April 13, 1937. H. W. HARRISS 2,076,990

FLASHING

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FIG. 1.

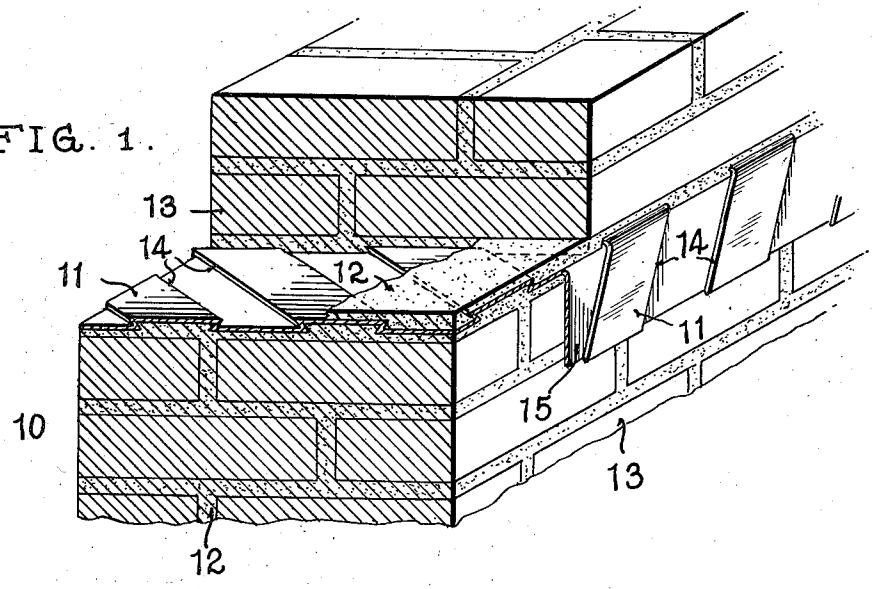


FIG. 2.

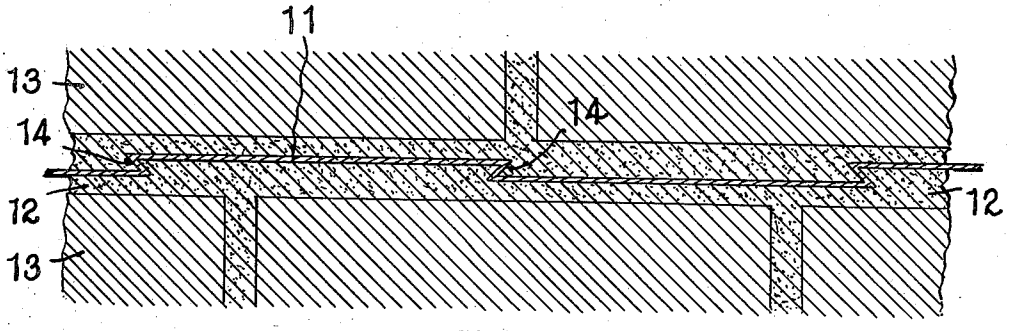
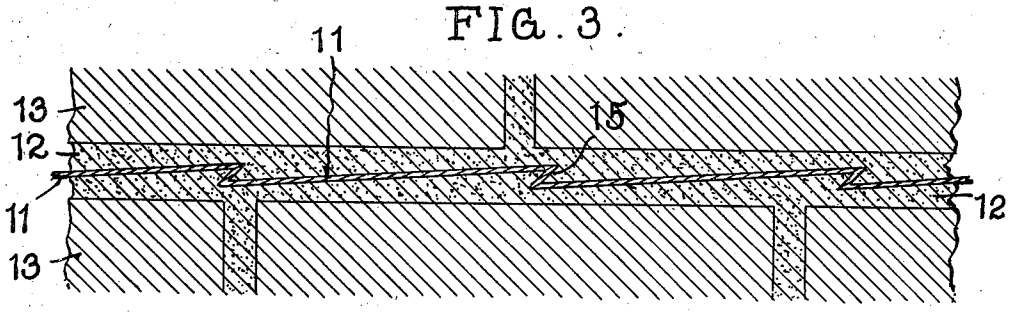


FIG. 3.



