April 29, 1947. E. ALBANO 2,419,524

WINDOW SASH

Filed Sept. 7, 1944

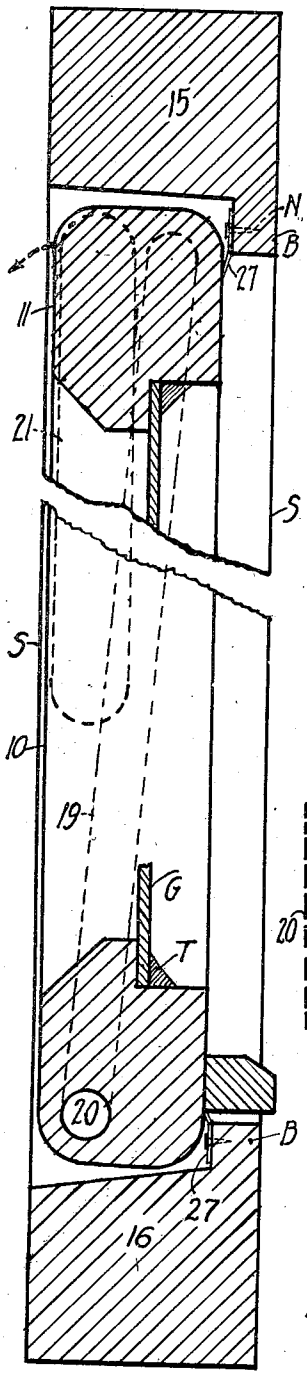

FIG. 1

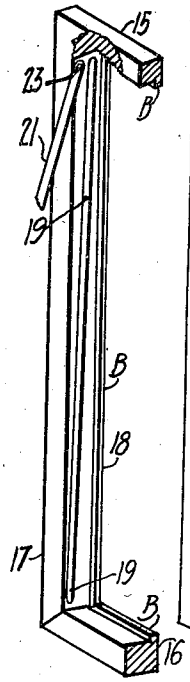

FIG. 2

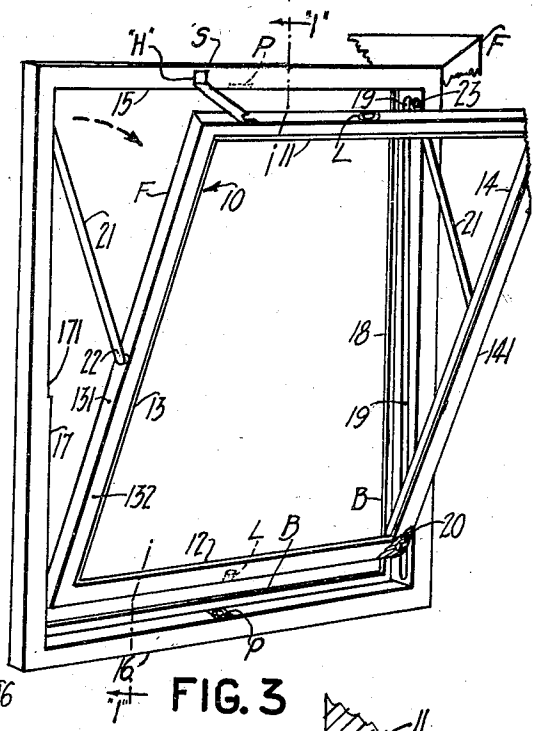

FIG. 3

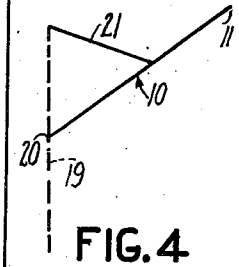

FIG. 4

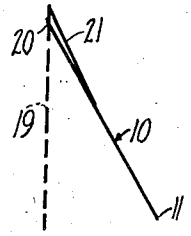

FIG. 5

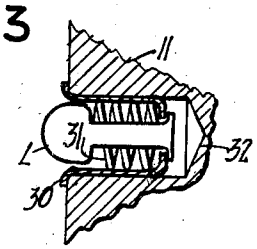

FIG. 6

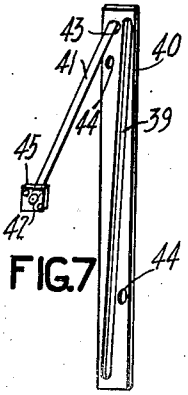

FIG. 7

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WINDOW SASH

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6 Claims. (Cl. 20—42)

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This invention relates to window sash and provides a sash that is reversible to present the outer side for cleansing or servicing from the room or inner side of a building.

