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METAL WINDOW

Filed June 19, 1929

FIG. 1.

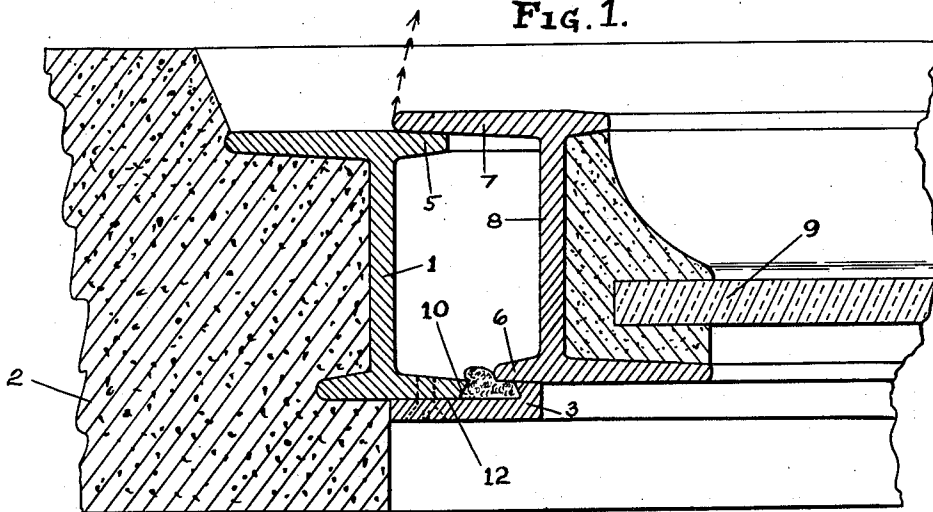


FIG. 2.

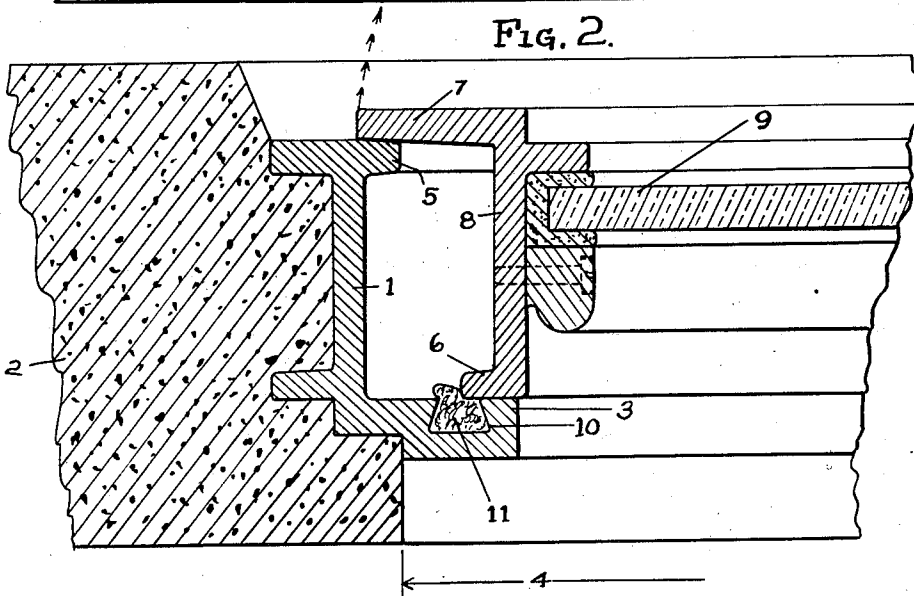
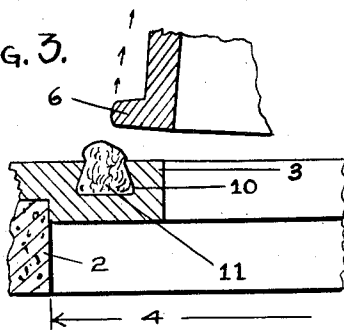


FIG. 3.



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METAL WINDOW

Application filed June 19, 1929. Serial No. 372,194.

This invention has to do with metal windows and has for its objects an improved air-tight seal for metal windows of the hinged or swinging variety.

5 Briefly described the invention comprises a combination of metal window members wherein the sash seats with a metal to metal contact when swung to closed position and at the same time one edge of the sash is sealed air-tight or rather draught-tight 10 against a resilient pad extending entirely around the frame. The chief points on which patentability are predicated is the metal to metal positive closing limits of the sash plus the resilient seal which does not 15 affect the closing limits, also the specific arrangement of the seal in relation to the sealing edge of the swinging sash.

