April 2, 1957 J. H. GOODWIN 2,787,156

GLASS AND MASONRY WALL CONSTRUCTION

Filed Aug. 3, 1951 2 Sheets-Sheet 1

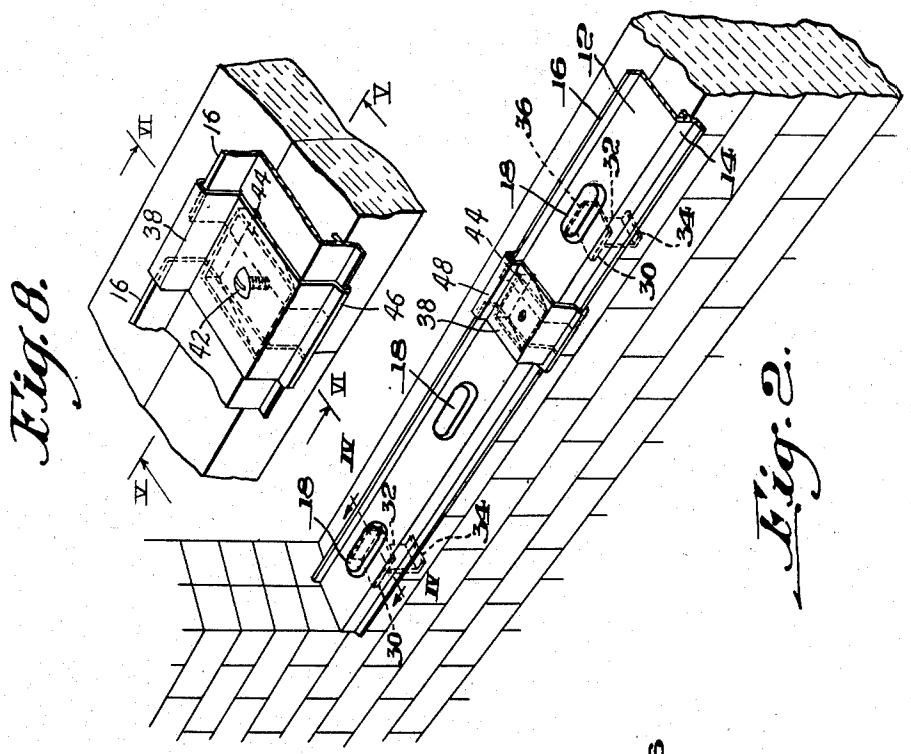


Fig. 8.

Fig. 2.