An object is to provide a sash which may be swingably and reversibly mounted within the frame of a normal double hung or counterbalanced sash in turn slideable in a normal window frame track to thus provide a combined sliding and swingingly reversible sash.

Another object is to provide such a sash which may be mounted directly on a window frame or casing for swing about either a horizontal or vertical pivot axis.

Still another object is to provide a reversible sash which has a pivot pin slideable in a groove angularly on the side of a sash or window frame which sash in its swing movement travels thru 180 degrees.

Other objects will become apparent as the description proceeds.

In the drawing,

Fig. 1 is an elevation sectional fragmentary view taken on line 1—1 of Fig. 3 showing the sash in normal position, the inner side of the window being on the left side of the drawing.

Fig. 2 is a perspective view showing the left side of a window sash or frame having an angular slot for slide mount of my sash pivot pin therein.

Fig. 3 is a perspective view showing my mounted novel sash in slightly opened position after being swung from its normal (Fig. 1) position in the direction of the curved arrows of Fig. 1 and Fig. 3, the top element 11 moving into a room.

Fig. 4 shows a schematic transverse elevation of the position of my sash after being swung through about 75 degrees from normal and the pivot finger 20 having moved upward along groove 19 in a continuation of its movement shown started in Fig. 3, the top 11 having moved into a room.

Fig. 5 shows a schematic transverse elevation of the position of my sash after being swung through about 150 degrees.

Fig. 6 shows a lock L for my sash which may be placed on top and bottom members of the swinging element 10.

Fig. 7 shows a preferred metal member for mount on a window frame and having an angular

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groove track for travel of a suitable pivot finger therein and also a pivoted arm thereon having an end pivotally engageable with my sash.

In Fig. 3 my sash 10 having upper and lower sides 11 and 12 respectively and left and right sides 13 and 14 is seen mounted within a sash frame S having top 15 and bottom 16. The sash S may be of double hung type slideable in window frame F. In left and right sides 17 and 18 respectively is seen a slot or groove 19 which slopes inwardly from the top 15 to the bottom 16. The slots 19 provide track passageway for right and left pins 20 mounted in the lower portion of sides 13 and 14 so that the pins may travel in tracks from top to bottom thereof, the structure providing a track and travelling pivot pin for swing of the sash 10 about the pin.

At a suitable point and approximately centrally lengthwise along the outer left and right side edges 131, 141 of sides 13 and 14 of swing sash 10 I pivotally mount the lower ends of arms 21 by means of pivots 22. The upper end of arms 21 are pivotally mounted in the upper ends of sides 17 and 18 of sash S as shown in Fig. 3 by means of pivots 23. A suitable recess 171 for arms 21 may be provided as shown. Looking at Fig. 3 as shown, and assuming the inner or room side 132 of member 10 to be nearest an observer it is noted that sash 10 surface starts its opening movement by tilting inwardly at its top 11 while its bottom elements 12, 20 move upwardly, elements 20 travelling in slots 19.

Figs. 4 and 5 schamtically show continued progressive travel of my sash to attain a swing of it thru 150 degrees to present the normal outer surface G of glass pane on the inner or room side of member S and when swung thru 180 degrees to maintain the sash 10 in a desirable vertical position. It is to be noted that in its said travel the lower end 12 of the sash is maintained within the frame S and does not protrude outwardly to possibly interfere with an outside mounted screen or the like.

Fig. 6 shows a lock L having spring actuated moving element L. One end of the spring bears against the bottom of tubular cup holder 30, the other end bearing against the shoulder on element L. The lock L may cooperate with suitable plate P having a female recess to receive element L. The locks are preferably mounted on elements

11 and 12 to cooperate with plates on members 15 and 16 in suitable manner.

A hinge element H or the like having one or more hooks at one end may engage element 11 to hold the sash in inclined position to provide suitable ventilating means.

Fig. 7 teaches a metallic plate 40 having slope groove or slot 39 and means 44 for being fastened to the side of a sash or window frame. A pivot arm 41 may have its upper end fastened in plate 40 by means of pivot 43, and its lower end fastened in plate 45 by means of pivot 42. The plate 45 may be suitably fastened on a sash 10.

Suitable weatherstrip means having flexible arm 27 may be mounted with nails or the like N on flange B of sash 10 to stop air leaking through the joint between the members 10 and S.

The disclosure is intended to be illustrative and not limitative. Parts may be used without others. I have illustrated a horizontal mount of my sash 10, it being understood the sash may be vertically mounted so the groove elements 19 be in the top and bottom members of a casement. It is noted member 10 may be mounted in a casement directly and that member S may be eliminated in such structure to provide merely a swinging sash not having the sliding feature above described.

