

July 14, 1931.

M. L. CATON

1,814,291

WOODEN BUILDING STRIP AND METHOD OF MAKING SAME

Filed Nov. 16, 1927

2 Sheets-Sheet 1

Fig. 1.

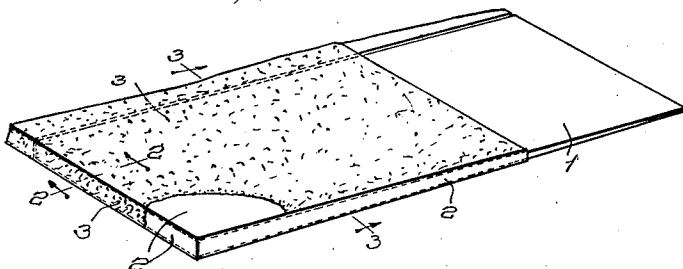


Fig. 2.

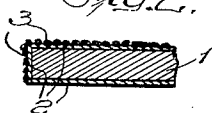


Fig. 3.

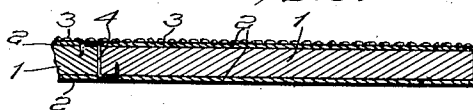


Fig. 4.

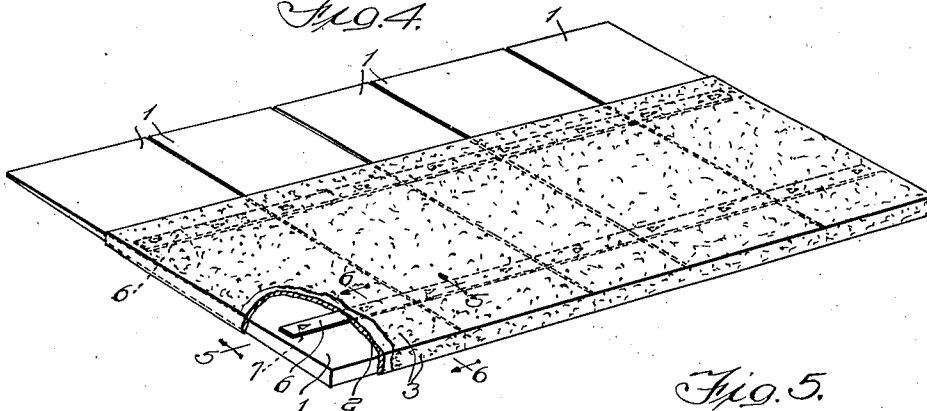


Fig. 5.

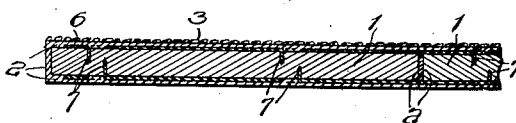


Fig. 6.

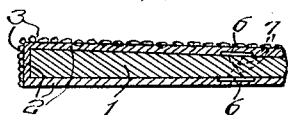
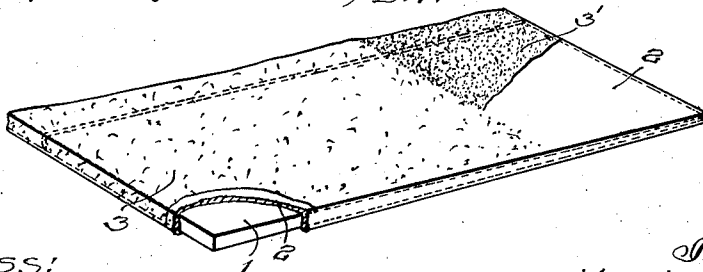


Fig. 7.



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2 Sheets-Sheet 2

Fig. 8.

