April 3, 1934. M. WALTEN 1,953,841

METAL FLASHING

Filed Dec. 1, 1930 2 Sheets-Sheet 1

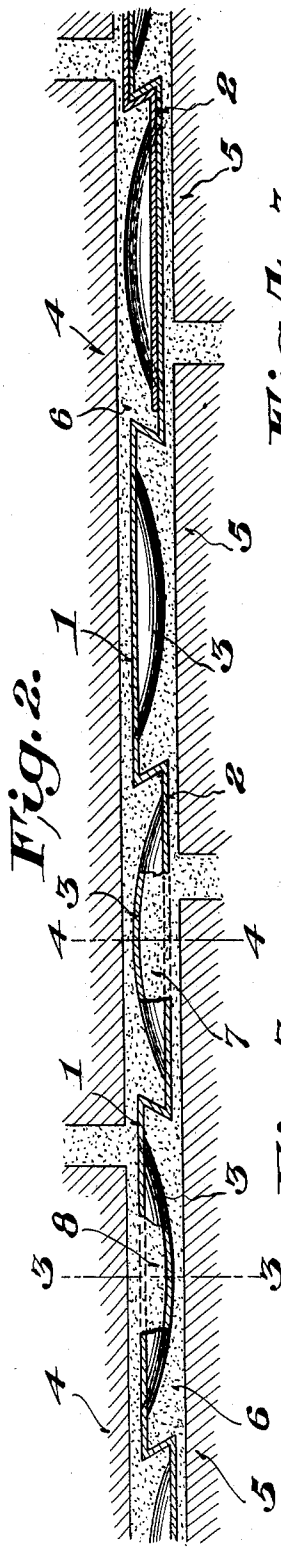


Fig. 2.

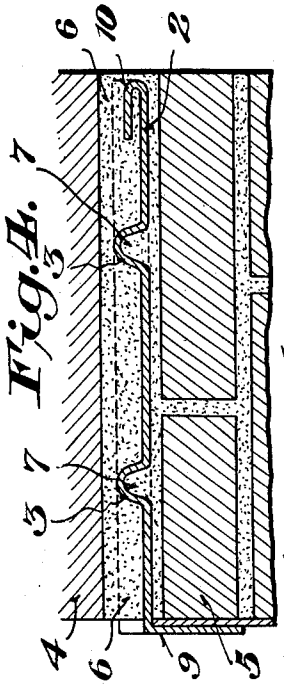


Fig. 4.

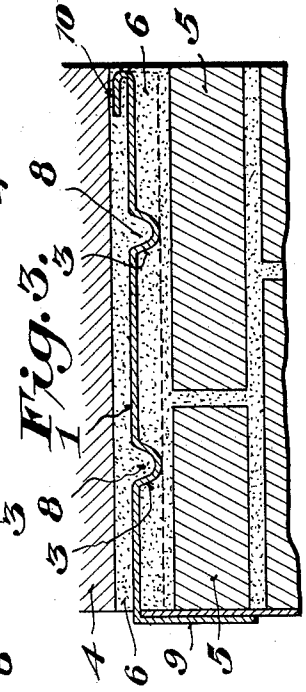


Fig. 3.

