Feb. 23, 1960 O. G. LARSON ET AL 2,925,631

COVERING FOR THE INTERIOR SURFACES OF BUILDINGS AND METHOD OF APPLYING SAME

Filed May 17, 1956

2 Sheets-Sheet 1

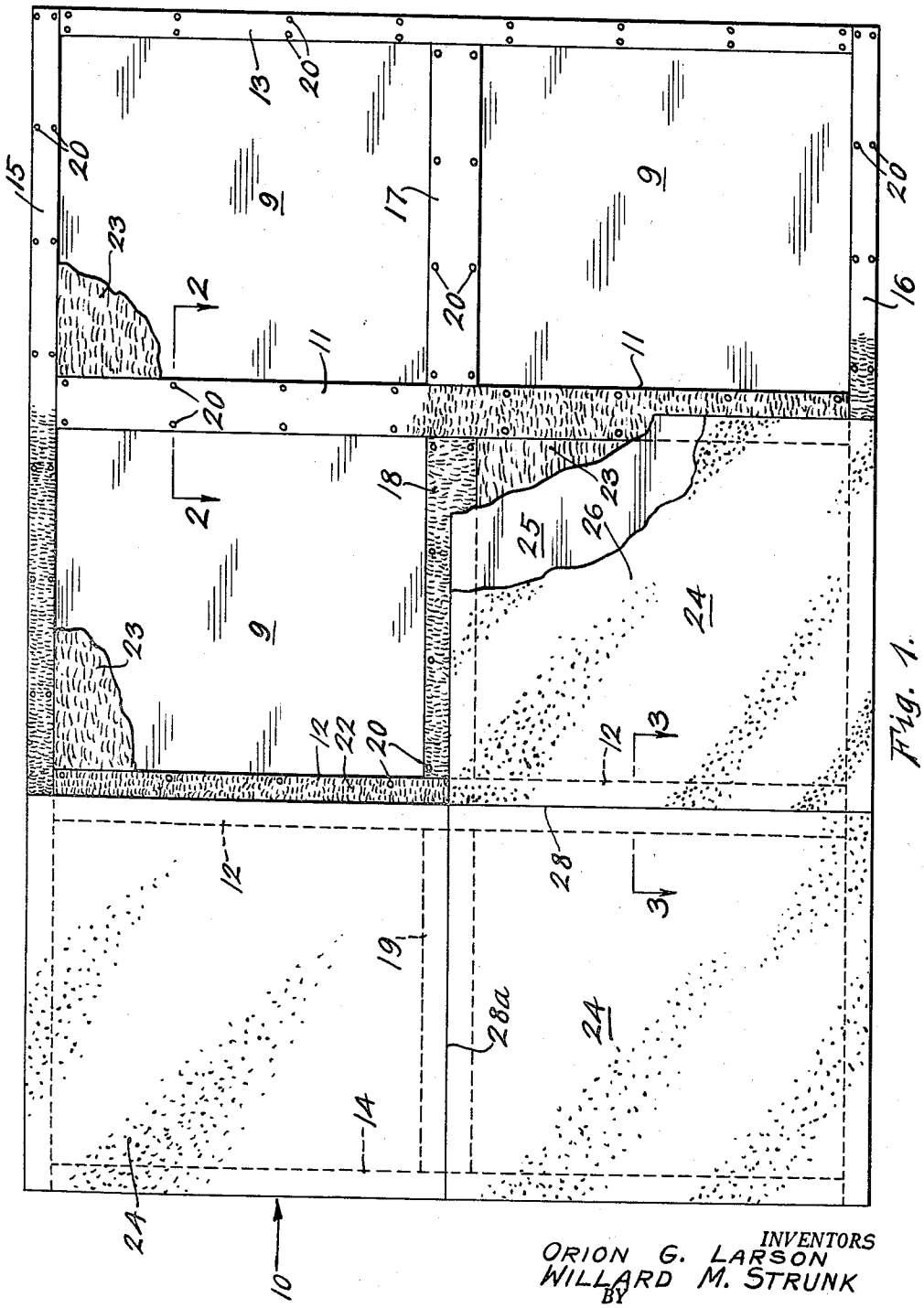


Fig. 1.

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2 Sheets-Sheet 2

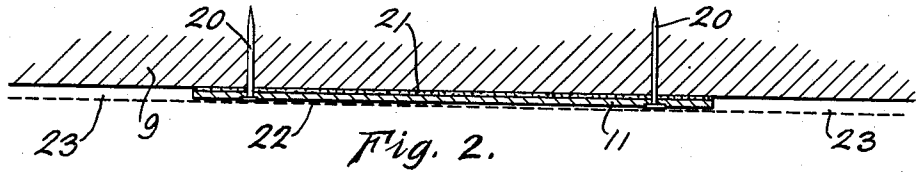


Fig. 2.

