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INTERLOCKING ASSEMBLY FOR SHEET METAL ROOFING OR SIDING

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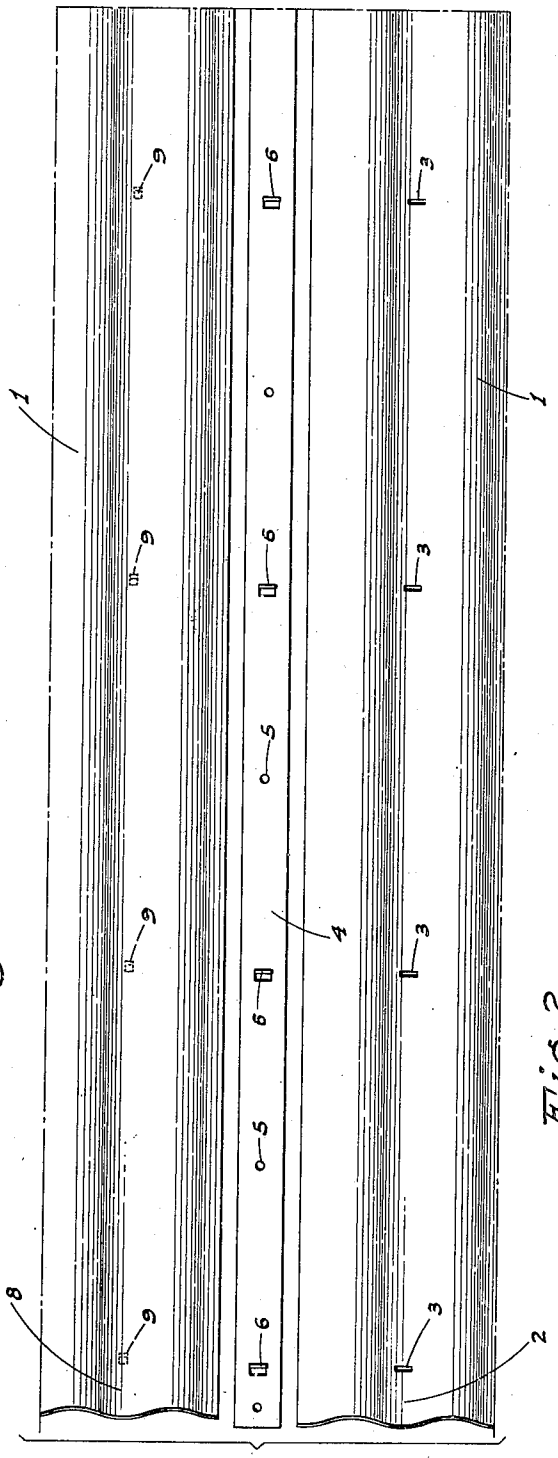

Fig. 1

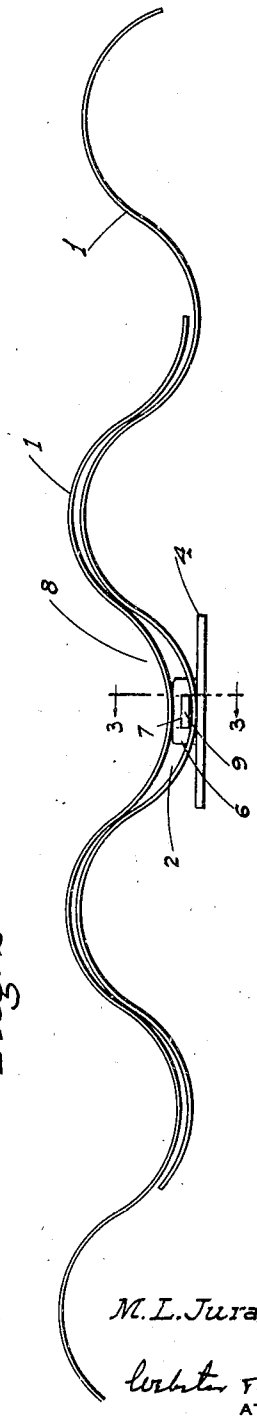

Fig. 2

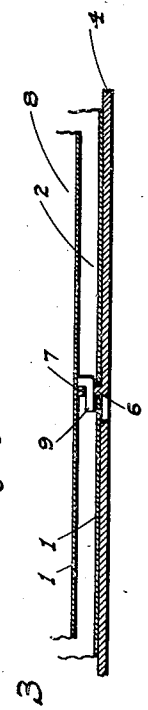

Fig. 3

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INTERLOCKING ASSEMBLY FOR SHEET METAL ROOFING OR SIDING

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This invention relates in general to sheet metal roofing or siding.