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FIG. 4.

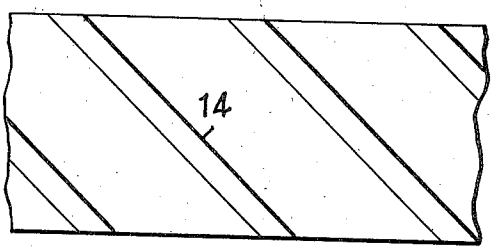


FIG. 5.

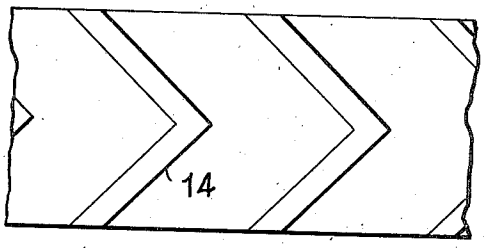


FIG. 6.

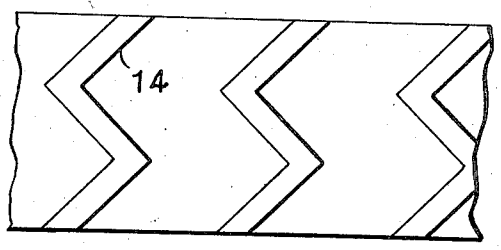


FIG. 7.

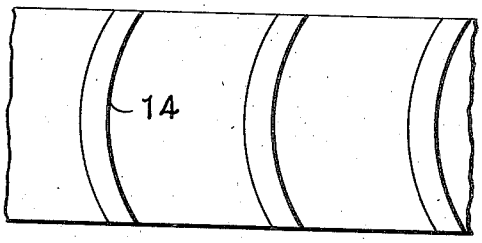


FIG. 8.

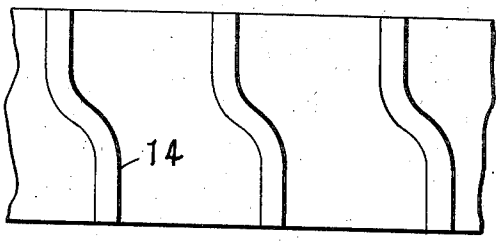


FIG. 9.

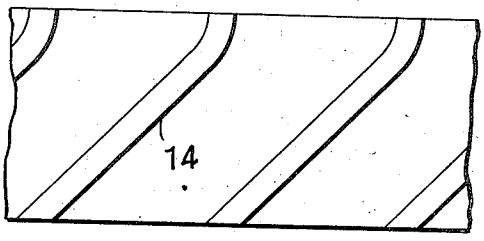
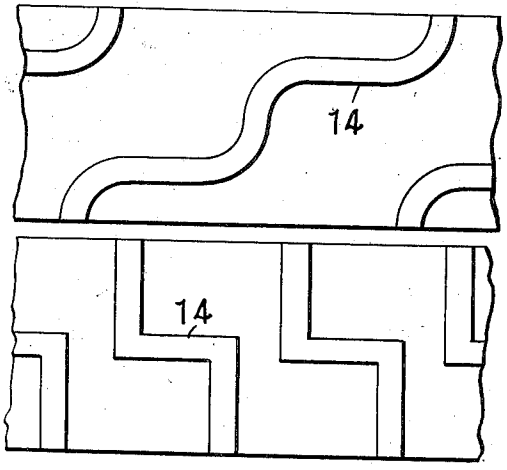


FIG. 10.

FIG. 11.



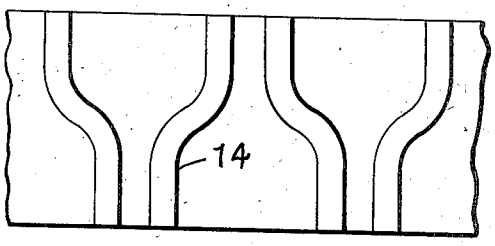


FIG. 12.

