Oct. 30, 1928. 1,689,307

H. B. STEIN

TRANSOM OPERATING MEANS

Original Filed June 30, 1927

Fig.2

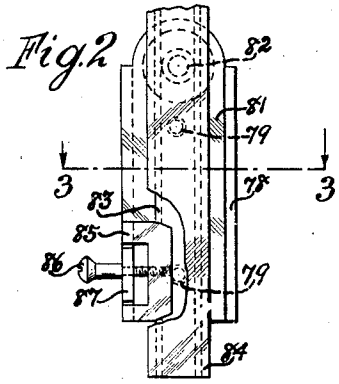


Fig.3

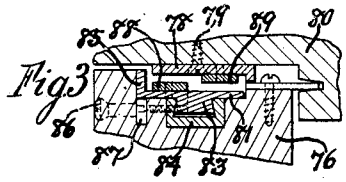


Fig.1

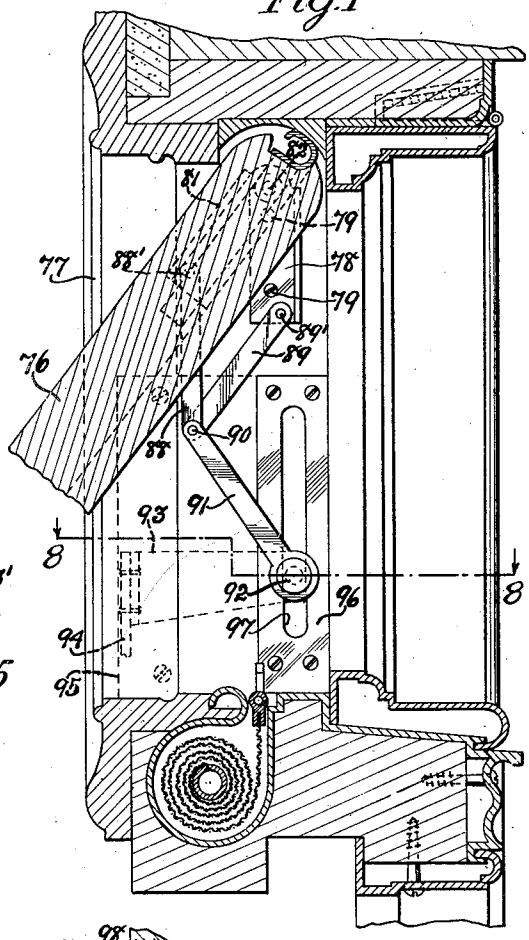


Fig.4

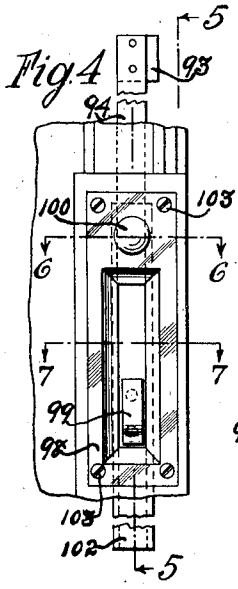
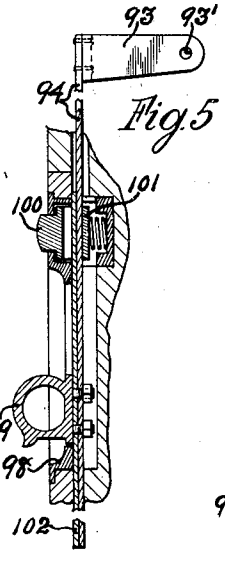