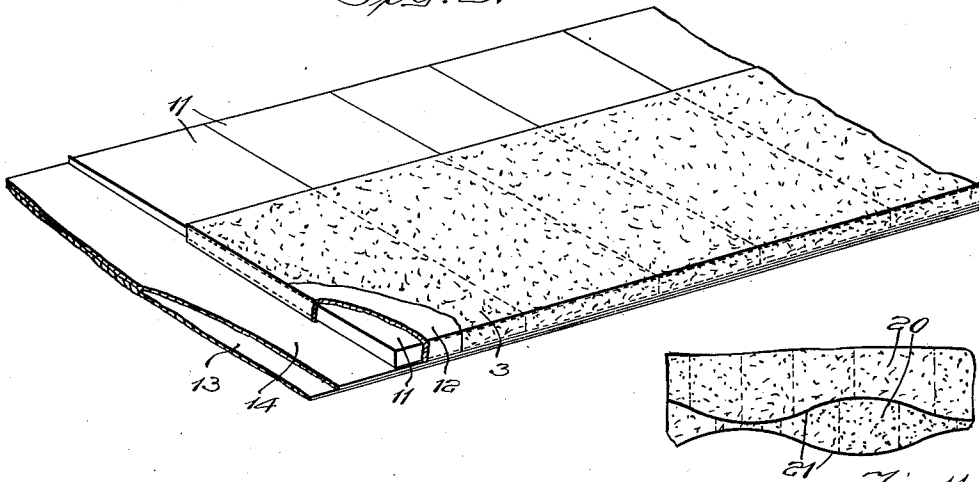


Fig. 9.

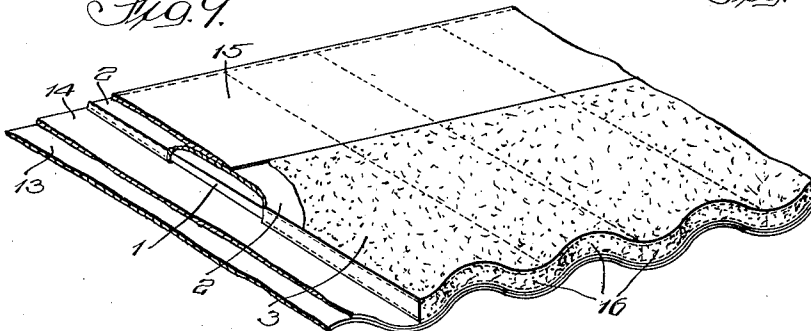
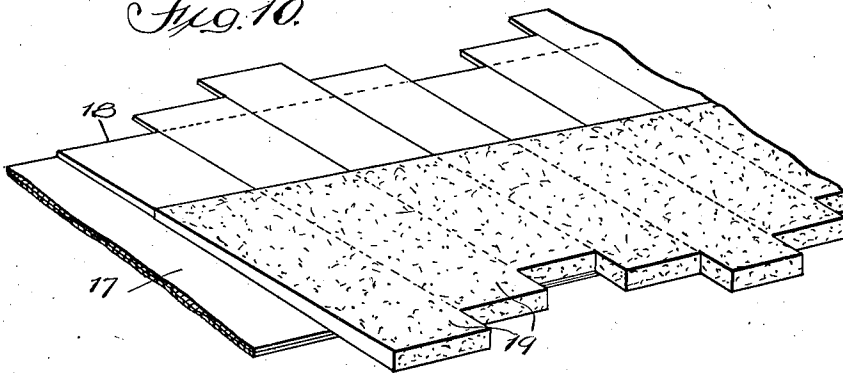


Fig. 10.



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T34

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UNITED STATES PATENT OFFICE

MAURICE L. CATON, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE PATENT AND LICENSING CORPORATION, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS

WOODEN BUILDING STRIP AND METHOD OF MAKING SAME

Application filed November 16, 1927. Serial No. 233,645.