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Patented Apr. 13, 1937 2,076,990

UNITED STATES PATENT OFFICE

2,076,990

FLASHING

Henry W. Harriss, Baltimore, Md., assignor, by mesne assignments, to The Cheney Company, Winchester, Mass., a corporation of Massachusetts

Application August 18, 1932, Serial No. 629,380

13 Claims. (Cl. 72—127)

The present invention relates to flashing, and more particularly to that type of flashing which is adapted to be embedded, in sheet form, in the mortar between the courses of brick of a masonry wall and which are adapted to substantially interlock and key the mortar above the sheet of flashing to that therebeneath, as well as to prevent movement between the mortar and the flashing in substantially every direction.

In the copending application of Wm. A. Fingles, Jr., Serial No. 623,441, filed July 19, 1932, there is disclosed a flashing construction which comprises essentially a plurality of spaced transversely extending overhanging ribs of substantially Z- or S-shaped cross-section and additional projections or deformations extending upwardly from the body of the metal intermediate the aforedescribed ribs. The reentrant recesses formed by the transverse Z-shaped ribs bond the mortar on each side of the flashing, so that relative vertical and longitudinal movement between the flashing and the mortar (before the latter hardens) is rendered impossible. The additional projections hold the flashing against relative transverse movement with respect to the mortar. The result is that movement between the mortar and the flashing is prevented in substantially every direction.

According to the present invention, the flashing sheet is formed with a plurality of sets of ribs of such construction and relationship to the sheet that relative movement therebetween and a layer of mortar in which it may be embedded is impossible in substantially every direction without the necessity of providing the additional movement preventing means or projections as in the prior construction hereinbefore described. In other words, the ribs according to the present invention severally simultaneously exercise multiple functions, namely, they substantially prevent (1) relative vertical movement, (2) relative longitudinal movement, and (3) relative transverse movement between the flashing and coacting flashing.

Advantageously the invention comprises the provision of a plurality of ribs in a through-wall flashing, which ribs may be straight, angular or sinuous and may be so obliquely disposed with reference to the marginal edges of the sheet that portions of adjacent ribs or of any single rib, as the case may be, will be in transverse alinement so that mortar molded into the grooved portions of the sheet will lie between such transverse alined ribbed portion that the adjacent courses of masonry will be bonded together effectively against transverse shifting movement.

Several embodiments of the invention are illustrated, by way of example, on the accompanying sheet of drawings wherein

Fig. 1 is a perspective view, somewhat diagrammatically, of a portion of a wall construction with a sheet of flashing incorporated therein, portions of the wall and flashing being broken away for the sake of clearness;

Fig. 2 is a sectional view through a portion of a wall construction and one form of flashing incorporated therein;

Fig. 3 is a view corresponding to Fig. 2, illustrating another type of flashing;

Figs. 4 to 12, inclusive, are severally top plan somewhat diagrammatic views of various configurations of interlocking ribs, according to the present invention.

Similar reference characters designate corresponding parts throughout the several figures of drawings.

Referring to the drawings in detail, and more particularly at first to Fig. 1 thereof, reference numeral 10 represents a brick wall or other similar masonry construction in which a sheet of flashing 11 constructed according to the present invention is embedded for the purpose of deflecting moisture which may tend to seep into the building construction of which the wall 10 is a portion.

As is shown on the drawings, the flashing sheet 11 is preferably embedded in a layer of mortar 12 or the like which is disposed between the several courses of brick 13.

The embodiment of flashing sheet illustrated in Fig. 1 consists essentially of a sheet of metal, preferably copper or the like, which is deformed to provide a series of obliquely disposed, substantially equidistantly spaced, parallel overhanging ribs 14 which extend substantially transversely across the entire sheet of metal. Alternate ribs 14 may overhang in opposite directions whereby they define a longitudinal series of alternately disposed ridges and grooves which are dovetail shaped in cross section.

In applying the flashing to the wall 10, a portion of the layer of mortar in which the flashing is to be embedded is first laid. The flashing sheet is then placed upon the fresh mortar, whereby the downwardly projecting ridges extend thereinto while the downwardly opening grooves are filled thereby.

The flashing is laid in strips which may be several feet long. It is accordingly desirable that a strip, once laid, remain in its proper

position so that the next adjacent strip may be correctly aligned therewith and joined thereto.