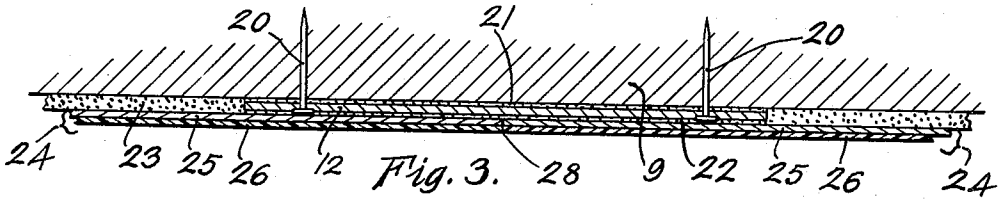


Fig. 3.

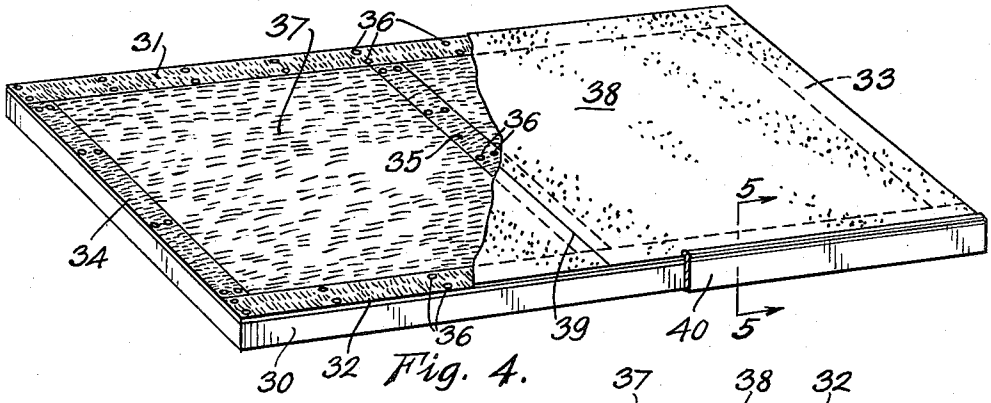


Fig. 4.

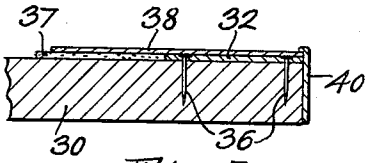


Fig. 5.

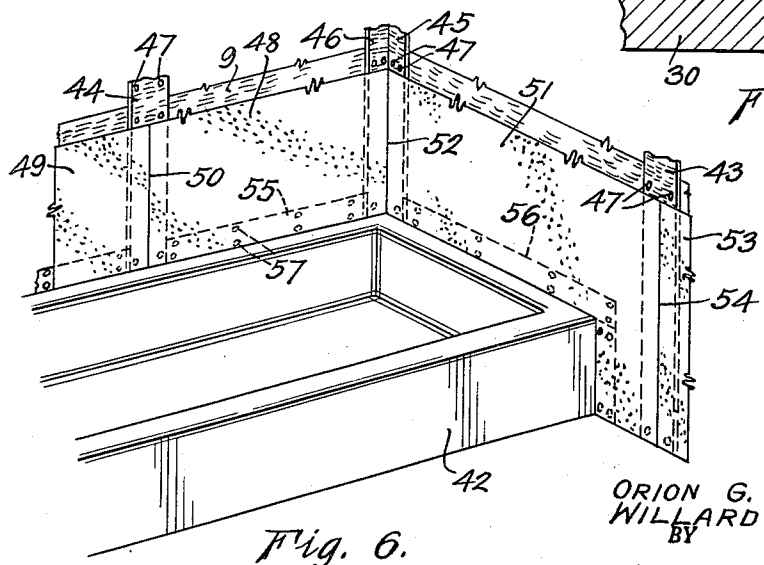


Fig. 6.

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COVERING FOR THE INTERIOR SURFACES OF BUILDINGS AND METHOD OF APPLYING SAME

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9 Claims. (Cl. 20—15)

Our present invention relates to a new and improved covering for the interior surfaces of buildings and to a method of applying the same. While our covering and method have to do particularly with the covering and ornamenting of surfaces within a building structure, such as walls, ceiling, counters, and the like, they are equally well adapted to various other uses and may, of course, be used upon exterior surfaces which are subjected to exposure to weather because of the waterproof nature of the covering and the components used in its application.

Various kinds and types of covering material are available on the market for application either to rough walls or finished wall surfaces, such as plastered walls. Heretofore, this covering material, whether in strip or sheet form, or in the form of blocks of various shaped outlines, was usually applied directly to the supporting surface by means of adhesive or cementitious material. Since the surface was very likely to be an uneven or wavy one, which is true of most plastered upright surfaces even of small area, the covering material, when attached or applied, naturally follow the uneven or wavy surface of the wall and with some colors of the covering material, the unevenness of the wall background was even more noticeable or pronounced than before the covering material was applied. Moreover, it was virtually impossible to provide desirable flush butt-seams where blocks were attached to such uneven or irregular background surfaces. Invariably, the abutting squares had easily noticeable high and low surfaces at their seams. This was obviously objectionable since foreign matter and moisture would find their way into the uneven seams, causing deterioration and loosening of the covering material and the background supporting surface.

