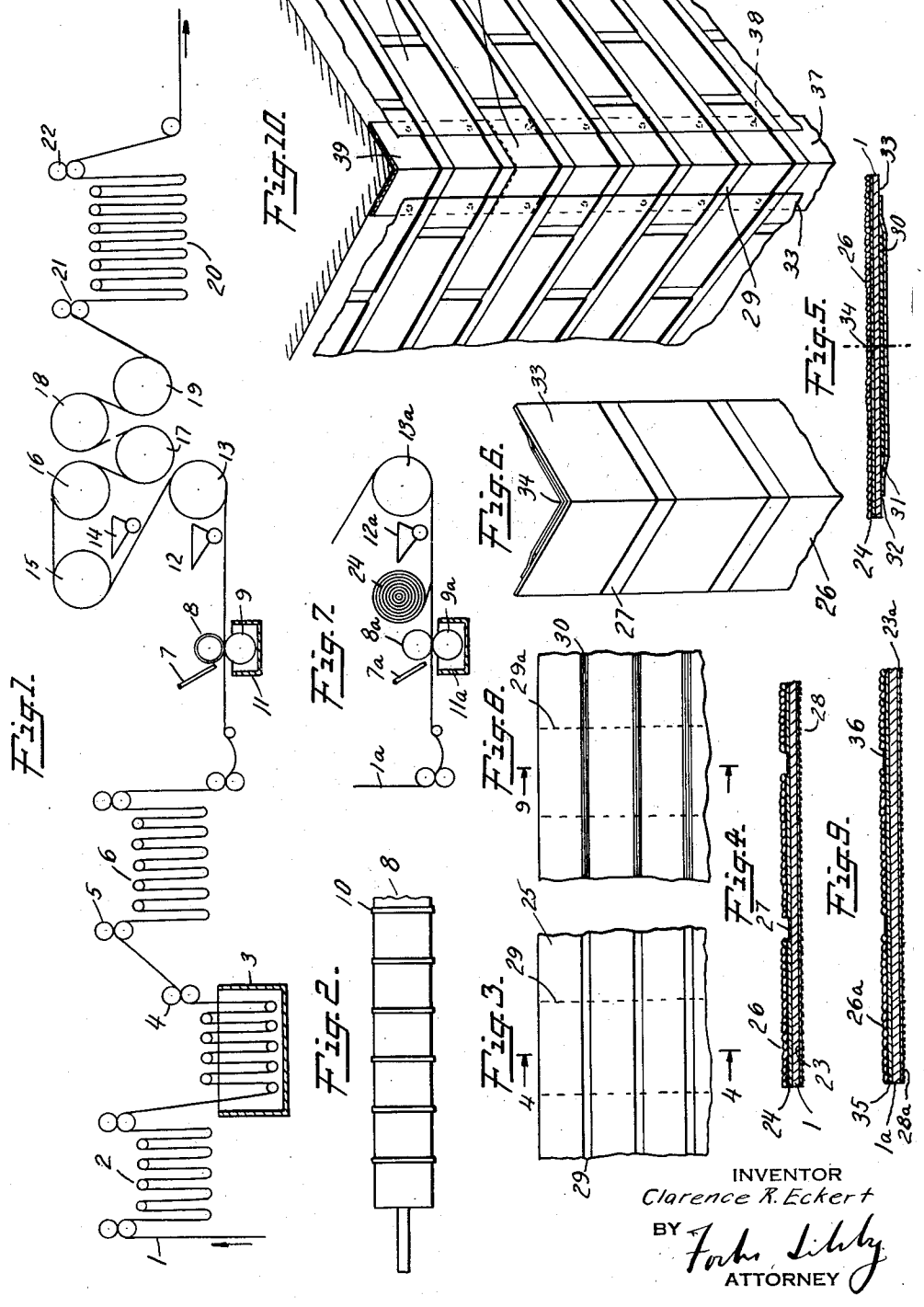
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SIDING MATERIAL

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SIDING MATERIAL

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This invention relates to improvements in siding materials and is especially concerned with the provision of a novel siding corner strip of particularly advantageous construction and processes of making such corner strips.