Fig.5



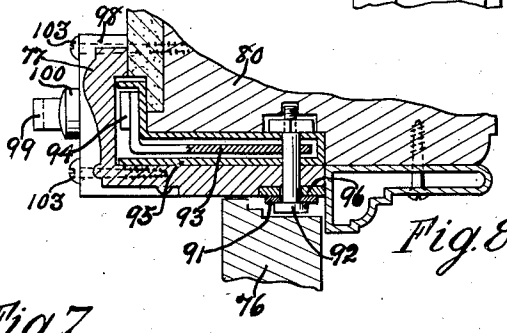


Fig.8

Fig.6

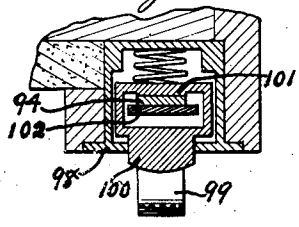
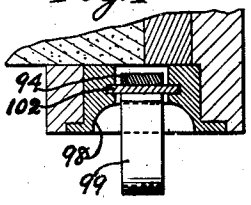


Fig.7



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UNITED STATES PATENT OFFICE.

HARRY B. STEIN, OF CHICAGO, ILLINOIS.

TRANSOM-OPERATING MEANS.

Original application filed June 30, 1927, Serial No. 202,632. Divided and this application filed October 13, 1927. Serial No. 225,862.

This invention relates to transom operating means, or means for operating a swingable sash of this kind.

The main object of the invention is to provide means of a concealed construction for lifting and swinging such a sash; and to provide this means with friction hinge means for holding the sash in closed position and in various open positions. A further object is to provide this operating means with readily releasable means to permit convenient and rapid removal of the transom sash from the hinge means and the frame.

This application is a division of my prior application for combination window frame and screen construction, Serial No. 202,632, filed June 30, 1927.

Other objects and advantages are attained with my invention, as will become apparent from the following description, taken in connection with the accompanying drawing, and in which,

Fig. 1 is a vertical cross-section through a swingable transom sash, showing the invention in operative position thereon;

Fig. 2 is an elevational view of part of the hinge means, showing the releasable screw means to permit ready removal of the channel means and the sash;

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

Fig. 4 is an elevational view of the casing with operating handle and friction means for retaining the operating means;

Fig. 5 is a vertical sectional view taken on line 5—5 of Fig. 4;

Figs. 6 and 7 are horizontal sectional views taken on lines 6—6 and 7—7 of Fig. 4, slightly enlarged; and

Fig. 8 is a horizontal sectional view taken on line 8—8 of Fig. 1.

This invention comprises means for swingably mounting and operating a transom sash or the like, and including means for frictionally holding the operating means, to retain the sash in position; also friction hinge means for retaining the sash in its closed and its various open positions, said hinge means being concealed behind the inward flange of the sash projection.

In the drawing my construction is shown applied to a transom sash 76 for swingably mounting it in the frame 77, and includes an inner flanged plate or bar 78 fastened with screws 79 or the like to the outer side of jamb 80 of said frame, as best shown in Figs. 1 and 2. This construtcion also includes a flanged plate or bar 81 fulcrumed on plate 78 with a pivot element 82, and having a dovetailed flange or rib 83 thereon, which is slidably mounted in a groove formed in a block 84 set into the side edge of the transom sash 76, and fastened thereto with screws or the like. This rib 83 has a yoke or flanged plate member 85 which is engaged by a screw member 86 passing through a plate 87 mounted in the front or inward side of the sash, and normally located between the flanges of plate member 85, so that by operating this screw member 86 the plate member 85 and the plate 87 may be moved toward or away from each other, for releasably connecting or for disconnecting said transom sash 76 with its attached block 84 by sliding them longitudinally along rib 83 and freeing them therefrom, thus providing means for readily sliding and removing the sash out from the frame and connected elements.

The hinge means provided herewith for retaining the transom sash in various open and in closed position includes a link 88 pivotally and frictionally connected with an element 88′ to plate 81, and a link 89, similarly connected with an element 89′ to plate 78, said links being also frictionally connected together by an element 90. These links are positioned between plates 78 and 81. With this friction hinge is also provided a swingably mounted link 91 which is pivotally and frictionally connected with link 88 and link 89 by said element 90, and also pivotally and operably connected by means of a bolt or screw member 92 to a flanged plate means 93, by extending said bolt 92 through a hole 93′ provided in said plate means 93. (See Figs. 5 and 8.) This plate means 93 is connected to a flat bar or guide strip 94 and is therewith slidably mounted in a casing or channel means 95 which is stationary on jamb 80, and bolt 92 connects with a stationary plate 96, said bolt extending through a slot 97 provided in said plate 96 and in channel means 95, being vertically movable therein, to permit vertical sliding of plate means 93 and the attached strip 94.

