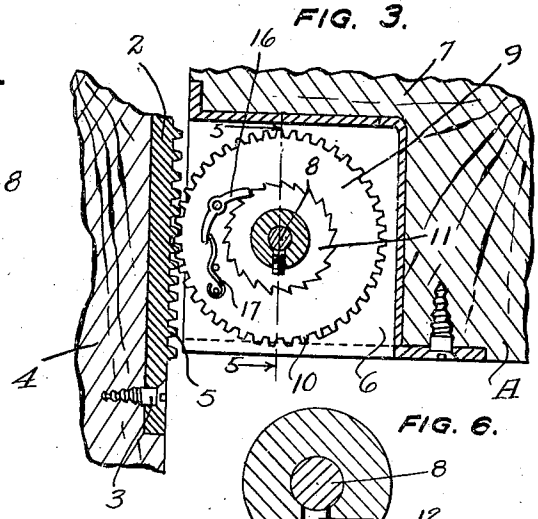


FIG. 4.

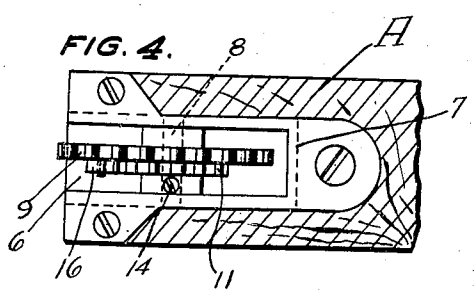


FIG. 6.

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Patented Dec. 6, 1949

2,490,676

UNITED STATES PATENT OFFICE

2,490,676

SASH RETAINER

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Application November 1, 1946, Serial No. 707,163

1 Claim. (Cl. 16—195)

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This invention relates to locks and more particularly and specifically to window sash locks and retainers.

The primary object of this invention resides in the provision of a means for locking a window in either an opened or closed position against movement thereof from exterior the window.

Another object of this invention resides in the provision of a window sash lock or retainer of the character described which enables the window to be maintained in an opened position at a specified degree, preventing the window from sliding to a closed position or from being moved to a closed position exterior the window.

Another object of this invention resides in the provision of an improved form of sash lock which is of extremely simple and inexpensive construction and which is readily installed in place and efficient in use.

Further improvements and advantages of this invention will readily appear to those skilled in the art when the following description is read in the light of the accompanying drawings in which:

Fig. 1 is a front elevation of a window with parts in broken line for clearer illustration.

Fig. 2 is a side elevation of the gearing means.

Fig. 3 is a vertical section taken on line 3—3 of Fig. 2.

Fig. 4 is a bottom view of Fig. 2.

Fig. 5 is a vertical cross section taken on line 5—5 of Fig. 3.

Fig. 6 is an enlarged view of the ratchet button and spring retaining means therefor.

Referring now to the accompanying drawings in which like numerals indicate similar parts throughout A designates the lower sash of a conventional sash window 1 with which the sash locking means is illustrated in conjunction.

The sash locking means comprises a vertical gear track 2 secured by wood screws 3 to the lower end of the vertical sash frame 4 with the teeth 5 of said gear track 2 outwardly disposed from said frame towards said slidable sash. A detent 6 is cut from the lower corner of the sash from the frame side thereof and is lined with a metallic material 7. An axle 8 is mounted between the two vertical inner and outer walls of the detent 6, and a gear wheel 9 is rotatably mounted on this axle in a position so that its teeth 10 are in engagement with the teeth 5 of the gear track 2. A second wheel 11 with ratchet teeth thereon is mounted on the axle 8 adjacent the gear wheel 9. A set stop is inserted in aperture 13 in the hub of said wheel in a position so as to engage the axle 8, and set screw 14 is

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threaded into said aperture above a spring 16 which holds the stop 12 in gripping engagement with the axle 8 to prevent rotation of the ratchet wheel 11. A ratchet pawl 16 is pivotally mounted on the gear wheel 9 so as to engage the ratchet teeth of the ratchet wheel 11, and a spring 17, also mounted on said gear wheel, normally maintains the ratchet pawl 16 in engagement with the ratchet wheel 11.

In order to raise the window it is merely necessary to grasp the bottom of the window and push upwardly, which causes the gear wheel 9 to rotate walking in engagement with gear track 2, the ratchet pawl merely moving in rotation about the teeth of the ratchet wheel 11 in a free motion. When the height of the window has been obtained at which it is desired the window is merely released and, because of the absence of the conventional ropes and pulleys of the window, it settles downwardly until the ratchet pawl 16 engages the teeth of the ratchet wheel 11 which are opposed to the pawl when the window moves in this direction.

To lower the window it is necessary to exert downward force of sufficient power so as to cause the ratchet wheel 11 to overcome the tension of the spring 15 which holds it in a stationary position, causing it to rotate with the gear wheel 9 by virtue of the force of the ratchet 16 in opposition to the teeth of the ratchet wheel 11.

The same construction, in reverse, may be applied to the upper sash of the window as at B for the same purpose as described. Thus it can be seen that by the use of the described sash locking and retaining device it is possible to eliminate the conventional ropes and pulleys used in the sash windows installed thereby reducing the costs of installation of sash windows, and providing a support and operation means therefor which is of much longer life.

Having thus fully described and explained this invention what I desire to claim is:

A window sash balancing device, comprising a vertical gear track secured to the inner face of the window frame adjacent to the vertical edge of the sash, the sash having a recess in said vertical edge, a horizontal transverse non-rotatable axle mounted upon the sash and extending through said recess, a gear freely rotatably mounted upon the axle and disposed within the recess and operatively engaging the rack gear, a ratchet wheel of lesser diameter than the gear mounted upon the axle near the gear and disposed within the recess and including an axially extending hub having a screw threaded opening, the axle extending through the hub, a friction

element arranged within the screw threaded opening of the hub and engaging the axle to resist rotation of the ratchet wheel upon the axle, an expansible coil spring disposed within the screw threaded opening behind the friction element to force the element against the axle, a screw engaging in the screw threaded opening of the hub behind the coil spring for regulating the tension of the coil spring, a pivoted pawl mounted upon the gear outwardly of the ratchet wheel and adapted to engage the teeth of the ratchet wheel to prevent rotation of the gear in one direction relative to the ratchet wheel, and a spring mounted upon the gear and engaging the pivoted pawl to maintain it in engagement with the ratchet wheel, the gear being freely rotatable in one direction with respect to the

ratchet wheel when the sash is raised, the gear being held against rotation in the opposite direction by the ratchet wheel until the sash is forced downwardly whereby the gear and ratchet wheel rotate together in said opposite direction.

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The following references are of record in the file of this patent:

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