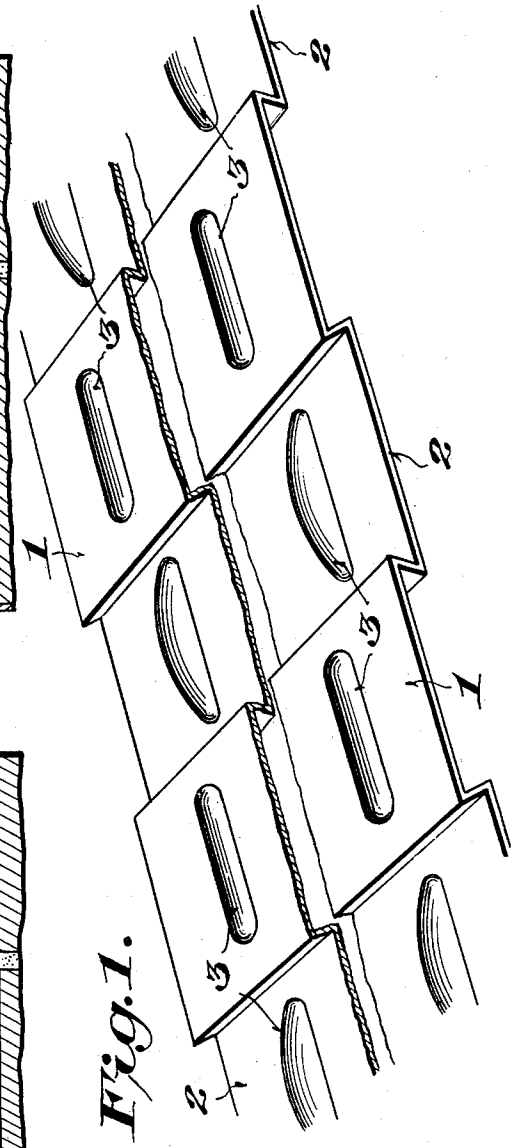


Fig. 1.

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April 3, 1934. M. WALTEN 1,953,841

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Filed Dec. 1, 1930 2 Sheets-Sheet 2

Fig. 5.

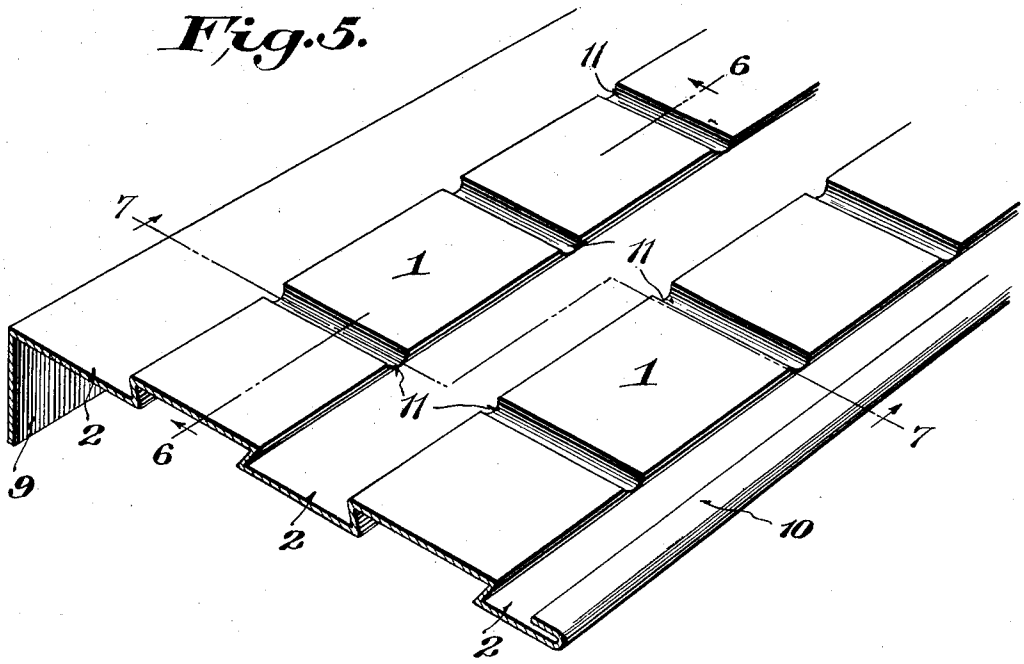


Fig. 6.