In particular the invention is directed to, and it is an object to provide a novel interlocking assembly for sheet metal roofing or siding; such assembly securing the cover sheets in unitary relation and without the necessity of driving nails through the sheets.

While the invention is adapted for both roofing and siding, it will be described as roofing for ease of description; it being understood, however, that the invention is not limited to this use.

Another object of the invention is to provide an interlocking assembly, for the purpose described, arranged so that the metal cover sheets of roofing (or siding) may be applied readily in proper cooperative positions, with adjacent sheets effectively locked together in leak-proof and wind-resistant relation.

An additional object of the invention is to provide an interlocking assembly which is especially adapted for use in connection with corrugated sheet metal roofing (or siding), although the invention may be used with flat sheets if desired.

A further object of the invention is to provide an interlocking assembly which comprises a locking and retention strip beneath the lapped longitudinal edge portions of adjacent cover sheets; there being longitudinally spaced upstanding eyes on the strip projecting upward through matching slots in the under sheet, and locking hooks on the under side of the upper sheet engaged in said eyes to complete the assembly. Such assembly is, of course, repeated at each of the lapped, longitudinal edge portions of adjacent sheets throughout the roof.

It is also an object of the invention to produce an interlocking assembly which is simple in structure, and economical to manufacture.

A further object of the invention is to provide a practical and reliable interlocking assembly which will be exceedingly effective for the purpose for which it is designed.

These objects are accomplished by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings:

Fig. 1 is a fragmentary plan view of adjacent corrugated cover sheets, and the corresponding locking and retention strip in separated relation; i. e. prior to assembly.

Fig. 2 is an enlarged transverse section of said parts as assembled.

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Fig. 3 is a cross section on line 3—3 of Fig. 2.

Referring now more particularly to the characters of reference on the drawings, the interlocking assembly is here shown as used in connection with corrugated sheet metal roofing. A pair of longitudinally extending adjacent cover sheets, of corrugated sheet metal, are indicated at 1; one of said sheets being formed, in the bottom of the second channel 2 inwardly from its longitudinal edge, with a plurality of evenly spaced transverse slots 3.

A longitudinal, locking and retention strip 4 is disposed directly beneath said channel 2, and is adapted to be fixed to the sheathing of the roof by nails (not shown), which are driven through a series of holes 5 spaced lengthwise in said strip.

The strip, at points corresponding to the spacing of the slots 3 in channel 2, has a plurality of eyes 6 struck outwardly therefrom, and each of such eyes 6 includes a transverse slot 7.

The eyes 6 project outward through the transverse slots 3 in the bottom of the channel 2, and such eyes are of a height that the slots 7 of said eyes 6 are exposed above the bottom of said channel. The adjacent longitudinal edge portions of the cover sheets 1 are lapped, in the manner illustrated in Fig. 2, so that the channel 2 of the under cover sheet receives the corresponding channel 8 of the upper cover sheet.

On the under side thereof, the channel 8 of the upper cover sheet is fitted, as by spot welding or the like, with a plurality of inwardly projecting square hooks 9 which all face in the same direction, and which hooks have exactly the same spacing as the slots 3 and eyes 6. Consequently, upon lapping of the longitudinal edge portions of the cover sheets 1 in the manner described, and with the eyes 6 projecting upwardly through the slots 3, the hooks 9 may be engaged in the slots 7 of said eyes 6 upon longitudinal sliding motion of the upper cover sheet in a direction to accomplish this result. In other words, on a roof, the upper cover sheet 1 would be disposed with the square hooks 9 facing downwardly, and with the hooks initially above the eyes 6. Then the upper sheet 1 would be shifted or slid downwardly to engage the hooks 9 in the slots 7 of said eyes 6.

It will be recognized that a like interlocking assembly is employed between all of the adjacent longitudinal edges of the sheets throughout the roof, so that the latter is wholly locked together in proper alinement and unitary relationship.

The interlocking is accomplished without nails

being driven through the cover sheets 1, which is very desirable. The only nailing which is required is to affix the locking and retention strips 4 to the sheathing or rafters.

While the interlocking assembly is quite simple in structure, and inexpensive to manufacture and use, it does provide for the effective and reliable securing of sheet metal roofing (or sliding) in place.

From the foregoing description it will be readily seen that there has been produced such a device as substantially fulfills the objects, as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described the invention, the following is claimed as new and useful, and upon which Letters Patent are desired:

1. An interlocking assembly for sheet metal cover sheets on a support with adjacent edge portions of said sheets lapping, comprising a locking and retention strip secured to the support lengthwise beneath said lapping edge portions of the cover sheets, locking elements projecting outward from the strip, the undermost lapped edge portion of the cover sheets having openings through which said elements extend, and means on the uppermost lapped edge portion of the cover sheets engaging said outwardly projecting elements in locking relation.