The obliquely disposed grooves and ridges are adapted to prevent the flashing from moving with respect to the layer of mortar therebeneath, transversely and longitudinally of the wall as well as in substantially every other horizontal direction, whereby displacement of a strip of flashing, once laid, is substantially impossible.

The dovetail character of the ridges and grooves effects an interlocking of the mortar below the flashing strip with that thereabove, after the latter is duly laid. Due to the inability of mortar to effectively adhere to copper, the ordinary sheet of flashing breaks the bond between the mortar thereabove and therebelow, making it theoretically possible to lift the portion of the wall above the flashing from the remainder of the construction. The overhanging ribs, 14, however, interlock the mortar on each side of the flashing so that, in effect, the mortar bond is not broken, and the wall is rendered continuous instead of discontinuous.

The flashing may be provided with a downwardly bent apron or the like 15 which projects from the layer of mortar, and is adapted to be associated in conventional manner with roof flashing, base flashing or the like.

Instead of having alternate overhanging ribs 14 extend in opposite directions, they may be severally parallel, as shown at 15 in Fig. 3, whereby a section through the sheet is substantially sawtooth-shaped in character. The reentrant recesses defined on each side of the ribs 15 prevent relative vertical movement between the flashing and mortar.

In Fig. 4, a modified form of the invention is shown which differs from that heretofore described in that the ribs are disposed in a plurality of sets of oblique disposed parallel pairs, and in a direction opposite to that shown in Fig. 1.

The ribs 14, according to Fig. 5, each comprise two portions which extend obliquely in opposite directions whereby substantially V-shaped ribs are formed. As a result of this arrangement and the overhanging character of the ribs, this form of the invention positively prevents relative movement between the mortar and embedded flashing in every direction.

The embodiment shown in Fig. 6 differs from that of Fig. 5 only in that the several ribs 14 are substantially Z-shaped instead of V-shaped in character.

The overhanging ribs 14, in the modification illustrated in Fig. 7, are formed in the shape of parallel arcs, whereby they are likewise adapted to effect the several functions effected by the ribs of the configurations heretofore described.

The form shown in Fig. 8 consists of overhanging parallel ribs 14 which are substantially S-shaped in plan, extending directly across the flashing.

The overhanging ribs shown in Fig. 9 resemble those of Fig. 1 except that one end thereof is somewhat curved, whereby movement of the flashing in every horizontal direction with respect to the mortar is prevented.

In Fig. 10, the overhanging ribs are of elongated sinuous form, instead of being rectilinear as in Fig. 1.

Fig. 11 illustrates still another embodiment of the invention. This differs from that of Fig. 8 only in that alternate ribs 14, instead of adjacent ribs, are parallel, intermediate ribs being of complementary configuration.

It will be seen from the foregoing description that applicant provides his flashing with integral means extending thereacross which has the multiple function of simultaneously preventing relative vertical, longitudinal and transverse movement therebetween and the coacting layer of mortar or like binding material.

It will be understood that the relative distance between adjacent ribs may be varied as desired, and that the ribs may be formed as shown in Fig. 2 (defining dovetail shaped ridges therebetween) or as shown in Fig. 3 (both of which shapes I designate under the broad character of dovetail shaped ribs or corrugations), or in other equivalent manner.

While the invention has been described in some detail in connection with numerous embodiments of the invention, these are intended to be merely illustrative of the invention, and it is not intended to limit the scope of the invention thereby or otherwise than by the scope of the appended claims.

What is claimed is:

1. A through-wall flashing for masonry construction comprising a metal sheet of desired width to extend substantially through a masonry wall and be imbedded in a mortar joint thereof, said sheet being provided with a plurality of dovetail shaped rib and groove sections obliquely disposed with reference to the marginal edges of the sheet, the oblique disposition of the rib sections being such that portions of adjacent rib sections are in transverse alignment providing areas of mortar throughout the length of the sheet are confined between transversely aligned rib sections whereby to effectively bond the adjacent courses of masonry together against movement in all directions.