In the employment of shingles as siding for structural purposes, it is exceedingly difficult to lay the shingles so as to properly protect the corners of the structure. If the shingles are bent to conform with the angles of the surface, cracking may result. If the shingles are merely brought to a corner, the edges of the shingles abutting the corner are exposed to possible injury, and, unless some type of additional sheathing is employed, leakage is apt to occur. If a protective corner piece is employed, this results in an unsightly appearance and reduces the decorative effect of the shingle type of siding. This is especially true where the shingles are designed to simulate brick construction. In such a case the use of a conspicuous protecting strip completely destroys the effect which it is desired to produce.

According to the present invention I have provided a corner strip of such character that it fully protects the corner to which it is applied and at the same time blends with the shingle of the siding to carry out the decorative effect desired. My corner strip is durable, is made from materials readily available to the manufacturer of composition shingles, and is easily and inexpensively manufactured.

The corner strip of my invention comprises a stiff reinforcing member having affixed to one side thereof a layer of felt impregnated with bituminous material or other protective impregnating material which is covered with an additional layer of adhesive coating material. This layer is surfaced with granular material in certain portions, other narrow portions being left unsurfaced, giving to the strip, when placed, a pleasing appearance.

The corner strip is conveniently prepared from felts or other fibrous material commercially available for roofing materials by impregnating in customary manner the felt to be employed. The felt to be used for the outer layer may be then coated with bituminous material and to this bituminous coating granular material may be applied in such a manner that it adheres only to portions of the surface. This result may be accomplished by applying a very thin bituminous coating to certain areas of the felt, and a relatively thick coating to the remaining areas. Granular material, such as crushed slate, stone, etc. may then be applied to the entire coated surface. Pressure may be applied, if necessary, to partially embed the granules in the thickly coated portions of the felt. Due to the fact that the thin coating does not have sufficient adhesive properties to retain the granules on the thinly coated portion, the granular material will merely rest loosely and may be removed by simply inverting the felt sheet and allowing the loose granules to fall therefrom.

Instead of using this method to obtain the desired surfacing, the entire upper surface of the impregnated felt may be uniformly coated with the bituminous composition. Tissue paper or other non-adhesive protective material may then be applied to those portions to which the adhesion of granular material is not desired. The granular material may then be applied to the entire surface, and the excess removed by inversion as in the first method.

The other face of the felt strip may be coated with bituminous composition simultaneously with the above mentioned coating process, or before or afterwards. The coating may be of the same or different material and may be applied uniformly to this surface. Upon completion of the fabrication of the coated and surfaced felt, it is cut to the desired size for use as corner strips. A sheet of reinforcing material may then be firmly affixed to the back of the coated and surfaced felt material. A bituminous or other cementitious binder may be satisfactorily used for this purpose. The reinforcing member is preferably about the same length as the felt, but somewhat narrower, and is positioned so that its longitudinal median line substantially coincides with that of the felt. An impregnated felt strip, which is to constitute the back or unexposed side of the corner strip, may then be cemented to the metal side of the strip. This felt layer is preferably sufficiently wider than the metal strip to completely cover it and provide the reinforcing member with a protective sheathing which is substantially impervious to water and other injurious substances carried by the atmosphere.

The resultant laminated product is bent along the longitudinal median line to conform with the corner for which it is to be employed. Ordinarily it will be bent so that the unexposed side forms an approximate right angle.

The reinforcing strip is preferably made of sheet metal of considerable stiffness so that it is not subject to deformation by handling. Instead of sheet metal, expanded metal may be used for

the reinforcing strip, or other material which will impart to the product a sufficient degree of stiffness yet can be bent without breaking, may be employed if found desirable. When iron or steel is used as the reinforcing material, it may be galvanized or plated, if desired, but such protective treatments are not essential since the metal is well protected by the bituminous material.