I claim:

1. A window frame having a rectangular opening therethrough receiving a completely reversible window sash completely closing said opening in either reversed position and swinging upon such reversal, flat swinging arms extending from and having frame pivotal mounts upon opposite parallel inside faces of said frame closely adjacent one end of said frame and extending to and having sash pivotal mounts centrally of the width and length of said sash and upon the outside faces of said sash, guiding means on outside faces of said sash substantially at one end thereof, said outside faces corresponding to and being adjacent to said inside faces and track means on said inside faces of said frame to receive said guiding means, said track means extending obliquely and terminating at one end alongside of said frame pivotal mounts and both ends of the track means extending at least to the edges of said rectangular opening, said track means and pivotal mounts being positioned between said frame and said sash in both reversed positions, said guiding means at one reversed position extending at least to the frame pivotal mounts and at both reversed positions extending at least to the edges of said rectangular opening.

2. A window frame having a rectangular opening therein, a completely reversible rectangular window sash to close said opening completely upon each complete reversal, said sash having its corresponding rectangular dimensions greater than those of said opening, swinging pivot arms connecting said sash to said frame, said sash having central pivotal connections to said arms on opposite outside faces of said sash and said arms also having end pivotal connections on corresponding, opposite inside faces of said frame, said last mentioned end pivotal connections being in the frame beyond said rectangular opening, and sliding pivotal connections consisting of sliding pins, projecting outwardly from the outside faces of said sash, at the ends of the sash, the corresponding inside faces of said frame having obliquely positioned straight tracks for said pins extending beyond edges of said rectangular opening adjacent the sash and, said tracks terminating at one end alongside of said end pivotal connections and said sliding pins upon said complete reversals sliding beyond the edges of said rectangular opening adjacent said sash and alongside of the end pivotal connections.

3. A window frame having a rectangular opening and a rectangular sash receiving pocket inside of said opening having greater corresponding rectangular dimensions than those of said opening and said pocket also having an inner face and outer face and intervening side faces, and a completely reversible sash to be received in said pocket in each reversed position, swinging arms extending from the ends of opposite inside faces of said pocket to the centers of the corresponding opposite outside side faces of the sash and being pivotally connected to said ends of the side faces of the pocket and the centers of the outside side faces of the sash, tracks on said side faces of the pocket extending obliquely the full length of said rectangular opening and by-passing and extending beyond the pivotal connections of said swinging arms to said side faces of said pocket, and guide means at opposite outside side faces of one end of said sash received in and sliding in said tracks and being positioned in the ends of said tracks in each reversed position of said sash, said guide means in one reversed position being spaced from the outer face of the pocket the same distance they are spaced from the inner face of the pocket in the other reversed position and said guide means in said one reversed position being spaced from the side face of said pocket toward and away from which they move on reversals the same distance as they are spaced from the opposite side face when in said other reversed position.

4. In a window construction, a window frame having inside faces provided with tracks, and a completely reversible sash received therein, said sash having track engaging means at opposite sides of one end of the sash and swinging arms pivotally connected to the exact middles of the same sides of said sash and to the ends of the adjacent inside faces of the frame, said tracks receiving said track engaging means and being located on the corresponding inside opposite faces of said frame and extending substantially the full length thereof and up to and alongside of the pivotal connections of said arms to said inside faces of the frame, said arms having lengths between pivotal connections slightly less than the equal distances from the pivotal connections of the arms on the sashes to the ends of the sashes.

5. In a rectangular frame having a rectangular pocket and having tracks upon the opposite inside vertical faces of said pocket, and also having a rectangular opening, said pocket being inside of and slightly wider, deeper and longer than said opening, and said tracks extending to and slightly beyond the upper and lower edges of said opening, and a completely reversible swinging and sliding sash received in said pocket having its vertical outside faces provided with opposite riders at the ends thereof and having swinging arms pivotally connected to the upper ends of the adjacent inside faces of said pocket, said pivotal connections being placed alongside of and spaced from said tracks and out of alignment with said tracks and said arms being also pivotally connected to the centers of the vertical outside faces of said sash.

6. A window frame having a completely reversible swinging sash, swinging arms extending between the vertical sides of said frame and said

sash, said arms being pivotally connected at their frame ends to the upper ends of the inside vertical sides of the sash and at their sash ends to the centers of the corresponding opposite outside vertical sides of the sash, guide means positioned at the lower ends of the vertical sides of the sash and track means extending along the inside vertical sides of the frame to receive said guide means, said track means extending to, along side of and slightly beyond, the pivotal connections of the arms to the frames.

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