Jan. 20, 1953 E. S. PERSSON 2,626,024

SASH OF METAL PROFILES FOR WINDOWS AND DOORS

Filed June 23, 1948

FIG. 1

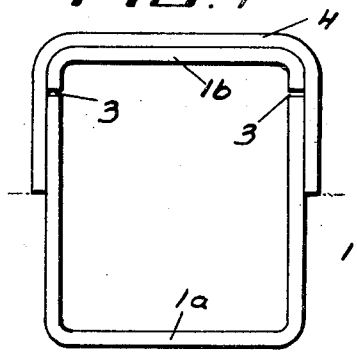


FIG. 2

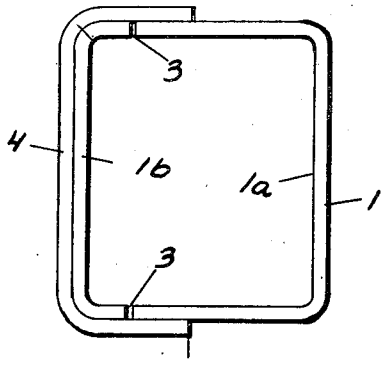


FIG. 3

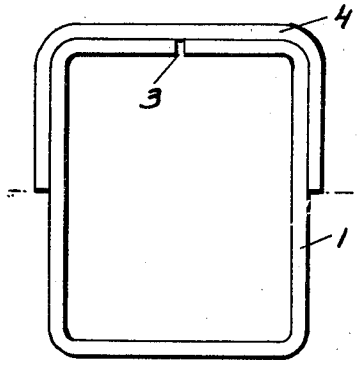
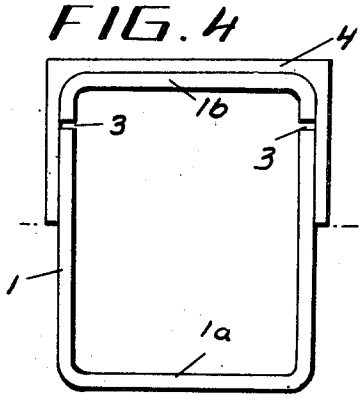


FIG. 4



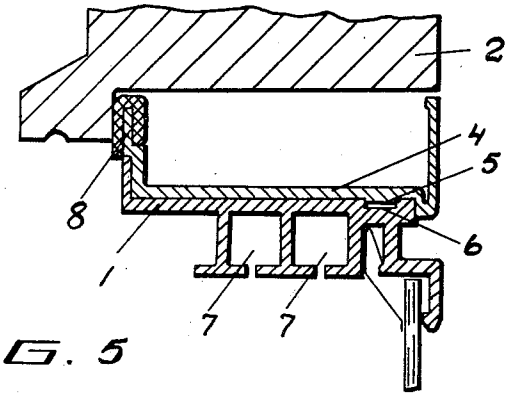


FIG. 5

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SASH OF METAL PROFILES FOR WINDOWS AND DOORS

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In Sweden June 12, 1947

1 Claim. (Cl. 189—76)

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The present invention refers to sashes for windows and doors made of metal profiles, which have been bent with rounded corners and are made in one or more pieces with the ends abutting each other. To hold these abutting ends in the best forms hitherto made with sashes of this kind joining pieces have been fit into inside or outside tracks in the profile. The abutting ends of the profiled piece or pieces have been fixed to the joining pieces by spot welding or by rivets or screws. According to the present invention instead of this an outside the sash arranged angular piece or clamp of a metal profile is used which embraces one corner or two adjacent corners of the sash and serves as a joining piece, covering and holding the abutting ends of the profile or profiles forming the sash together. By this arrangement several advantages are gained. Firstly the joining of the profile or profiles forming the sash and the piece holding their abutting ends is facilitated and at the same time a covering of the transversal joint or joints outside the sash between the abutting ends of the profile or profiles forming the sash is obtained. A greater strength and stiffness in the joint or joints of the sash is furthermore attained. Still another essential advantage is that in windows and doors in which the sash is pivotally mounted in a frame and the frame has stop faces for the sash, one or more tightening ribs on the sash for cooperation with the stop faces in the frame may be constituted by the joining piece outside the sash or one or more outwardly directed flanges thereon. This advantage has proved specially valuable when the sash is hinged on a median axis, e. g. a horizontal median axis, as in the case in the windows sold under the registered trademark "Perspective."

