Oct. 9, 1934. A. B. FRIEDBERG 1,976,166

FLASHING

Filed April 17, 1934

Fig. 1

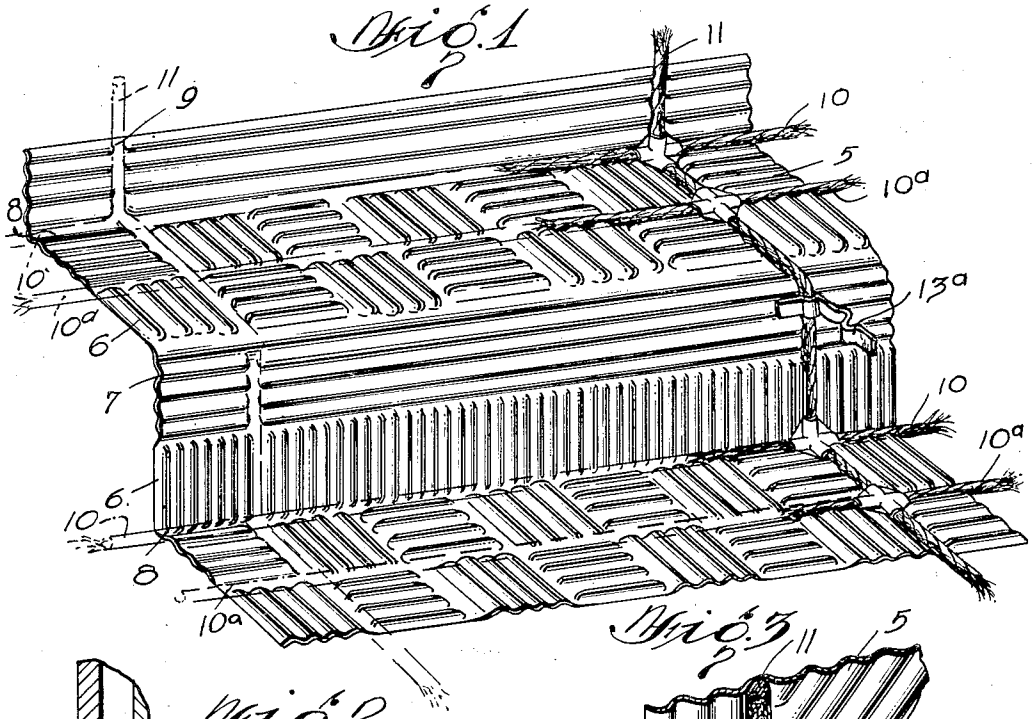

Fig. 3

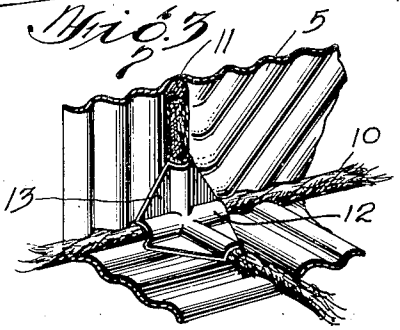

Fig. 2

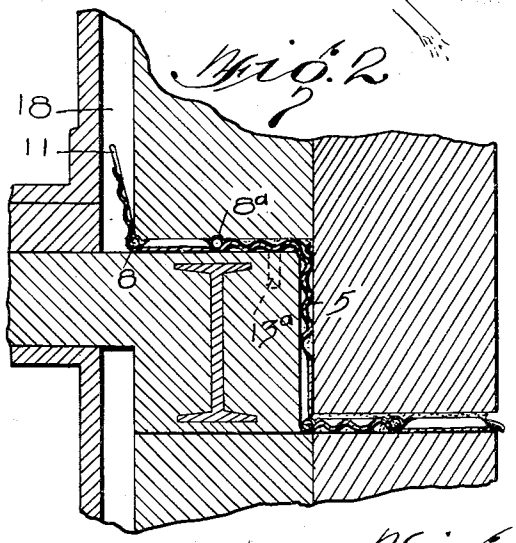

Fig. 4

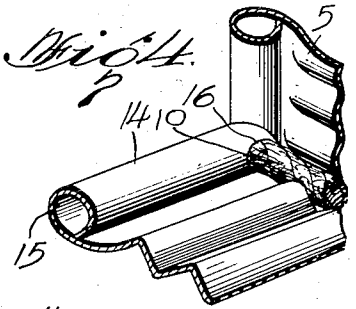

Fig. 5

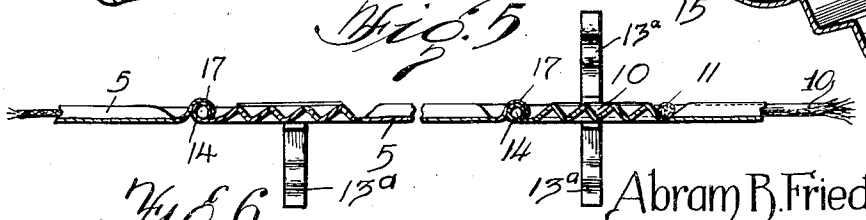

Fig. 6.