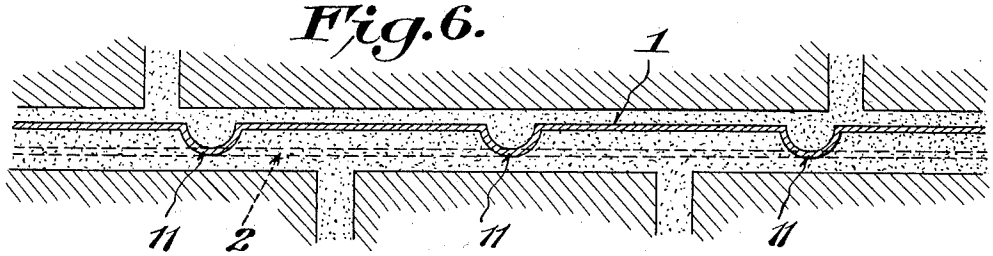
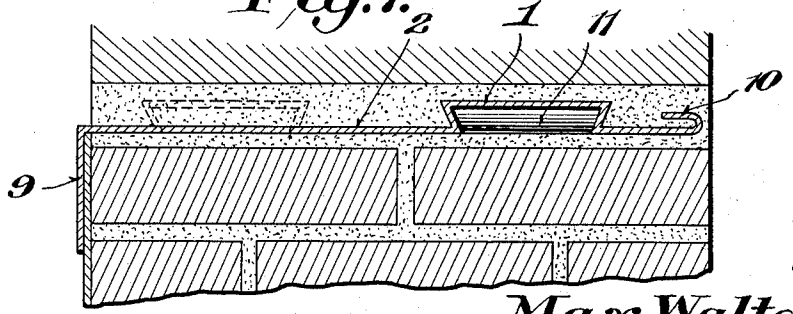


Fig. 7.



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UNITED STATES PATENT OFFICE

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METAL FLASHING

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Application December 1, 1930, Serial No. 499,356

12 Claims. (Cl. 72—127)

This invention relates to metal flashing, and in particular to the corrugated type, and has for its prime object to produce an effective anchoring of the flashing in a masonry structure so as to prevent edgewise creeping and looseness of the flashing in the direction of the lengths of the corrugations. This object is obtained by the construction of the flashing, in conjunction with the masonry structure, and does not involve the employment of any extraneous means such as nails or other fastening members.

It is a further object of the invention to maintain the ordinary parallel sided corrugations, because of the ease and cheapness of production thereof, as distinguished from the more expensive and more difficult to produce type of flashing wherein the sides are tapered longitudinally for the purpose of preventing creeping and looseness of the flashing after being embedded in the concrete of a masonry structure.

In carrying out the present invention, the back wall of each corrugation is provided with deformations pressed or struck therein and designed to be embedded or seated in the concrete so as to anchor the flashing therein and prevent edgewise creeping and looseness thereof.

The deformations not only constitute anchoring means for the flashing, but also constitute means for stiffening the flashing.

With these and other objects in view, the present invention consists in the combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings and particularly pointed out in the appended claims, it of course being understood that changes in the form, proportion, size and minor details may be made, within the scope of the claims, without departing from the spirit or sacrificing any of the advantages of the invention.

The invention has been illustrated in detail in the accompanying drawings, wherein

Figure 1 is a perspective view of a piece of corrugated metal flashing embodying the features of the present invention.

Figure 2 is a vertical sectional view taken through adjacent courses of a wall or masonry structure having flashing of the present invention included therebetween.

Figure 3 is a cross-sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a cross-sectional view taken on the line 4—4 of Figure 3.

Figure 5 is a perspective view of another embodiment of the invention.

Figure 6 is a sectional view taken on the line 6—6 of Figure 5 and showing a flashing of the latter figure incorporated in a masonry structure.

Figure 7 is similar view taken on the line 7—7 of Figure 5.

The flashing of the present invention is a metal sheet, copper or other suitable metal, of suitable dimensions, provided with corrugations 1 and 2, the open sides of adjacent corrugations facing outwardly at opposite sides of the flashing sheet. Each corrugation is preferably dovetailed in cross-section, and its longitudinal walls are preferably parallel. Each corrugation of course being open at opposite ends. Deformations 3 are provided in the back wall of each corrugation and projecting into the corrugation so as to thereby avoid the presence of any external projections on the flashing, thus maintaining and not increasing the over-all thickness dimension of the flashing at any given point. These deformations have a dual function, i. e. they constitute anchoring projections to be imbedded in the concrete or mortar at one side of the flashing and also constitute seats or depressions for the receipt of concrete or mortar at the opposite sides of the flashing, and they also constitute means for stiffening the back walls of the corrugations and consequently stiffening the entire flashing. While the deformations may be of any desired configuration and of any desired number in each corrugation, I have found that narrow elongated deformations substantially elliptical in shape and disposed transversely across the corrugation give satisfactory results. The length of each deformation is slightly less than the width of the corrugation for a purpose as will hereinafter be described. The exterior shape of each deformation is convex longitudinally and transversely, the side walls meeting abruptly the flat back wall of the corrugation, while the ends of the deformation merge gradually into said back wall.