For the following further description of the invention I refer to the accompanying drawing with some embodiments of the invention. Fig. 1 is a diagrammatic front view of one embodiment of a sash which is pivotal on a horizontal median axis. Fig. 2 is a similar view of a similar embodiment of a sash which is pivotal on a vertical median axis. Figs. 3 and 4 are similar views of two further embodiments of a sash which is pivotal on a horizontal median axis. Fig. 5 is a cross sectional view on a larger scale of the profile of the sash and the joining piece and the frame showing the shape of these profiles.

On the drawing 1 is the sash and 2 the frame which is only shown in one embodiment in the Fig. 5. The sash 1 is made of a metal profile which has been bent with rounded corners. Ac-

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cording to the embodiments in the Figures 1, 2 and 4 it is made of two separate members each provided with two rounded corners with their ends adjacent each other and with the two joints 3 between the members situated on one side of the median axis on which the sash is pivotal and preferably in a relatively short distance from the two adjacent corners of the sash on the said side of the said median axis. Outside the sash 1 a joining piece 4 of a metal profile is arranged which embraces the two said adjacent rounded corners on the sash and with its legs covers and holds the two adjacent ends of the sash members 1*a*, 1*b* together. On the inside facing the sash 1 the joining piece 4 has one or more flanges 5 which catch in one or more corresponding grooves 6 outside the sash profile (Fig. 5). As appears from the drawing the joining piece 4 may be pushed into its place on the sash in the direction of the parallel legs and when the joining piece has been pushed to its place it is sufficient to fix to the sash the ends of the legs that reach beyond the joints 3 to have the sash securely joined. Furthermore the sash is effectively strengthened and stiffened on the part which is covered by the joining piece. As appears from the drawing the joining piece 4 extends half-way round the sash, namely round that half part of the sash which is on one side of the pivotal axis of the sash, besides which the profile of the joining piece has one or more outwardly projecting flanges 8 (Fig. 5), with which the joining piece forms a tightening rib or ribs against the frame for the said half part of the sash. As the tightening rib or ribs of the sash against the frame thus may be formed on the profile of the joining piece an essential simplification of the sash profile is made possible through which the manufacture of the sash is simplified and made cheaper without neglecting anything on the desideratum of the shape of this profile with for instance channels 7 for curtain holders and means for moving the curtains, locking and ventilating means etc. The simplified form of the profile of the sash also facilitates the bending thereof into the rounded corners of the sash.

In the embodiments shown in the Figures 1, 2 and 3 the corners of the joining piece are rounded and closely follow the rounded corners of the sash and are like these bent to shape. The corners of the joining piece arranged outside the sash, however, may also be sharp, e. g. as shown in the embodiment in Fig. 4.

In the embodiment in Fig. 3 the sash is made in one piece of the profile so that the sash has

only one joint 3 preferably located on the middle of the web of the joining piece 4. As the sash thus has only one joint the joining piece may eventually be formed as an angular piece which extends only over one of the corners of the sash.

What I claim is:

A sash for a window or door comprising a frame having two stile members forming sides, a top rail member and a bottom rail member, the stile members being integrally joined to the top and bottom rail members with externally rounded corners at the juncture of the stile and rail members, at least one of said rail and stile members being formed of two sections butted together intermediate its corner portions, and a U-shaped joining member having a base element and two leg elements integral therewith and extending from the ends of the base perpendicularly thereto, with rounded internal corners formed at the juncture of the legs with the base, said U-shaped joining member being mounted on the outer edge of the sash frame with its base and legs embracing one of the stile and rail members and portions of the two adjacent rail and stile members, with two of the external rounded corners of the sash frame nested in the internally rounded corners of the U-shaped joining member and with at least one element of the joining member overlapping the two butted sections of said rail or stile member.

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