Inventor

Abram B. Friedberg

By Clements

Attorney

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1,976,166

UNITED STATES PATENT OFFICE

1,976,166

FLASHING

Abram B. Friedberg, New Brunswick, N. J., assignor to Perfect Damproof Flashing Co., Inc., New Brunswick, N. J.

Application April 17, 1934, Serial No. 721,027

23 Claims. (Cl. 72—127)

This invention relates to flashing of the kind shown and described in my United States Patent No. 1,935,116 of Nov. 14, 1933, and has for its object to provide certain improvements in the construction therein disclosed.

According to my prior patent, the flashing is formed from a sheet of waterproof material, such as sheet copper, bent lengthwise to form flanges or other shapes, depending upon the position which it is to occupy in the wall of a building and having rope-like wicks, composed of cotton or other material which will gradually deteriorate, particularly under the action of moisture, secured to the flashing strip to extend transversely thereof, i. e., along the width of the strip, only. The object of the construction therein disclosed was to provide weep holes in the mortar or concrete which extend across the upper face of the flashing through which water will drain off to the exterior of the wall and which further serve as means for maintaining a continuous circulation of air through the wall in which the flashing is installed.

The flashing of my prior patent is further formed with a series of narrow, shallow corrugations which extend across, i. e., transversely of the strip, only, to provide a bond between the flashing and mortar upon each side thereof and in addition permit expansion and contraction of the wall without the formation of cracks or breaking away of the flashing from the mortar.

According to the present invention, I provide means whereby the flashing is permitted to expand and contract in all directions within a wall without causing the flashing to shift its position within the wall such as would produce cracks or break the bond between the flashing and mortar. The present invention further provides means which extend both transversely and longitudinally of the flashing strip whereby intersecting or communicating weep holes are formed in the mortar, to which the flashing is bonded, from end to end and from side to side of the flashing.

My invention may be understood by reference to the accompanying drawing, in which:

Fig. 1 is a perspective view of a strip of flashing embodying my invention with portions of the weep hole forming wicks shown in dotted lines to illustrate the formation of the strip normally covered by the wicks;

Fig. 2 is a transverse section through a wall of a building showing the flashing locked in the mortar and the longitudinal weep holes which are formed in the mortar by the wicks carried by the flashing;

Fig. 3 is a fragmentary view of a bent portion of a flashing embodying my invention, showing in detail the intersecting longitudinal and transversely extending wicks and the clip means for securing the wicks to the flashing at the point of intersection;

Fig. 4 is a fragmentary view illustrating a modified form of the flashing shown in Fig. 1, intended particularly for use in window heads and sills, and in which a transverse weep hole is provided by means of a rolled edge of the flashing strip, the inner side of which is apertured to receive and hold an end of a longitudinally extending weep hole forming wick;

Fig. 5 is a vertical sectional view of a further modified form of my invention showing the transversely extending, rolled weep hole forming portion of Fig. 4 utilized as an interlocking means for adjacent flashing sections; Fig. 6 is an enlarged, longitudinal section through the rolled and interlocked ends of two flashing sheets shown in Fig. 5 at a point where a weep hole forming wick extends into the rolled portions through apertures in opposite sides thereof.

In the drawing 5 indicates a flashing strip which is provided with a plurality of series of groups of corrugations 6 and 7, the corrugations of one series extending at an angle to the corrugations of an adjacent series. These groups of corrugations may be formed in any desired or approved manner, such as at right angles or oblique angles to each other and in any longitudinal or transverse arrangement (see Figs. 1 and 3), the object being to provide means which will uniformly lock the flashing in the mortar in three dimensions and permit the flashing to expand and contract in all directions without breaking the bond between the flashing and mortar. It has been found that when a flashing is corrugated or key ribbed in one general direction only, the strip is so stiffened in the direction of the ribs or keys as to cause the strip to break loose from the mortar under expansion or contraction of the strip or wall in which the strip is installed.

By reference to Fig. 1 it will be noted that the groups or series of ribs 6 and 7 are slightly spaced from each other leaving relatively flat trough-like portions 8 and 9 which extend from edge to edge of each flashing strip both transversely and longitudinally of the strip. Within any desired number of these flat portions 8 and 9 may be secured rope-like wicks 10 and 11. These wicks may be formed of soft rolled cotton and secured to the flashing strip by means of metal clips as shown and described in my prior patent. I have

found it desirable, however, to employ clips of the form shown in Fig. 3, at the points of intersection of the longitudinally and transversely extending wicks.