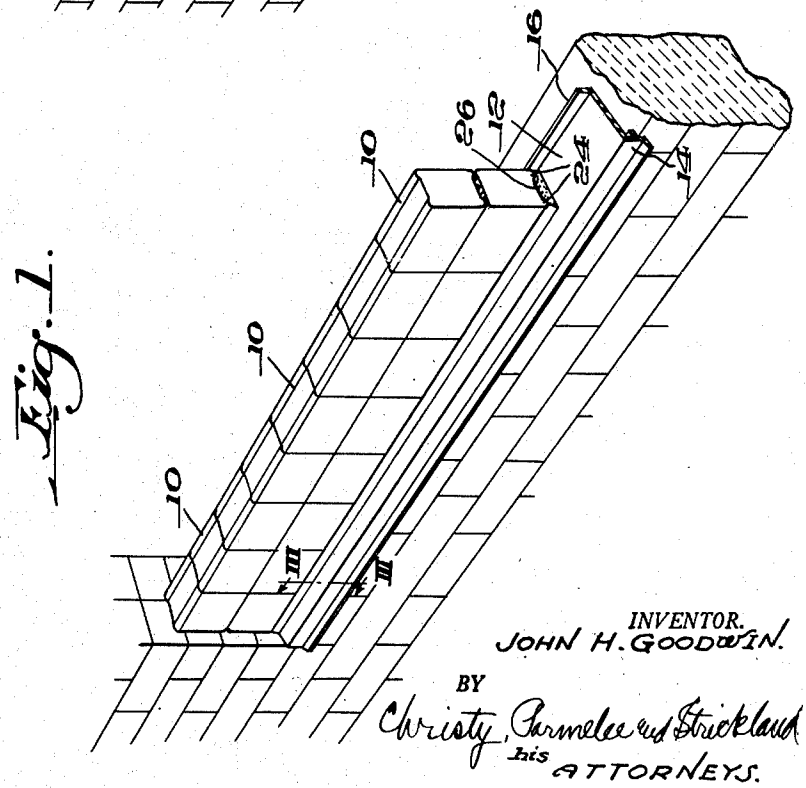


Fig. 1.

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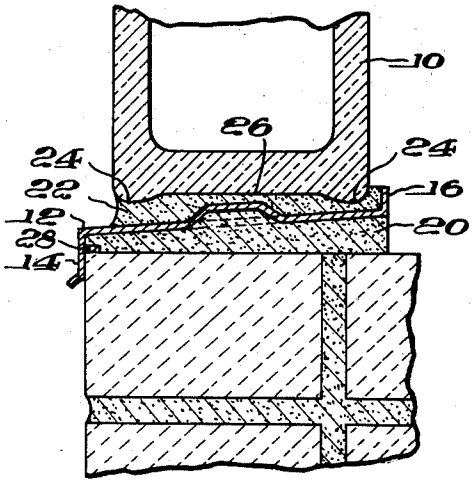


Fig. 3.

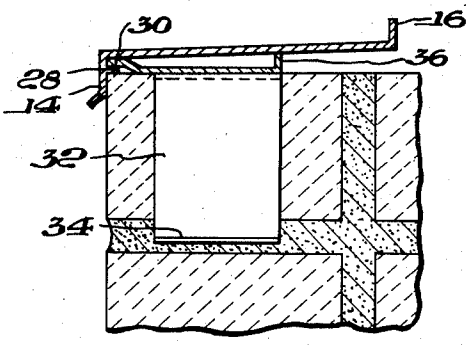


Fig. 4.

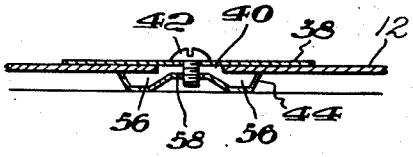


Fig. 5.

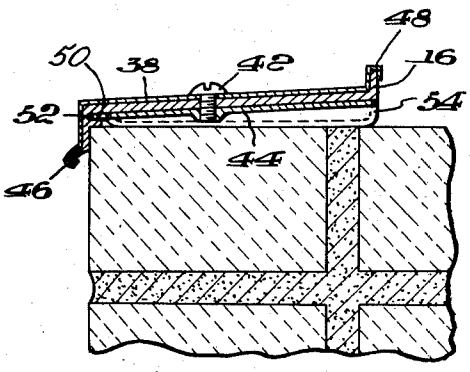


Fig. 6.

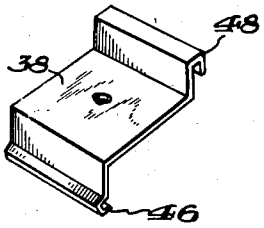


Fig. 7.

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United States Patent Office

2,787,156

Patented Apr. 2, 1957

2,787,156

GLASS AND MASONRY WALL CONSTRUCTION

John H. Goodwin, Pittsburgh, Pa., assignor to Overly Manufacturing Company, Greensburg, Pa., a corporation of Pennsylvania

Application August 3, 1951, Serial No. 240,112

1 Claim. (Cl. 72—16)

This invention relates to masonry wall construction. More particularly the invention relates to a combination masonry and glass block wall construction in which glass blocks are set in an opening of a masonry construction with the glass blocks resting on a metal sill.