For bending the strips to the desired angle any suitable device may be employed, such for example, as the brakes commonly used for sheet metal working.

In order that my invention may be more fully understood, I have illustrated a preferred embodiment thereof in the accompanying drawing. In this embodiment the corner strips of my invention are adapted for use with strip siding applied to simulate a brick and mortar construction and the corner strips, when used in this manner, simulate the corner bricks spaced apart by mortar.

In the drawing:

Fig. 1 shows somewhat schematically one method of preparing the upper felt layer to be used in the corner strips of my invention;

Fig. 2 is a fragmentary front elevation of the coating roll **8** of Fig. 1;

Fig. 3 is a fragmentary plan view showing the surface of the felt treated according to the method shown in Fig. 1;

Fig. 4 is an enlarged section on line **4—4** of Fig. 3;

Fig. 5 is a cross section of the assembled strip prior to bending it into the final shape for use;

Fig. 6 is a fragmentary view of the bent corner strip prepared for use on a 90° outside angle;

Fig. 7 shows an alternative method of coating and surfacing the upper felt layer in which strips of tissue paper are applied to portions of the felt to prevent adhesion of granular material to these portions;

Fig. 8 is a fragmentary plan view showing the surface of the felt with paper strips applied thereto according to the process of Fig. 7;

Fig. 9 is an enlarged section on line **9—9** of Fig. 8;

Fig. 10 shows a corner formed by two vertical walls and having the corner strips of my invention such as shown in Fig. 6 applied thereto, the walls being sided with shingles adapted to simulate a brick and mortar siding.

With particular reference to Fig. 1 of the drawing, a strip or band **1** of felt material is continuously supplied to festoon rack **2** from convenient supply means, such as felt rolls or felt making machine. From the festoon rack **2** the band of felt travels in a regulated manner through an impregnating tank **3**. Tank **3** is supplied with a bituminous, such as asphalt or other impregnating composition with which the band of felt is intimately and repeatedly contacted. The tank may, if necessary, be heated to increase the fluidity of the impregnating composition. In the impregnating tank **3** the band of felt absorbs sufficient bituminous material to completely and thoroughly saturate it. The felt band **1** then passes to squeeze rolls **4** where excess of impregnating composition is removed. From the squeeze rolls the band is carried by means of driving rolls **5** onto festoon rack **6** where the impregnating composition is given time to thoroughly saturate the felt and to subsequently dry thereon.

The felt band, thus impregnated, next passes in proximity to a delivery spout **7** through which bituminous coating composition is delivered to the surface of the felt. Immediately after receiving this coating, the felt passes between two coating rolls **8** and **9**. The roll **8** is provided with annular bands **10** which produce longitudinal lanes having a thin coating thereon. The width of these lanes is governed by the width of the corresponding bands **10**. The thickness of the coating is controlled by the distance between rolls **8** and **9** and by the distance which bands **10** extend from roll **8**. This latter distance is made such that thin coating bands are formed, the thinness being such that granular material will not adhere thereto. Coating roll **9** dips in a tank **11** in which there is maintained a supply of bituminous coating material, such as asphalt or other waterproof coating composition similar to that delivered by spout **7**. Tank **11** may be so located that surplus coating material applied to the upper surface of the felt overflows into this tank. The roll **9** applies the coating uniformly to the back or underside of the felt.

The felt thus coated passes beneath a distributing device **12** where the upper surface is showered uniformly with granular material, such as crushed slate, rock or other surfacing material. The granular material is partially embedded in the thickly coated portions of the surface by the roll **13**, the tension on the felt band supplying sufficient pressure for this purpose. In passing over roll **13** the sheet or band is inverted and the granular material distributed on the thinly coated lanes which, due to the thinness of the coating on the lanes, does not adhere thereto, falls by gravity back into the distributing device **12**.