As shown, the clip comprises a substantially rectangular piece of sheet metal struck from one side to provide ribs 12 extending from corner to corner and which intersect at the center of the clip, leaving triangular flat portions 13 between the right-angularly extending ribs which may be soldered or spot welded to the face of the flashing strip.

While I have explained that additional clips or anchors 13^a of the types shown in my prior patent may be employed to securely fasten the wicks to the upper surface of the flashing strip 5, and extend between the bricks of an adjacent course to securely anchor the flashing to the wall, I have found that such anchoring means 13^a may be employed with excellent results when secured to the under side of the flashing, as shown in Figs. 2 and 5. It will be understood, of course, that when such corrugated clips 13^a are secured to the under surface of the flashing they function solely as anchoring means for the strip, in the manner explained in my prior patent.

As shown in Figs. 1 and 2, two longitudinally extending wicks 10 and 10^a are shown secured to each horizontal step portion of the flashing strip 5. It will be seen that the formation of ribs into groups not only provides bend lines for the strip, but also trough portions at and intermediate the bends in which one or more wicks may be secured to meet the requirements of the particular job.

In Fig. 4 I have shown a transverse edge 14 of the flashing strip 5 rolled over upon the upper face of the strip to provide a weep hole conduit 15 which extends throughout the width of the strip. This form of flashing has been found desirable when relatively short lengths are required, as, for instance, in flashing window heads and sills. It will be understood that when so used, both ends of the flashing are rolled in the manner illustrated in Fig. 4 and one or more wicks 10 secured to the flashing strip to extend longitudinally thereof. To provide continuous communication between the longitudinally extending wicks 10 and the transversely extending conduits 15, the rolled portions 14 of the sheet are apertured at 16 to receive and retain the end portions of the wicks as is clearly shown in Fig. 4.

As shown in Figs. 5 and 6, I may also make use of the form of flashing illustrated in Fig. 4 in a wall construction of considerable length. In such cases one end of each flashing strip 5 is rolled inwardly upon the upper face of the strip as indicated at 14 in Fig. 4 and the opposite end of the strip is rolled outwardly as indicated at 17 in Fig. 5 to embrace and interlock with the rolled edge 14 of an adjacent strip. It will be apparent from the foregoing that in order to obtain the advantages of the construction shown in Fig. 4 when adjacent sheets are interlocked as shown in Fig. 5, that both sides of the rolled portions 14 and 17 are apertured as at 16 in Fig. 4 to receive and retain end portions of wicks 10.

While the integrally formed conduits 15 shown in Figs. 4 and 5 are intended to take the place of the transversely extending weep hole forming wicks 11 in certain installations it will be understood that the wicks 11 may be used in any number desired in combination with the integrally formed conduits 15 and longitudinally extending wicks 10—10^a to effect rapid drainage of water from the interior of a wall to the exterior thereof (see Fig. 5) and provide means for the continuous circulation of air through the wall adjacent the upper surface of the flashing and to the furring spaces 18 behind the walls.

While I have described and shown but a few embodiments of my invention, it is to be understood that it is capable of many modifications. Changes, therefore, in the construction and arrangement of the ribs and weep holes forming means may be made which do not depart from the spirit and scope of the invention as described in the appended claims.

I claim:

1. A through wall flashing comprising a sheet of water-proof material having a wick secured thereto to extend substantially transversely thereof, and a second wick intersecting the first mentioned wick and secured to said sheet to extend substantially longitudinally thereof.

2. In a through wall flashing sheet having weep hole forming means extending substantially transversely thereof, weep hole forming means extending substantially the length of said sheet and joining said first mentioned means.

3. In a through wall flashing sheet having weep hole forming means extending substantially transversely thereof, a wick secured to said sheet to extend substantially longitudinally thereof and joining said first mentioned means.

4. A through wall flashing sheet having weep hole forming means extending substantially across said sheet in both transverse and longitudinal directions, and means connecting said weep hole forming means together and to said sheet.

5. In a through wall flashing sheet having weep hole forming means extending both longitudinally and transversely of the sheet, means securing said weep hole forming means together and to said sheet comprising a clip having intersecting grooves.

6. In a through wall flashing sheet having weep hole forming means extending both longitudinally and transversely of the sheet, means securing said weep hole forming means together and to said sheet comprising a substantially rectangular clip having intersecting grooves extending from corner to corner and relatively flat portions between the grooved portions for attachment to the flashing sheet.

7. A through wall flashing sheet having a rolled transverse edge portion, and a wick secured to said sheet to extend substantially longitudinally thereof and having one end secured in an aperture in said rolled portion.