My invention belongs to that general class of products known as building material and relates more particularly to a wooden building strip or material particularly adapted for exterior use where the same may be exposed to the weather. Treated or coated wooden shingles have been made heretofore, but insofar as I know the same have not gone into use to any extent. While they have advantages over uncoated shingles or over composition roofing in some respects, the advantages have not been sufficient to overcome the additional cost of manufacture and the cost of laying. My improved product has the advantages of all previous types and additional advantages without any of their drawbacks. In the preferred embodiment of the invention, the body part or base is of assembled wooden boards or equivalent material, wooden shingles of the conventional shape being shown for purposes of illustration. The invention has among its objects the improved method of making and the production of a product of the kind described which is efficient in use, may be inexpensively and economically constructed of inexpensive materials which may be inexpensively laid, and which generally will not have a tendency to check, warp, or split in use when exposed to the weather, and which may be used wherever found applicable. The same has as a further object a product which will be exceedingly attractive in appearance when applied, and be of a desired color or combination of colors. The same when made as herein set forth is a fire retardant and under ordinary circumstances may be considered as fire-proof, and which may be easily and conveniently laid to produce desired effects. The same will lay more or less flat, will not have the usual tendency to curl or turn up or be lifted by wind, and when properly installed will have long life and to all intents and purposes be leak-proof. In addition, it is adapted to be laid over old roofs and side walls which may require renewing, replacement, fire protection, or insulation. The insulating qualities, as will be hereinafter mentioned, are greatly improved. Many other objects and advantages of the construction

herein shown and described will be obvious to those skilled in the art from the disclosure herein given.

To this end my invention consists in the novel construction, arrangement and combination of parts herein shown and described, and more particularly pointed out in the claims.

In the drawings, wherein like reference characters indicate like or corresponding parts:

Fig. 1 is a perspective view showing a wooden shingle strip, a portion of the coating and surfacing broken away to show the construction;

Fig. 2 is a section taken substantially on line 2—2 of Fig. 1;

Fig. 3 is a section taken substantially on line 3—3 of Fig. 1;

Fig. 4 is a perspective view of another type of built up strip of shingles consisting of a plurality of individual units suitably secured together, portions being removed to more clearly show the construction;

Fig. 5 is a sectional view taken substantially on line 5—5 of Fig. 4;

Fig. 6 is a sectional view taken substantially on line 6—6 of Fig. 4;

Fig. 7 is a perspective view similar to Fig. 1, illustrating the bituminous coating applied to the entire body part;

Fig. 8 is a perspective view similar to Fig. 4, illustrating another embodiment of the invention;

Fig. 9 is a similar view illustrating another embodiment;

Fig. 10 is a similar view illustrating another embodiment; and

Fig. 11 is a view of a portion of a strip illustrating a modified contour of butt end and method of laying.

Referring to the drawings in which several embodiments of the invention are shown, it may be mentioned that preferably the body or base of my improved material or product is wood of the desired size and shape and of the particular kind of wood best suited or adaptable for the purpose. While the type of body or base is immaterial for purposes of illustration, I have shown the strip made

up of the familiar type of cedar shingles, these being comparatively inexpensive, particularly as I am enabled to use the inferior and cheaper grades of shingles. Shingles of this kind are of suitable lengths and usually of varied width, the same being tapered so as to provide a tapered or feather edge at one end and an end of greater thickness at what is known as the butt end. Narrow widths are expensive to lay and increase the number of joints. Generally the wood contains moisture or if dry when manufactured, may absorb moisture either in transit or in storage. Where moisture is present or may be acquired, I prefer to initially dry the wooden body, regardless of the size, shape or particular kind of wood, and immediately thereafter impregnate the same with a light bituminous product, creosote, oil or the like, which will fill up the pores and prevent the re-absorption of moisture. In this treatment, however, I prefer to use a substance of a viscosity which will permit it to easily, thoroughly and efficiently penetrate the wood. It may be mentioned that I have not shown herein apparatus for carrying out the methods herein described in manufacturing the product as the apparatus forms the subject-matter of a separate application, any suitable apparatus being adapted for the purpose. There may, of course, be instances where the wood is entirely free from moisture and where the further steps in the manufacture take place in the mill, and in this instance it may not be necessary as an initial step to dry the shingles or to saturate or impregnate the same to prevent absorption of moisture. But even then it is often desirable and I generally prefer to so initially treat them.