The metal sill is an important part of the construction in mounting glass blocks in an opening of a brick, stone, molded concrete or concrete block wall in order to prevent moisture from seeping into or through the masonry structure. Experience has shown that there is a tendency for the cement bed on which the glass block rests on top of the sill, to crack. Water works through these cracks and it is necessary to provide a channel by which the water may work to the outside of the wall or sill, otherwise the water will flow out and over the inside of the sill and wet the inside of the masonry structure.

In the past it has been customary to rivet or bolt a narrow strip of metal on the upper face of the metal sill to project up into a depression on the lower face of the glass blocks to anchor the cement bed on which the blocks rest to the top of the sill, and to prevent the blocks from sliding on a mortar bed. This metal strip has acted to prevent moisture from working to the outside of the sill, although the sill is set on the mortar bed in an inclining position toward the outside of the wall. The trapping of water on the inner portion of the sill on the inside of the metal strip has given a troublesome moisture condition on the inside of the wall.

The primary object of the present invention is to provide a wall construction by which glass block may be mounted on a sill in a masonry or building wall opening and prevent moisture from working into the inside of the wall.

Another object of the invention is to provide a wall construction by which glass blocks may be mounted on a metal sill in a wall opening with mortar beds below and above the sill, wherein the sill is constructed to prevent slippage of the sill on the wall and also prevent slippage of the bock on the mortar bed on the sill and still provide a construction by which water may work its way to the outside edge of the sill.

With these and other objects in view, the invention consists in the improved wall construction for mounting glass blocks on a sill in a wall opening as hereinafter described and particularly defined in the appended claim.

The various features of the invention are illustrated in the accompanying drawings in which:

Fig. 1 is a perspective view of a wall construction with an opening therein in which glass blocks are mounted;

Fig. 2 is a perspective view of a wall construction showing the mounting of a metallic sill in an opening in the wall for supporting a glass block wall;

Fig. 3 is a vertical sectional view of a wall construction taken on the line III—III of Fig. 1;

Fig. 4 is a vertical sectional view of the wall construction taken on the line IV—IV of Fig. 2, illustrating sill anchors mounted in the masonry wall;

Fig. 5 is a vertical sectional view of the wall construction taken on the line V—V of Fig. 8, showing the construction of a two-part sill with a gutter for conducting moisture to the outside of the sill;

Fig. 6 is a vertical sectional view taken on the line VI—VI of Fig. 8, showing the joint of two-part sill;

Fig. 7 is a perspective view of a cover plate to cover the two-part joint in the sill; and

Fig. 8 is an enlarged view of the joint between sill parts and the cover thereof.

Figs. 1 and 2 illustrate a masonry wall construction in which a glass block wall is mounted in an opening in the masonry wall. The glass blocks **10** are mounted on a sill **12** which is shown more particularly in Fig. 2. The sill is made of comparatively thin extruded aluminum with a downwardly-turned flange **14** at the outside of the sill and an upwardly-turned flange **16** at the inner side of the sill. A series of indentations **18** are formed in the central portion of the sill and extend at spaced intervals along the entire length of the sill. The indentations **18** form an opening on the bottom of the sill to receive mortar and form an upwardly-extending boss above the plane of the upper face of the sill.

In Fig. 3 is shown the mounting of the sill on the bottom of the wall opening on a bed of mortar **20** which projects into the recess or opening in the bottom of the sill. A second bed of mortar **22** is mounted on the upper face of the sill to receive glass blocks **10**. The glass blocks have ribs **24** on opposite sides of the bottom of the block which form a recess **26** in the central portion of the bottom of the block. The boss of the indentations projects upwardly toward the recess and has mortar positioned between the top of the boss and the bottom of the recess in the block. The boss on the sill prevents the block from slipping outwardly to the outside of the wall, and the recess **18** on the bottom of the sill receiving the mortar prevents the sill from slipping toward the outside of the wall. It will be noted from Fig. 3 that the inside edge of the sill is positioned at a higher elevation than the outside edge of the sill to provide a natural drainage for moisture or water that may penetrate through the mortar to the sill.