The back of the felt band is coated with mica or marble dust by means of the distributing device **14** which is similar to that used for applying the granules to the upper surface. The mica so applied prevents the felt from adhering to the driers **15** to **19** over which the sheet is next passed. The surfaced sheet then passes over the drying and calendering rolls **15—19**, and thereafter over the festoon rack **20** to which it is carried by driving roller **21**. From the festoon rack **20** the surfaced felt band is carried to the cutting device (not shown) by means of the driving rollers **22**, where it is cut transversely into narrow strips.

With special reference to Figs. 3 and 4 of the drawing which are respectively a plan and a transverse sectional view of a fragment of the finished felt strip, it will be noted that the felt band **1** of impregnated felt is provided with a bituminous coating **23** on one face and a bituminous coating **24** on the other face. The coating **24** on the areas **25** is relatively thick and granular material **26**, preferably of brick color, is partially embedded therein and adheres firmly thereto. Separating the thickly coated areas **25** are lanes or stripes **27** thinly coated with bituminous material. Since the thinness of the coating on stripes **27** is such that granular material cannot become embedded therein, the granular material does not adhere thereto and the bituminous material is exposed to view, thus presenting the appearance of dark mortar lines between adjacent bricks. The bituminous coating layer **23** has a backing **28** of mica, marble dust; or the like to facilitate manipulation of the strip in subsequent steps of the process. In Fig. 3 dashed lines **29** indicate the path of the cutters and illustrate the manner in which the felt band is cut transversely into narrow strips.

In accordance with one embodiment of this invention, the surfaced base is cut transversely into strips about 5½ inches in width and a length

equal to the width of the base which in usual practice is 36 inches. To the back of each strip of the felt thus prepared a cementitious material, for example a bituminous cement, is then applied. A reinforcing strip **30**, preferably of metal, is affixed to the surfaced felt strips by the cementitious material. The metal strip **30** may be substantially the same length as the felt strip, but sufficiently narrow so that when applied to the felt strip with its longitudinal median line coincident with that of the felt, there will be a substanial margin of felt exposed on either side of the metal.

Instead of employing a metal reinforcing strip of the same length as the felt strip, I may advantageously employ a strip of metal shorter than the felt so that a margin remains at one end of the corner strip to constitute a lap edge which will form a tightly fitting joint when placed over the end of the next preceding corner strip. If a margin of 1 to 2 inches is provided, a very satisfactory lap joint can be produced.

A second layer of felt **31** impregnated with bituminous material similarly to the surface strip, is then applied by means of a cementitious binder to the metal reinforcing strip **30** so as to completely cover the same. This strip is preferably sufficiently wide so that it extends beyond the metal strip on each side and forms a union **32** with the felt surface strip along the margins **33**. The corner strip thus prepared may then be bent along its longitudinal median line **34** to a suitable shape to adapt it to the corner for which it is to be used. The bending operation may be performed on any device adapted for the bending of sheet metal, such as a tinsmith's brake.

The corner strip prepared in the above manner may be fitted to the corner of a building or other structure and fastened by means of nails through the margins **33** which are not covered by metal, thus avoiding the necessity of driving the nails through the stiff metal reinforcing strip and permitting the use of the ordinary shingle nails commonly employed for fastening unreinforced shingles. It will thus be seen that the bent strip, when properly applied, will resemble a brick corner, the faces **26** simulating individual bricks spaced apart by black mortar lines **27**.

In Fig. 7 I have shown an alternative method of preparing the siding corner strips of my invention. According to this alternative method the band of felt **1a**, impregnated and dried as in the previous case, passes in proximity to the spout **7a** through which bituminous coating composition is delivered to its upper surface. It next passes between coating rolls **8a** and **9a**, so spaced that a thick coating is applied to the upper surface and a relatively thin coating to the lower surface. In this modification of my invention the coating roll **8a** is not provided with annular bands, but comprises a substantially uniform cylindrical surface, and the coating applied to the upper surface of the felt is accordingly of uniform thickness.