Assuming that the wooden shingles or boards are in satisfactory condition as regards being free of moisture, I apply a coating to the same of an appreciable thickness. I have found satisfactory a coating of bituminous matter such as coal tar, pitch or asphalt compounds, or other equivalent material which constitutes a protecting coating, as well as a binder. This may be done before or after the shingles have been assembled in strip form as will be hereinafter more particularly explained, the time of assembly depending on the manner in which they are secured or cemented together. This coating may cover the entire shingle or board, faces, side edges and ends, or it may cover only such portions thereof as desired, it being preferred to coat all surfaces that may be exposed or open to the air and weather and between the assembled shingles.

Over this binder or coating or such portions thereof as may be desired, I then apply a face coating or surfacing, and for this I prefer to use a mineral matter such as crushed slate or granite or stone, sand pebbles or slag of the desired size of particles and

color. If there are any exposed or unsurfaced portions of the bituminous or like coating, it is generally preferred to so cover or protect this that in handling or in storage under various temperature conditions the coating will not soften up and the strips adhere to each other. Of course, after the same is installed, this is not material as the more they adhere or stick together the better the finished product will be. To so cover the exposed portions of the bituminous material and prevent sticking, I have found that talc, mica or other substances may be employed, or paper or other separators may be placed between them.

In the drawings, I have illustrated several embodiments of the invention and arrangements of boards assembled together to form a strip which is substantially a unitary structure. Referring first to Figs. 1, 2 and 3, 1 represents a wooden shingle suitably treated, if necessary, to remove moisture and prevent its further admission. In these figures two shingles are shown connected together by a fastener 4, the same also serving as a spacer between the two. Obviously one or more may be employed at each joint and any equivalent device may be used. Applied to the shingle as shown in this instance, over the top and bottom faces, edges and butt end, and between the shingles, is a coating 2 of asphalt or other bituminous product or the like which is of an appreciable thickness and which encloses that portion of the base or body which is ordinarily exposed to the weather as well as fasteners 4. Over the part that is exposed to view at least, I apply a surfacing 3 which, as before mentioned, may be of a mineral substance, a number of materials being enumerated. I prefer to apply the surfacing to the shingle while the coating 2 is still warm or hot and before it has set to any appreciable extent. Generally I apply pressure so that the facing is of uniform thickness without lumps or humps, the pressure also forcing or embedding the particles of the surfacing into the coating so that they are firmly held. Where humps are desired for ornamental effect, the same may be left. This coating is applied at least to the top face and the butt end and may be in some instances applied to the exposed side edges. While in most cases I do not prefer to apply it to the under-face, this is a matter of preference. The under-face if not so surfaced but covered with the coating 2 may be covered with talc or the like so that in handling or shipping they will not stick together as previously mentioned. Obviously these large shingles or strips may be laid, similar to an ordinary shingle, with the coated and surfaced butts exposed to the weather.

In Fig. 4, I have illustrated a modified fastening means for securing several shingles

1 together to form a strip. In this figure, 1 represents a shingle provided with the coating 2 and surfacing 3. The several shingles may be secured together by suitable strips 6 of metal or its equivalent, there being one or more on the top or one or more on the bottom or on both top and bottom. It may be mentioned that if metal straps are used, these may be applied in advance of the coating so that they are entirely enclosed and protected from the weather and are also concealed. They may be applied by means of tacks, nails or the like, but in the form illustrated they are provided with integral struck out prongs 7 which may be forced into the material, serving the same purpose as nails. Obviously strips so constructed may be made as long as desired and either applied full length or the same severed to give desired lengths. In this case, as will be noted by reference to Fig. 5, the coating 2 may flow between the shingles, serving as a binder, to hold them together, as well as sealing the joint between them. Obviously the coating and surfacing insofar as the exterior is concerned, affords full protection to the shingles. If the shingles are not brought tight together but slightly spaced, the joints may be apparent and afford a pleasing appearance.