The flashing of the present invention has been shown in use in Figures 2, 3 and 4, wherein 4 and 5 designate respectively superimposed masonry courses between which is the usual layer of cement or mortar 6, the flashing being embedded in the cement or mortar. It will of course be understood that an initial layer of cement or mortar is placed upon the top of the masonry course 5, and then the flashing is placed upon the cement or mortar and pressed down thereon so as to sink the downwardly projecting deformations into the cement or mortar, and also to

cause the cement or mortar to rise into and fill the concave sides of the upwardly projecting deformations, as indicated at 7 in Figure 4, and thus anchor the flashing against creeping and looseness in the longitudinal direction of the corrugations which of course extend in a direction from the front to the back of the wall. Another layer of cement or mortar is then placed on top of the flashing so as to entirely cover it and also fill the concave sides of the downwardly projecting deformations, as indicated at 8 in Figure 3. Then the upper masonry course 4 is placed upon the top of the upper layer of cement or mortar, thus embedding the flashing in the mortar. Each deformation is embedded in one layer of cement and is filled with cement of the other layer, thereby obtaining an effective bond between the flashing and the cement such as will prevent creeping and consequent looseness of the flashing. Moreover the deformations of one corrugation stand out at one side of the flashing and the deformations of the next adjacent corrugation stand out at the opposite side of the flashing, whereby the flashing is anchored and bonded at opposite sides thereof to the cement, which effectually precludes any looseness of the flashing in the cement.

The rear end portion of the flashing is turned downwardly, as at 9, across and against the exterior of the rear face of the wall, while the outer or front end terminates at about the outer face of the wall and is bent or turned back upon itself, as at 10, so as to form a transverse abutment extending across the top of the flashing at the front thereof for the purpose of trapping any water which may seep through the cement and collect on the flashing and prevent such water from passing outwardly through the cement at the front of the wall and discoloring the front face thereof.

An effective joint may be obtained between adjacent pieces of flashing, as indicated at the right hand side of Figure 2, wherein it will be seen that the edge corrugations of adjacent flashing strips may be interfitted with the deformations of one strip nested within the deformations of the other strip, as the deformations will of course register, whereby adjacent flashing strips may be interlocked and connected without soldering or otherwise fastening the parts together.

The corrugated flashing of the present invention may be formed by a continuous operation in any of the well known or preferred methods, and the deformations may be struck or pressed during or after the formation of the corrugations, thereby enabling the quick and inexpensive manufacture of the flashing.

In Figure 5 of the drawings where the corrugations 1 and 2 of the flashing extend longitudinally of the wall, deformations 11 are formed transversely across the exterior faces of the backs of the upstanding corrugations only, each deformation being in the form of a straight depression extending entirely across the corrugation with the bottom of the deformation pressed down to the level of the upper side of the backs of the adjacent corrugations and the opposite ends of the deformations being open so as to form a gutter or channel for the passage of water from one corrugation to another, thus effectually providing for the conducting of water away from the front face of the wall or other masonry structure in which the flashing is incorporated. It will of course be understood that the deformations 11 will be filled with cement or mortar, as well shown in Figure 6, and thus creeping and looseness of the flashing is prevented in the longitudinal direction of the corrugations.