20 In the drawings Fig. 1 is a horizontal cross section of a portion of a metal window showing one run of the fixed frame and swinging sash only, and with the sash closed upon the sealing strip and likewise in metal to metal contact with the frame.

25 Fig. 2 is a view similar to that of Fig. 1 showing a slight modification in the fixed frame construction.

Fig. 3 is a broken section showing a portion of Fig. 2 with the sash slightly opened.

30 In further detail the fixed frame is designated 1, and the building to which it is permanently secured 2, here shown of concrete though it may be of any construction. The fixed frame is of modified L section with the long leg 3 of the L extending inwardly or 35 toward the opposite side of the window opening 4 adjacent the inner side of the building wall, and a relatively short leg 5 at the outer side of the building wall extending in the same direction as the long 40 leg 3, and both inwardly projecting legs of the fixed frame arranged for seating there-against of two similar though outwardly projecting legs 6, 7 of the sash frame 8, the 45 long leg 7 of the sash being to the outside of the building wall so as to overlap the shorter leg 5 of the fixed frame and the shorter leg 6 of the sash at the inner side of the sash to overlap the longer leg 3 of the 50 fixed frame.

The sash is glazed as indicated at 9 and is hinged or pivoted at any point and by any manner of pivotal mounting, not shown as not involved in the present invention, so as to swing open in direction of the small 55 arrows.

To seal the sash when in closed position I provide an undercut recess 10 in the outer side of the long leg 3 of the fixed frame in which is seated a strip of soft felt 11. 60

This felt normally projects as shown in Fig. 3 of the drawing and is positioned relatively to the short leg 6 of the sash so as to be partially overlapped thereby when the sash is closed, as shown in Figs. 1 and 2 and 65 when thus partially overlapped it does two things, i. e. compresses the felt immediately under it, and at the same time forces the protruding portion of the felt in a lateral direction, with a result that it effectually 70 seals the leg 6 at two places, along the inner side and also along the outer edge of the leg, and it is this construction which I deem of particular advantage for it avoids crushing the felt directly into a recess to destroy 75 its elasticity yet seals along two angularly disposed surfaces of the sash to prevent ingress of draughts and at the same time forms no obstruction to the free seating of the metal legs or flanges 6 and 7 of the sash 80 directly against the metal legs or flanges 3 and 5 of the fixed frame and hence preserves the relation of any fastening catches or clamps as usually provided on such metal 85 windows.

The difference between the constructions of Fig. 1 and Fig. 2 is that in Fig. 1 the long leg or flange 3 of the fixed frame is made separable along the line 12 and secured with screws or otherwise. This per- 90 mits easier rolling of the shape, though the manufacture of the solid shape of Fig. 2 is easily carried out by a final bending operation after rolling the leg 3 to extend downward at an angle with the recess or groove 95 10 open, the bending operation serving to close the groove to the required degree to secure the undercut feature necessary to hold the felt in place.

It is of course obvious that the sealing 100

groove may be placed on either window member at any other contacting portion, but I chose the position and arrangement shown as best to protect the felt from the action of the elements.

It is also obvious that any other resilient material or a rubber hose may be used in the groove in place of felt if desired, the chief requirements being that the material chosen shall be both compressible as well as laterally deflectable so as to seal along the two edges of the sash member continuously around the same as described.

I claim:

15 1. Metal window construction comprising a fixed frame and a swinging sash, the sash arranged with a portion to overlap and seat against the fixed frame when the sash is closed, and a strip of resilient sealing material mounted on and projecting outward from the fixed frame in a position to be partially overlapped and engaged by the extreme edge of the sash when closed and be deflected laterally away from said edge.

25 2. Metal window construction comprising a fixed frame and a swinging sash, the sash arranged with a portion to overlap and seat against the fixed frame when the sash is closed, and a strip of resilient sealing material mounted on and projecting outward from the fixed frame in a position to be partially overlapped and engaged by the extreme edge of the sash when closed and be deflected laterally away from said edge, said strip of sealing material carried in an undercut groove in the fixed frame to overcome dislodgment when deflected laterally as stated.

3. A metal shape for window construction comprising a substantially L-shaped body with an undercut groove formed on a contact face adapted to prevent displacement of a strip of sealing material from the groove when deflected laterally.

45 4. A metal shape for window construction comprising a substantially L-shaped body, a groove formed in the inner face of its short leg and said short leg made separable along one side of the groove.

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