Strips of paper, such as tissue paper or other uncementitious fabric, are then applied longitudinally of the felt band so as to form lanes thereon. After the application of these strips of paper the felt passes beneath the distributing device **12a** where it is uniformly showered with granular material. It then passes to the roll **13a**, which partially embeds the granular material in the exposed portions of the coating composition. The felt band is next inverted, as in the previous case, and crushed material which lies on those portions of its surface covered by the paper strips, falls therefrom by gravity back into the distributing device **12a**. The felt is then subjected to the same treatment as in the previous embodiment.

In Figs. 8 and 9 there are shown respectively a plan view and a transverse section of a fragment of the surfaced felt strip before the cutting operation. The impregnated felt base **1a** is coated on the lower or back-face thereof with bituminous material **23a** and mica **28a** in the same manner as in the first embodiment. The upper face thereof is thickly and uniformly coated with bituminous coating composition **35**. Spaced longitudinal bands or lanes thereon are provided by the tissue paper strips **36**. The areas between these bands are covered with a surfacing of granular material **26a** partially embedded therein and firmly adhering thereto. The dashed lines **29a** indicate the lines along which the material is subsequently to be cut.

In using the corner strips of my invention the strips are applied to the corner from the bottom upwardly, each strip lapping the previous one so that rain, snow, etc. will not find their way between adjacent corner strips. Shingles are then laid upon the wall in the ordinary manner, lapping the corner strip sufficiently, as indicated in Fig. 10, to form a weather proof joint. When the siding is of the type adapted to simulate brick, mortar lines of the corner strips and those of the shingles are correlated so as to accomplish the desired effect. In Fig. 10 it will be noted that the lower corner strip **37** is applied first by means of shingle nails **38** along the margins **33**. The strip **39**, next above this corner strip, is then applied overlapping strip **37** to form a weather tight joint **40**. Siding shingle strips **41** are then applied lapping the margins **33** and with their mortar lines **42** contiguous with the mortar lines **29** of the siding strips so that the completed wall has the appearance of a brick and mortar construction.

I claim:

1. A corner strip comprising a longitudinal strip of fibrous material impregnated with waterproofing material and having a waterproof coating on one side thereof, spaced portions of said coating having embedded therein granular material and other portions of said coating being substantially free from embedded granules, a reinforcing strip substantially narrower than said strip of fibrous material affixed to the other side of said strip of fibrous material in such a manner that the longitudinal median lines of said strips are substantially coincident, and a second fibrous strip substantially wider than said reinforcing strip affixed to and completely covering the reinforcing strip and extending beyond each side of the reinforcing strip and bonded with the first mentioned strip of fibrous material so as to provide in conjunction therewith a sealing lap confining the marginal edges of said reinforcing strip.

2. A corner strip having the sides thereof extending at an angle to each other, said strip comprising a longitudinal strip of felt impregnated with bituminous material and having on one side thereof an additional bituminous coating, said coating having spaced narrow transverse bands thereof substantially free from embedded granules and simulating mortar, the portions of said coating between said bands being covered with

granular material simulating brick, a metal reinforcing strip attached to the other side of said felt strip, said metal strip being narrower than the felt strip, a second felt strip affixed to the metal strip, the second felt strip being at least as wide as the metal strip but narrower than the first felt strip, the felt strips and the metal reinforcing strip being joined in such a manner that their longitudinal median lines are substantially coincident.

3. A corner strip comprising a longitudinal narrow strip of felt impregnated with bituminous material and having on one side thereof an additional bituminous coating, said coating having spaced narrow transverse bands thereof substantially free from embedded granules, the portions of said coating between said bands being covered with granular material, a metal reinforcing strip attached to the other side of said felt strip said metal strip being narrower than the felt strip, a second felt strip affixed to the metal strip, the second felt strip being at least as wide as the metal strip but narrower than the first felt strip, the felt strips and metal strip being united to form a composite strip and being positioned with their longitudinal median lines substantially coincident, said composite strip being sharply bent along its longitudinal median line so that the sides thereof extend at an angle to each other.

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