In each form of the present invention, the specific embodiment of the deformation is that of a rib extending transversely across the back wall of the corrugation. In Figure 1 the length of the rib form of deformation is slightly less than the width of the back wall of the corrugation, whereas in the embodiment shown in Figure 5 the rib form of deformation extends entirely across the back wall of the corrugation, but in each instance the deformation projects into the interior of the corrugation so as not to increase the overall thickness of the flashing.

What is claimed is:

1. Sheet metal flashing having parallel corrugations extending from edge to edge thereof, the backs of the corrugations being provided with deformations pressed or struck therein and projecting into the interiors of the corrugations and opening at the exteriors thereof.

2. Sheet metal flashing having parallel corrugations extending from edge to edge thereof, successive corrugations having their open faces disposed at opposite sides of the flashing, the backs of the corrugations being provided with anchor deformations pressed or struck therein and projecting into the interiors of the corrugations and opening at the exteriors thereof, said deformations constituting cement receiving seats at the exteriors of the backs of the corrugations.

3. Sheet metal flashing having parallel open ended corrugations extending from edge to edge of the flashing and provided with deformations extending transversely across the backs of the corrugations and extending from edge to edge thereof at one side of the flashing and constituting open ended channels connecting the interiors of the corrugations at opposite sides of the corrugation having the deformations.

4. Sheet metal flashing having parallel corrugations extending from edge to edge thereof, the backs of the corrugations being provided with oval shaped elongated deformations, projecting into the interiors of the corrugations opening at the exteriors thereof, and extending transversely of the corrugations and terminating short of the edges thereof.

5. Sheet metal flashing having open ended parallel corrugations extending from edge to edge of the flashing, the backs of the corrugations on one side of the flashing being provided with deformations extending transversely of and intersecting the edges of said corrugations and constituting open ended channels connecting the interiors of the corrugations at opposite sides of the corrugation having the channels.

6. Sheet metal flashing having parallel corrugations extending from edge to edge thereof and provided with deformations extending transversely of certain of the corrugations and intersecting the opposite edges thereof, the ends of the deformations being open and in communication with the interiors of the corrugations at opposite sides of the corrugations having the deformations.

7. As a new article of manufacture, metal flashing comprising a metal sheet having corrugations bent or pressed therein and extending from edge to edge thereof, the back walls of certain of the corrugations being provided with deformations struck or pressed therein and projecting into the interiors of said corrugations.

8. As a new article of manufacture, metal flashing comprising a metal sheet having corrugations bent or pressed therein and extending from edge to edge thereof, the back walls of certain of the corrugations being provided with deformations struck or pressed therein and projecting into the interiors of said corrugations, said deformations being of concavo-convex form, the convexed sides of the deformations projecting into the interiors of the corrugations.

9. As a new article of manufacture, metal flashing comprising a metal sheet having corrugations bent or pressed therein and extending from edge to edge thereof, the back walls of certain of the corrugations being provided with deformations struck or pressed therein and projecting into the interiors of said corrugations, said deformations being of concavo-convex form, the convexed sides of the deformations projecting into the interiors of the corrugations, and said deformations extending transversely across the respective corrugations and defining stiffening ribs therefor.

10. As a new article of manufacture, metal flashing comprising a metal sheet having parallel corrugations bent or pressed therein and extending from edge to edge thereof, the back walls of certain of the corrugations being provided with deformations struck or pressed therein and projecting into the interiors of said corrugations.

11. As a new article of manufacture, metal flashing comprising a metal sheet having parallel corrugations bent or pressed therein and extending from edge to edge thereof, the back walls of certain of the corrugations being provided with deformations struck or pressed therein and projecting into the interiors of said corrugations, said deformations being of concavo-convex form, the convexed sides of the deformations projecting into the interiors of the corrugations.

12. As a new article of manufacture, metal flashing comprising a metal sheet having parallel corrugations bent or pressed therein and extending from edge to edge thereof, the back walls of certain of the corrugations being provided with deformations struck or pressed therein and projecting into the interiors of said corrugations, said deformations being of concavo-convex form, the convexed sides of the deformations projecting into the interiors of the corrugations, and said deformations extending transversely across the respective corrugations and defining stiffening ribs therefor.

MAX WALTEN.