2. A through-wall flashing for masonry construction comprising a metal sheet of desired width to extend substantially through a masonry wall and be imbedded in a mortar joint thereof, said sheet being provided with a plurality of parallel sided rib and groove sections obliquely disposed with reference to the marginal edges of the sheet said rib sections having at least one undercut side, the oblique disposition of the rib sections being such that portions of adjacent sections are in transverse alignment so that areas of mortar throughout the length of the sheet are confined between transversely aligned rib sections whereby to effectively bond the adjacent courses of masonry together against movement in all directions.

3. A through-wall flashing for masonry construction comprising a metal sheet of desired width to extend substantially through a masonry wall and be imbedded in a mortar joint thereof, said sheet being provided with a plurality of straight dovetail shaped rib and groove sections obliquely disposed with reference to the marginal edges of the sheet, the oblique disposition of the rib sections being such that portions of adjacent rib sections are in transverse alignment so that areas of mortar throughout the length of the sheet are confined between transversely aligned rib sections whereby to effectively bond the adjacent courses of masonry together against movement in all directions.

4. A through-wall flashing for masonry construction comprising a metal sheet of desired width to extend substanially through a masonry wall and be embedded in a mortar joint thereof,

said sheet being provided with a plurality of sinuous dovetail shaped rib and groove sections obliquely disposed with reference to the marginal edges of the sheet, the oblique disposition of the rib sections being such that portions of adjacent rib sections are in transverse alignment so that areas of mortar throughout the length of the sheet are confined between transversely aligned rib sections whereby to effectively bond the adjacent courses of masonry together against movement in all directions.

5. A through-wall flashing for masonry structures comprising a rectangular metal sheet provided with shallow dovetail shaped corrugations having parallel side walls and disposed obliquely crosswise of the sheet, presenting through the length of the sheet and between adjacent corrugations a plurality of grooved areas into which mortar may be molded and confined between transversely aligned raised sections to effectively prevent relative movement of the adjacent courses of masonry transversely of the sheet.

6. A through-wall flashing for masonry structures comprising a rectangular metal sheet provided with a plurality of sinuous shallow corrugations having parallel side walls and disposed obliquely crosswise of the sheet, presenting through the length of the sheet and between adjacent corrugations a plurality of grooved areas into which mortar may be molded and confined between transversely aligned raised sections to effectively prevent relative movement of the adjacent courses of masonry transversely of the sheet.

7. A through-wall flashing for masonry structures comprising a rectangular metal sheet provided with angular shallow dovetail shaped corrugations having parallel side walls and disposed obliquely crosswise of the sheet, presenting through the length of the sheet a plurality of grooved areas into which the mortar may be molded and confined between transversely aligned raised sections to effectively prevent relative movement of the adjacent courses of masonry transversely of the sheet.

8. A through-wall flashing for masonry structures comprising a rectangular metal sheet provided with zig-zagged shallow dovetailed shaped corrugations having parallel side walls and disposed obliquely crosswise of the sheet, presenting through the length of the sheet a plurality of grooved areas into which mortar may be molded and confined between transversely aligned raised sections to effectively prevent relative movement of the adjacent courses of masonry transversely of the sheet.

9. A through-wall flashing for masonry structures and the like comprising a sheet of metal deformed to provide a plurality of angular shaped corrugations extending transversely of the sheet between which mortar may be molded to effectively prevent relative shifting of adjacent courses of masonry transversely and longitudinally of the sheet, said corrugations being substantially crescent-shaped from end to end and being curved in a continuous direction only.

10. A through-wall flashing for masonry structures and the like comprising a sheet of metal deformed to provide a plurality of sinuously shaped corrugations extending transversely of the sheet between which mortar may be molded to effectively prevent shifting of adjacent courses of masonry transversely and longitudinally of the sheet, said corrugations being substantially crescent-shaped from end to end and being curved in a continuous direction only.

11. A through-wall flashing for masonry structures and the like comprising a sheet of metal deformed to provide a plurality of spaced parallel sided dovetail shaped rib sections, a portion of certain of said rib sections being angularly disposed with respect to adjacent portions, whereby when mortar is molded between adjacent rib sections, adjacent courses of masonry will be effectively bonded to the flashing against shifting transversely thereof.

12. A flashing as defined in claim 11 in which the rib sections are V-shaped.

13. A flashing as defined in claim 11 in which the rib sections are Z-shaped.

HENRY W. HARRISS.