March 22, 1960 R. W. LANCER 2,929,237

METAL SILL INSTALLATION DEVICES

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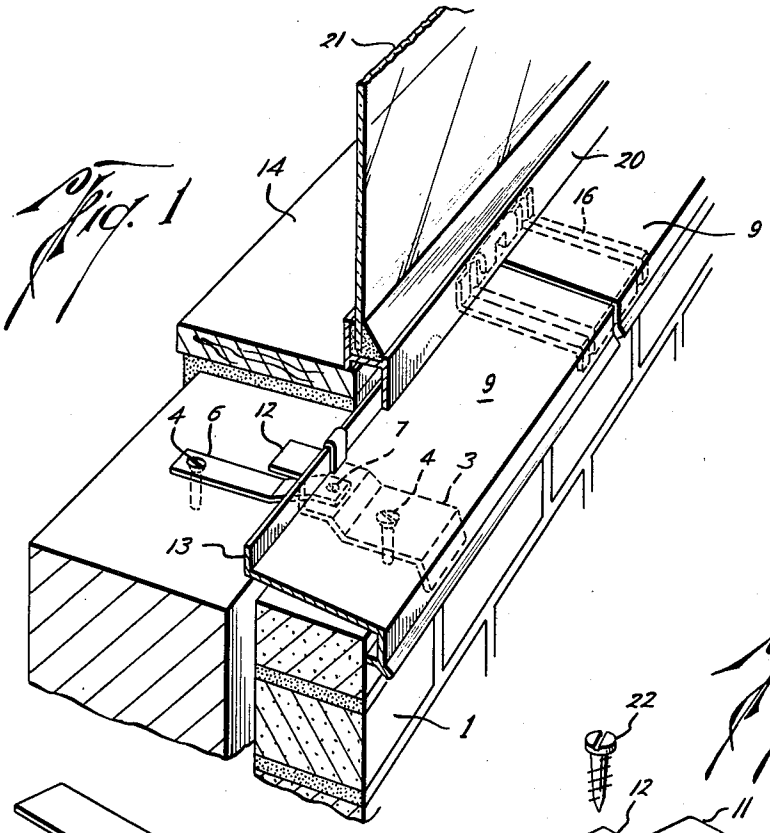


Fig. 1

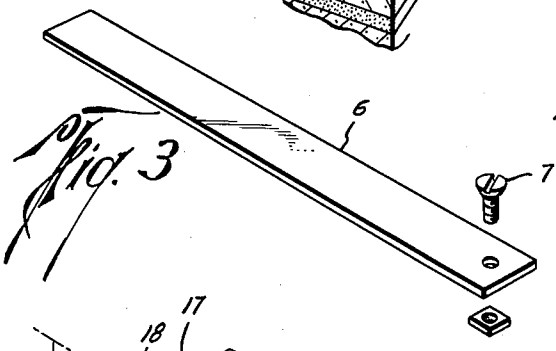


Fig. 3

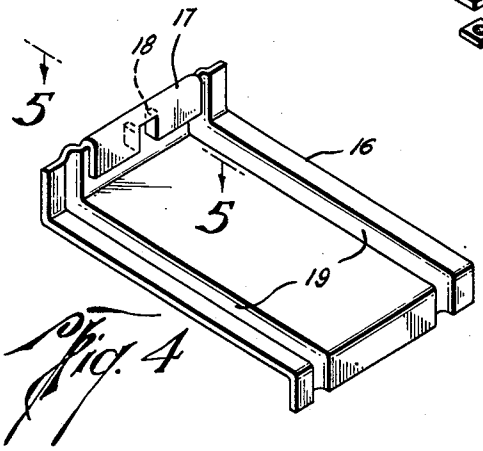


Fig. 4

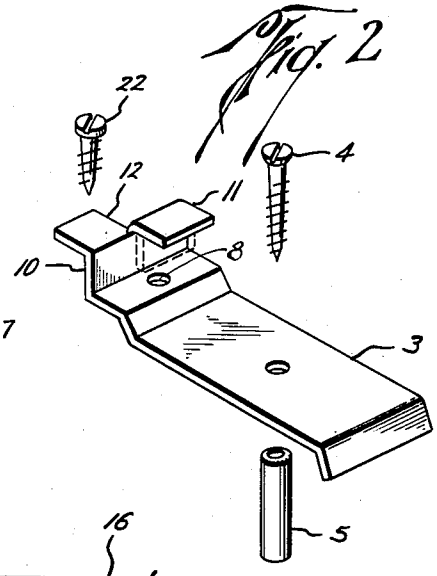


Fig. 2

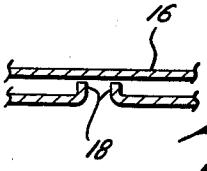


Fig. 5

INVENTOR.
Robert W. Lancer
BY Ramsden O. Wyatt
ATTORNEY

United States Patent Office

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METAL SILL INSTALLATION DEVICES

Robert W. Lancer, Houston, Tex.

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4 Claims. (Cl. 72—98)

This invention relates to new and useful improvements in metal sill installation devices.

It is an object of this invention to provide means for installing metal sills such as are used in windows, doors, grills, louvers, panels, curtain walls and similar items of building construction.

It is another object of this invention to provide novel means for anchoring an outside metal window sill to the outside masonry course and to the inside, or backup, wall.

It is still another object of the invention to provide a means for anchoring outside metal sills in properly spaced alignment to assure that a proper gap is maintained between the adjoining ends of metal sills to provide for expansion of the metal.