8. A through wall flashing sheet having rolled transverse edge portions, and a wick extending substantially longitudinally of said sheet and having its ends secured in apertures in said rolled portions.

9. A substantially allover-corrugated through wall flashing sheet having the corrugations in one longitudinal portion of the sheet extending at an angle to the corrugations in another longitudinal portion of the sheet and transversely spaced therefrom.

10. A substantially allover-corrugated through wall flashing sheet the corrugations of which are arranged in spaced groups both longitudinally and transversely of the sheet and the corrugations of one group extending at an angle to the corrugations of an adjacent group.

11. A through wall flashing sheet having two spaced series of corrugations formed in the face thereof, the corrugations of one series extending at substantially right angles to the corrugations

of the other series and from edge to edge of said sheet.

12. A through wall flashing sheet having two spaced series of corrugations formed in the face thereof, and a weep hole forming wick secured to said sheet in the space between said series of corrugations.

13. A through wall flashing sheet having a plurality of spaced groups of corrugations arranged in spaced series in the face thereof, the corrugations of each group extending at an angle to the corrugations of groups in adjacent series.

14. A stepped through wall flashing sheet in which angularly extending portions of the sheet are separately corrugated with the corrugations of one portion spaced from and extending at an angle to the corrugations of the other portion.

15. A stepped through wall flashing sheet having two longitudinal series of corrugations formed in each face of angularly extending portions of the sheet, the corrugations of each series being spaced from and extending at an angle to each corrugation of adjacent series.

16. A stepped through wall flashing sheet having a plurality of spaced groups of corrugations arranged in spaced series in the faces of angularly extending portions of the sheet, the corrugations of each group extending at an angle to the corrugations of adjacent groups.

17. A stepped through wall flashing sheet having transversely spaced groups of corrugations formed in each face of angularly extending portions of the sheet, the corrugations of each group extending at an angle to the corrugations of an adjacent group in the same portion and longitudinally spaced from an adjacent group in an angularly extending portion of the sheet.

18. A through wall flashing sheet having a plurality of spaced series of corrugations formed in the face thereof, the spaces between the series of corrugations extending substantially transversely and longitudinally across the sheet, weep hole forming wicks extending both transversely and longitudinally of the sheet in said spaces, and mortar anchoring clips overlying said wicks and secured to said sheet.

19. A through wall flashing sheet having a plurality of spaced series of corrugations formed in the face thereof, the spaces between the series of corrugations extending substantially transversely and longitudinally across the sheet, and weep hole forming wicks secured to said sheet within certain of said spaces.

20. A through wall flashing sheet having a rolled transverse edge portion, a wick secured to said sheet to extend substantially longitudinally thereof and having one end secured in an aperture in said rolled portion, and means at the opposite edge portion of said sheet adapted to embrace and interlock with the rolled edge portion of an adjacent flashing sheet.

21. A through wall flashing sheet having a rolled transverse edge portion and spaced series of corrugations formed in the faces of angularly extending portions of the sheet, the corrugations of one series extending at an angle to the corrugations of another series, and a wick secured to said sheet in the space between said series of corrugations to extend substantially longitudinally thereof and having one end secured in an aperture in said rolled edge portion of the sheet.

22. A through wall flashing sheet having a rolled transverse edge portion and spaced series of corrugations formed in the faces of angularly extending portions of the sheet, the corrugations of one series extending at an angle to the corrugations of another series in the same portion of the sheet, a wick secured to said sheet in a space between said series of corrugations to extend substantially longitudinally thereof and having one end secured in an aperture in said rolled edge portion of the sheet, and means at the opposite edge portion of said sheet adapted to embrace and interlock with the rolled edge portion of an adjacent flashing sheet, said last mentioned means serving to secure the opposite end of said wick for insertion in an aperture in the rolled edge of an adjacent flashing sheet.

23. In combination with a wall comprising a plurality of courses of brick and intermediate courses of mortar, a flashing strip having a plurality of spaced series of corrugations formed in the face thereof, the corrugations of each series extending at an angle to the corrugations of adjacent series and imbedded in one of said courses of mortar, and corrugated anchor means secured to one corrugated face of the strip and extending between the bricks of an adjacent course.

ABRAM B. FRIEDBERG.

CERTIFICATE OF CORRECTION.

Patent No. 1,976,166. October 9, 1934.

ABRAM B. FRIEDBERG.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 1, line 74, after "sections" insert the word and; and in the same line "Fig. 6" is the beginning of a new paragraph; page 3, line 23, claim 15, for "each corrugation" read the corrugations; and line 26, claim 16, for "the faces" read each face; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 13th day of November, A. D. 1934.

Leslie Frazer

(Seal) Acting Commissioner of Patents.