In Fig. 7, I have illustrated shingles similar to Fig. 1, except in this instance the coating 2 encloses the entire body, the surfacing 3 being shown as arranged similar to that shown in Fig. 1. I have illustrated at 3' how the talc or other substance may be applied to coating 2 to prevent the shingles sticking together prior to application. Obviously there would also be talc on the underface. The strip shown in Fig. 4 or in the other figures hereinafter described may be made up of shingles similar to that shown in Fig. 7 with the feathered edges all coated if so desired.

In Fig. 8 I have shown shingles or bodies 11 which are substantially similar to those shown in Figs. 1 or 7. In this case 13 represents a sheet of paper or other suitable material, 14 the binder applied to the sheet, the shingles being applied thereto and secured to 13 by the binder. Any one of the various kinds of paper that may be found suitable for the purpose may be employed. The top face and butt edge are coated with a coating 12 corresponding to 2 and the surfacing 3. Ordinarily between the shingles only the bituminous binder is present, but the outside edges of the strip may be surfaced if so desired. Obviously the extent of coating the top face of the shingles or applying the surfacing may be as preferred as I previously mentioned. In making up this style of strip, I ordinarily prefer to apply a coat of the desired thickness of the binder 14 on the sheet 13, thence applying the bodies or face

members 11, followed by the enclosing coat 12. The coating 14 binds the bodies to the sheet and the coat 12 flowing between the bodies not only binds them together but forms a bond with the coating on the sheet. Obviously, the coating 12 may be applied to the entire top face if so desired. The next step is the application of the mineral surfacing coating 3. Pressure is preferably applied so that the particles of the surfacing coat are embedded in the coat 12. Of course, in some instances the surfacing and coating 12 may be applied simultaneously; but this is ordinarily not preferred. It may be mentioned that while the body members are shown comparatively close together, they may be slightly spaced from each other, this being particularly desirable if the two coatings 12 and 3 are applied at the same time. While ordinarily the binder or coats 12 and 14, together with the sheet 12, are sufficient to hold the several bodies in the strip form, fastening means similar to that previously described or its equivalent may be additionally used if preferred. If desired to have a combination of color effects, as for example, alternate red and green in a single strip, it may be preferred to so coat and surface the individual bodies prior to arranging and securing them together.

In Fig. 9 I have shown a somewhat similar arrangement except there is applied a second sheet 15 on the top face at the feather edge of the strip. This figure also illustrates how the butt edges may be sawed or cut in fanciful fashion or otherwise formed to produce a pleasing effect. The particular design shown is merely for illustration, it being obvious that it may be varied if desired. The trimming of the butt end would preferably take place at an early step in the manufacture, so that the coating would cover the end as formed. In some instances the bottom sheet might be omitted and a coated and surfaced sheet be applied to the coated top face of the bodies.

In Fig. 11 I have illustrated how the strips 20 may be formed with an irregular shaped butt edge 21 so that when the strips are applied a thatched effect is secured. In Fig. 10, 17 represents a strip, for instance, paper, and in this case the shingles are arranged staggered so that the butts 19 are not in alignment. The opposite edges may be sawed or trimmed straight if so desired. In other respects this strip may be constructed similar to the strips shown in the preceding figures. Obviously, very striking effects may be obtained in installing these types without increased expense in laying.