It is still another object of the invention to provide a means for anchoring metal sills and the like, and to cover the necessary gap at the adjoining ends of the sills and provide for proper seepage drainage to prevent accumulation of water beneath the sills, and to drain on to the lower outer lip of the sill.

In metal window construction, and the like, long sills are employed which must be anchored at their adjoining ends and spaced to provide for expansion of the metal. It is an object of this invention to provide a means for locking the sills in spaced position with a concealed locking means beneath the sills, and which may be locked in place by positive anchoring means and that has lugs providing the necessary spacing means which are yieldable to allow expansion of the sills and having means for seepage drainage in a manner that will direct the moisture down the face of the wall.

With the above and other objects in view, the invention has relation to certain novel features of construction, operation and arrangement of parts more particularly defined in the following specifications and illustrated in the accompanying drawings, wherein:

Figure 1 is a perspective view of a masonry construction, illustrating the use of the installation devices in a building construction.

Figure 2 is a perspective view of the locking plate employed.

Figure 3 is a perspective view of the back strap.

Figure 4 is a perspective view of the splice plate employed, and

Figure 5 is a cross sectional side elevational view of the splice plate taken on the line 5—5 of Figure 4.

Referring now more particularly to the drawings, the numeral 1 designates a masonry wall having the usual back-up wall 2. At the sill level of the wall 1 the anchor clips as 3 are fastened at suitable intervals by masonry screws 4, 4, having the usual expansion plugs 5. The back strap 6 is similarly anchored to the back-up wall 2 and is bolted to the anchor clip 3 as by the bolt 7, the end of the strap 6 passing beneath the end of the anchor clip 3, the clip 3 being bent upwardly to provide space for the strap 6. A suitable opening as 8 is provided in the anchor clip 3 to receive the bolt 7 and the outside

end of the clip 3 is turned downwardly to fit over the edge of the outside wall 1 to provide a lug to hook on to the outer edge of the metal sill 9.

The sills 9, 9 are placed on the wall 1 and the back strap 6 is bent as required to lie flat on the back-up wall 2 and extend under the clip 3. The anchor clip 3 has an upstanding leg 10 which is divided into oppositely extending ears 11, 12. A sill is mounted on the outside wall 1 and rests on the clips as 3, the inside wall 13 of the sill bearing against the upstanding leg 10 of the clip 3. The ear 11 is then bent down over the wall 13 of the sill 9 as shown in Figure 1. The interior stool 14 is then mounted on the back-up wall 2.

A splice plate 16 is provided which is formed to fit snugly beneath the sill 9, and having an overturned lip 17. Formed in the lip 17 are spacing means, which may be formed by cutting the lip at a point midway between the respective ends and cutting outwardly a sufficient distance to provide a pair of lugs as 18, 18, which are inwardly turned forming stop means for the ends of the sills to be mounted, and which are readily yieldable to expansion of the sills, and when the sills expand, will move back into the space from which they were cut.

The upper surface of the plate 16 has the drainage grooves 19, 19 extending from end to end longitudinally and the plate is bent at each end to conform to the contour of the sill, with the outwardly extended end being turned downwardly and the inwardly extended end being turned upwardly.

A sill as 9 is mounted on the exterior wall 1 and rests on the anchor clips 3. The ear 11 is bent downwardly over the upwardly extending flange 13 of the sill and the splice plate 16 receives one end of the sill and the said end of the sill abuts against one of the lugs 18. The end of the adjoining sill is similarly received on the other side of the plate 16 and abuts against the other lug 18. A hole is then bored in the ear 12 and a screw as the self-tapping screw 22, is set therein through the window sash 20 and the glazing 21 is accomplished in the usual manner.

While the foregoing is considered a preferred form of the invention, it is by way of illustration only, the broad principle of the invention being defined by the appended claims.

What I claim is:

1. In an exterior metal sill installation device, an anchor clip having one end downwardly turned and having a back strap at the other end, means for anchoring the clip to an outside masonry wall and means for anchoring the backstrap to a back-up wall, an upwardly extending leg on said clip and upwardly turned ears on said leg, one of said ears being overturned to anchor the flange of a sill and the other of said ears anchoring a window to the building.

2. An installation device for metal sills, means for anchoring metal sills to the outside wall and to the back-up wall of a masonry building and splicing means positioned beneath the sills for splicing sills at their adjoining ends said splicing means having yieldable spacing lugs overturned over the upper edge of the sills against which the upper edges of the adjoining ends of the sills abut.

3. In metal sill installation devices, a splicing plate having one end upwardly turned and the other end downwardly turned, longitudinal grooves in said plate, the upwardly turned end of said plate having a portion thereof overturned inwardly and having a pair of yieldable spaced inwardly projecting lugs against which one end of each of a pair of sills may abut.

4. In a device for anchoring metal sills to masonry walls in building construction, an anchoring clip having one end downwardly turned and extended over the outside edge of the outside wall and having an upwardly ex-

tending leg on its other end, inwardly and outwardly extending ears on said upwardly extending leg one of said ears being overturned over the flange of a sill and the other ear anchoring the window sash to the building, a back strap anchored at one end to the inwardly directed end of said clip and said back strap being anchored at its other end to the back-up wall of a building, and splice plates at each end of the sill being mounted having overturned ears at the upper end thereof into which the ends of the adjoining sills extend and having inwardly turned yieldable lugs on said ears for spacing adjoining sills to allow for expansion.

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