2. An interlocking assembly for sheet metal cover sheets on a support with adjacent edge portions of said sheets lapping, comprising a locking and retention strip secured to the support lengthwise beneath said lapping edge portions of the cover sheets, locking elements projecting outward from the strip, the undermost lapped edge portion of the cover sheets having openings through which said elements extend, and means on the uppermost lapped edge portion of the cover sheets engaging said outwardly projecting elements in locking relation; said means being wholly on the under side of said uppermost lapped edge portion.

3. An interlocking assembly for sheet metal cover sheets on a support with adjacent edge portions of said sheets lapping, comprising a locking and retention strip secured to the support lengthwise beneath said lapping edge portions of the cover sheets, locking elements projecting outward from the strip, the undermost lapped edge portion of the cover sheets having openings through which said elements extend, and cooperating inwardly projecting locking elements on the under side of the uppermost lapped edge portion of the cover sheets engaging in locking relation with said outwardly projecting elements.

4. An interlocking assembly for sheet metal cover sheets on a support with adjacent edge portions of said sheets lapping, comprising a locking and retention strip secured to the support lengthwise beneath said lapping edge portions of the cover sheets, locking elements projecting outward from the strip, the undermost lapped edge portion of the cover sheets having openings through which said elements extend, and cooperating inwardly projecting locking elements on the under side of the uppermost lapped edge portion of the cover sheets engaging in locking relation with said outwardly projecting elements; said outwardly projecting elements being eyes,

and said inwardly projecting elements being hooks positioned for engagement in said eyes.

5. An interlocking assembly, as in claim 4, in which the hooks are square, the eyes being transversely slotted to receive said hooks.

6. An interlocking assembly for sheet metal cover sheets on a support with adjacent edge portions of said sheets lapping, comprising a locking and retention strip secured to the support lengthwise beneath said lapping edge portions of the cover sheets, locking elements projecting outward from the strip, the undermost lapped edge portion of the cover sheets having openings through which said elements extend, and cooperating inwardly projecting locking elements on the under side of the uppermost lapped edge portion of the cover sheets engaging in locking relation with said outwardly projecting elements; the cover sheets being corrugated lengthwise, said openings being in the bottom of one corrugation, and said inwardly projecting elements being on the bottom of the corresponding corrugation.

7. An interlocking assembly for longitudinally corrugated sheet metal cover sheets on a support with adjacent, corrugated edge portions of said sheets lapping in generally matching relation, comprising a locking and retention strip secured to the support lengthwise beneath one corrugation of the undermost lapping edge portion, said one corrugation having longitudinally spaced openings in the bottom thereof, eyes projecting outward from the strip through said openings, and inwardly projecting hooks, in longitudinally spaced relation on the under side of the corresponding corrugation of the uppermost lapping edge portion, engaged in said eyes.

8. An interlocking assembly for longitudinally corrugated sheet metal cover sheets on a support with adjacent, corrugated edge portions of said sheets lapping in generally matching relation, comprising a locking and retention strip secured to the support lengthwise beneath one corrugation of the undermost lapping edge portion, said one corrugation having longitudinally spaced openings in the bottom thereof, eyes projecting outward from the strip through said openings, and inwardly projecting hooks, in longitudinally spaced relation on the under side of the corresponding corrugation of the uppermost lapping edge portion, engaged in said eyes; the corrugations having said openings and hooks, respectively, being at least the second from the adjacent edge of the corresponding cover sheets.

9. An interlocking assembly for longitudinally corrugated sheet metal cover sheets on a support with adjacent, corrugated edge portions of said sheets lapping in generally matching relation, comprising a locking and retention strip secured to the support lengthwise beneath one corrugation of the undermost lapped edge portion, said one corrugation having longitudinally spaced openings in the bottom thereof, eyes projecting outward from the strip through said openings, and inwardly projecting hooks, in longitudinally spaced relation on the under side of the corresponding corrugation of the uppermost lapping edge portion, engaged in said eyes; the hooks being square, all facing in the same direction, and the eyes having transverse slots to receive said hooks.

10. An interlocking assembly for sheet metal cover sheets on a support with adjacent edge portions of said sheets lapping, comprising a locking and retention strip secured to the support lengthwise beneath said lapping edge portions of the

cover sheets, locking elements projecting outward from the strip, the undermost lapped edge portion of the cover sheets having openings through which said elements extend, and cooperating inwardly projecting locking elements on the under side of the uppermost lapped edge portion of the cover sheets engaged in locking relation with said outwardly projecting elements; the strip being flat, and said outwardly projecting elements being eyes struck out from said strip.

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