It is seen from the preceding that the product may be made in the form of a strip made up of a plurality or desired number of shingles or boards to give a unitary strip of a desired size and with a desired contour of

butt. At the present date, wooden shingles and even siding or boards are found objectionable and even restricted in their use in many communities owing to the fire hazard. With my improved product, the same does not constitute a fire hazard as while the wooden body or base affords all the advantages of the wooden structure which may not be present in substitutes, by constructing the same with the coatings and surfacings shown the objectionable features and hazards are overcome. Obviously the coatings and surfacing render the product resistant to fire or sparks and yet give an ornamental effect which it is not possible to secure with the usual wooden shingle or siding or many other types of coverings. The same is durable and of long life, and obviously having been once installed will not require painting or other treatments to preserve the wood. Many different colors may be employed, this depending upon the coloring of the surfacing coating so that permanent ornamental and decorative effects not heretofore possible to obtain with wooden boards or the like are secured. The elastic bituminous or like material which encloses the wooden base or body will eliminate or at least cover any cracking, checking or warping that may occur in the wooden body and prevent or retard rotting and decaying. Likewise the insulating characteristics of the wooden base are improved, thereby resulting in increased efficiency. When ordinary shingles or boards are damp or full of moisture, the insulating value is reduced, hence with my improved product, which cannot absorb moisture, the wood base or body is always efficient as an insulator. Where a sheet is provided as a backing, its insulating qualities are further increased. Obviously the most suitable type of paper or other material may be employed to give the highest insulating efficiency possible. The same when made up in strips may be laid in larger units than possible with ordinary boards or shingles, thereby reducing expense of laying, or laid in art designs without increasing the laying cost. The great reduction in cost of labor for applying to either roof or side walls in new or old construction is one of the prime objects of this invention. Likewise it is possible to use a multiple of small or narrow widths or lengths of products or poorer quality of the same which are now of little value owing to the inferior quality and the great cost of labor for applying. There is, therefore, a material saving in material cost and in labor.

As mentioned before, I have not considered it necessary to illustrate herein suitable apparatus or machines for manufacturing the product as these do not constitute a part of the present invention. In the claims herein I refer to a "filler" which I wish to be understood as any filler suitable for the purpose

of impregnating the wood, and where I refer to a "coating" I wish also to be understood as a coating of any suitable material and whether applied over all or only a portion of the faces, edges or ends. I also desire where I use the word "surfacing" to be understood that any mineral or like product may be employed. Where I refer to a "wooden base" or "wooden body" or shingle, I wish to be understood as including any wooden body or base regardless of the kind of wood or whether the same be tapered or wedge-shaped or otherwise shaped, and also regardless of how the parts may be secured together or whether the product is to be used on the roof, walls or other places.

Having thus described my invention, it is obvious that various immaterial modifications may be made in the same without departing from the spirit of my invention; hence I do not wish to be understood as limiting myself to the exact form, construction, arrangement and combination of parts herein shown and described or uses mentioned.

What I claim as new and desire to secure by Letters Patent is:

1. A method of making a strip of building material consisting in applying a bituminous or like material to a sheet of paper, thence applying a plurality of bodies thereon, thence trimming the bodies at one end and thence applying a heavy coat of bituminous material to the top face of the strip and flowing the same between the bodies to the sheet below.

2. A method of making a strip of wooden building material consisting in applying a bituminous or like material to a sheet of paper, thence associating a plurality of shingles therewith with slight spaces between them, thence trimming the shingles to a desired contour at one end and thence applying a heavy coat of bituminous materials to the exposed face and ends of the shingles and between the shingles to the sheet below, thence applying a finishing coat of mineral particles of a desired color and embedding the same in the heavy bituminous coating, thence applying means to the exposed bituminous material coating to prevent strips adhering to each other prior to installation.

3. A building strip comprising a plurality of wooden members, a substantially rigid metallic member having struck up portions engaging each of said wooden members for retaining them in spaced relation, and a coating of water repellant material over and between said wooden members and covering said spacing member.

In testimony whereof, I have hereunto signed my name.

MAURICE L. CATON.