Casing means 98 is provided, stationary with the frame, and conceals means 93, 94, 95; while an operating handle 99 is movable vertically in a slot provided in this casing, and is fastened to strip 94, as with screw

means, being also fastened by these screw means to a plate 102 and therewith movable vertically in said casing 98. Spring pressed friction means 100 is provided, preferably in the form of a button to be depressed, and having a friction element or plate 101, for frictionally engaging and holding strip 94 firmly in position; and this friction means, also aided by the friction hinge means, thus firmly retains the sash in its various open positions as well as in its closed position.

It is apparent that I have provided a mechanism for swingably mounting and operating a sash like a transom sash, and which includes friction means for firmly retaining the operating means, and friction hinge means, both arranged in a concealed position, and whereby the sash is positively held in its various positions; also that my mechanism may be used on transoms and sashes swung inwardly or outwardly, and of the various sizes.

What I claim as my invention and desire to secure by Letters Patent is:

1. Operating mechanism of the class described comprising unitary hinge means including pivotally connected hinge members and toggle links pivoted thereon for swingably mounting a sash, and operating means for swinging and retaining the sash in various positions, said hinge and operating means being concealed from view.

2. Mechanism for swingably mounting and operating a sash, comprising friction hinge means including in combination links pivotally and frictionally connected together and hinge plates pivoted together and connected to said links, one plate to be connected to the frame and the other to said sash, said links being concealed from view behind the sash, operating means, and means connected to said links to swing them with the sash, also connected to said operating means and movable therewith.

3. Mechanism for swingably mounting and operating a sash, comprising combined hinge plates and toggle links pivotally and frictionally connected together and to said plates placed at the side edge of the sash, operating means including a slidable handle and members slidable therewith, and a swingable link connected with one end to said links and with the other end to said slidable members.

4. Mechanism for operating a sash in a frame, comprising links pivotally and frictionally connected together and to the sash and frame, channel means in the frame, plate means slidable therein, means connecting said plate means to the link means to actuate same, a bar and handle connected to said plate, to operate it and the sash, a casing in which said handle moves, and spring pressed friction means with a depressible button for holding the bar and sash in position.

5. Mechanism for swingably mounting and operating a sash, comprising friction hinge means including a hinge plate positioned adjacent the sash, a plate on the sash, there being cooperating groove and rib means on said two plates, and means engaging the rib means to hold said plates together or to release them and permit ready withdrawal of said sash and its plate.

6. Mechanism for swingably mounting and operating a sash in a frame, comprising hinge means including frictionally connected links, one of which is connected with the frame, a hinge plate connected to the other link, a plate on the sash, means on said plates for sliding one on the other, releasable means to hold said plates together or to release the one with the sash for removal thereof, and operating means for swinging said links and sash and for holding them in various positions.

7. Mechanism for swingably mounting a sash, comprising frictionally connected hinge links, a plate connected thereto, a hinge plate fastened to the sash, cooperating grooved block and rib means on said plates to provide relative sliding movement thereof, and a screw for fastening said plates together and to permit ready release thereof and convenient removal of the sash.

8. Mechanism for swingably mounting and for operating a sash, comprising a pair of hinge plates fulcrumed together and one thereof being fastened to the frame and the other being swingable thereon, friction hinge links connected to both of said plates, a plate fastened to the sash, there being groove and rib means on said sash plate and the swingable plate, and readily releasable means for holding the plates with groove and rib means together or to permit separation thereof and ready removal of the sash.

In testimony whereof I have signed my name to this specification.

HARRY B. STEIN.