It has been found in practice that particularly the bed of mortar **22** between the top of the sill and the block has a tendency to crack, into which cracks moisture may penetrate. If moisture does penetrate through cracks in the mortar, it will work down to the sill, and in view of the spaced and separated positions of the indentations **18** the moisture or water can get past the indentations to flow and work its way to the outside of the sill. In this way the water will drip over the outside flange **14** and avoid wetting the wall or making a moisture condition for the masonry wall.

In order to prevent the outside edge of the sill from being moved up above the top of the wall opening, a lip **28** is formed on the back side of the flange **14** and spaced from the top of the sill. The space between the lip **28** and the sill is adapted to receive a tongue **30** (Fig. 4) formed on the outer edge of an anchor **32** mounted in the masonry wall construction. The anchor preferably extends downwardly into the wall a sufficient distance to be securely held therein and has a flange **34** which prevents its upward movement. An inner flange **36** is formed on the back of the top side of the anchor in a position to engage the central portion of the sill to help support the sill.

If the wall opening is more than eight to ten feet wide, it has been found best to make the sill in two parts. With a two-part sill, a joint is formed in the central portion thereof which has a tendency to allow moisture to penetrate through the sill and into the mortar below the sill. To prevent leakage of moisture at the joint of the sill, a construction such as shown in Fig. 5 is used wherein a

cover plate **38** is mounted over the joint **40** and held in position by a screw **42** which is threaded into a gutter bar **44**. The cover plate **38** has a reversely-arranged hook **46** to hook over the bottom of the flange **14** on the sill, and a hook **48** to hook over the flange **16** to prevent the cover plate from being moved upwardly after it is locked in position. The gutter bar rests on the top of the wall construction and its outside edges support the ends of the sill.

An upwardly projecting tongue **50** is formed at the front side of the gutter bar which extends into the recess **52** above the lip **28** on the sill. At the rear of the gutter bar is formed an upwardly extending flange **54** which closes gutters **56** formed at each side of a central rib **58**. Any moisture which leaks under the cover plate **38** will collect in gutters **56**, and since the flange **54** extends to a higher elevation than the tongue **50**, water will flow over the tongue to the outside of the wall. The flange **54** will prevent moisture from running to the inside of the wall.

The present invention is concerned particularly with the mounting of the glass blocks on the sill in a wall opening. The blocks extending above the bottom row are united by mortar in a usual masonry construction.

This application is a continuation-in-part of my copending application Serial No. 240,113, filed August 3, 1951, and now Patent 2,697,932, dated December 28, 1954.

The preferred form of the invention having been thus described, what is claimed as new is:

A masonry and glass block wall construction having a masonry wall provided with an opening therethrough, glass blocks closing said opening and supported therebeneath by an edge portion of said masonry wall defining the bottom of the opening, a bed of mortar disposed upon said wall edge portion, a metal sill plate resting upon the mortar bed and extending inwardly and upwardly from the outside face of said wall, a downwardly projecting flange at the front edge of the sill plate abutting against the outside face of the wall, an upwardly projecting flange at the back edge of the sill plate and disposed inwardly of the glass blocks thereabove, a rearwardly projecting flange on the back side of the downwardly projecting sill flange and spaced below the bottom of the sill plate to rest upon the edge portion of the wall providing a recess between the bottom of the sill plate and the rearwardly projecting flange, a plurality of anchors mounted in the wall below the sill plate and engaging with the rearwardly projecting sill flange, a plurality of indentations extending upwardly from the bottom face of the sill plate and spaced longitudinally of the sill plate, said mortar bed extending into said indentations, a glass block receiving mortar bed upon the top face of the sill plate and extending above the tops of said indentations, and said glass blocks being supported upon said latter mortar bed with the front face of each block in a plane substantially parallel to the front face of the masonry wall, at least one of said sill indentations being disposed beneath one of the glass blocks and fully enclosed by the glass block supporting mortar bed.

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