It is, therefore, an important object of our invention to provide a surface or covering and a method of installing or attaching the same, which have none of the objectionable characteristics of those previously known as referred to above.

Another important object is to provide a method by which a new covered surface is produced which is smooth, even, and entirely free from high and low spots at the seams.

A further object is to provide a new and improved method by which absolutely flush and smooth butt-seams are produced at the juncture of two pieces of any type or kind of covering material regardless of the unevenness or wavy condition of the under surface to which said covering material is applied; another object being to provide such flush seams which are moisture-proof and which exclude the entry of foreign particles of substances into the seams or joints.

The foregoing and other objects and advantages of the present invention will appear from the following description and appended claims when considered in conjunction with the accompanying drawings forming a part of this specification wherein like reference characters designate corresponding parts in the several views.

In said drawings:

Fig. 1 is a front elevational view of an interior wall of a building showing the application of the covering of the present invention thereto, portions being broken away for the purpose of illustrating the component parts which go to make up the covering;

Fig. 2 is a fragmentary, horizontal sectional view, somewhat enlarged, taken substantially along the line 2—2 of Fig. 1, looking in the direction of the arrows;

Fig. 3 is an enlarged scale fragmentary sectional view taken substantially along the line 3—3 of Fig. 1, looking in the direction of the arrows;

Fig. 4 is a perspective view of a representative shelf or counter showing the application thereto of the covering of the present invention, portions being broken away for the purpose of revealing component elements or parts of the structure;

Fig. 5 is an enlarged scale fragmentary vertical section view taken substantially along the line 5—5 of Fig. 4, looking in the direction of the arrows; and

Fig. 6 is a perspective view of the corner of a bathroom illustrating a portion of a bathtub and a fragment of the wall covering of the present invention applied to two walls of said bathroom.

Before explaining in detail the present invention, it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawings, since the invention is capable of other embodiments and of being practiced or carried out in various ways. It is to be understood also that the phraseology or terminology employed herein is for the purpose of description and not of limitation, and it is not intended to limit the invention claimed herein beyond the requirements of the prior art.

Turning now particularly to Figs. 1, 2 and 3 of the drawings there is shown in these views a conventional plastered wall at 9, with the improved wall covering of the present invention, indicated as a whole at 10, Fig. 1. If the wall 9 is to be covered with some suitable material, such as an ornamental laminate which has a base of metal, such as aluminum, and a covering of plastic, such as vinyl plastic, or with plastic tile of various kinds, plywood, wallboard, etc., we first attach to said wall 9, intermediate or inside, preferably four inch wide metal strips 11 and 12. These strips may be formed from aluminum or aluminum alloy of preferably .016 gauge. Before applying the intermediate strips 11 and 12 to the wall surface their back faces are preferably coated with some suitable adhesive, see, for example, Figs. 2 and 3 wherein such adhesive layer is indicated at 21 on the backs of both metal strips 11 and 12. The strips are then attached to the face of the wall 9 by holding and pressing them against the face of said wall and then affixing them permanently by the application of two rows of steel nails 20. Each row of nails is driven through the strip into the wall adjacent the longitudinal edges of such strip. If desirable, however, the metal strips may be pre-punched to provide holes for the nails. Thereafter, a roller, such as a rubber roller, is passed over the applied strip under pressure of the operator and the whole strip is smoothed out on the wall. Even though there may be imperfections, waviness, or uneven surfaces in the wall under the strip, the strip itself straightens out and remains straight or substantially flat after its application to the wall. Thus, any uneven surfaces or irregularities will not be transferred to the surface covering. At the right hand corner of the wall as viewed in Fig. 1, there is preferably applied, in like manner to the application of strips 11 and 12, a half-width sheet metal strip 13 which is attached by the use of some suitable adhesive such as that previously described, and also by the use of two longitudinal rows of steel nails 20 driven through the strip and into wall 9.

At the left end of the wall, a similar sheet metal strip 14 is attached to the face of the wall in the same manner as are strips 11, 12 and 13.

In the case of a large area or surface such as the wall indicated in Figs. 1, 2 and 3, it is desirable to use top and bottom strips and, perhaps, an intermediate strip or series of strips, such as strips 17, 18 and 19. As shown in Fig. 1, a horizontal metal strip 15 is attached to the wall at the juncture of the wall with the ceiling and is affixed thereto in the same manner as described in connection with the upright strips. A second metal strip 16 is affixed to the wall at the bottom thereof and at the juncture of the wall and floor or baseboard, as the case may be. In addition, and as indicated above, a centrally or substantially centrally disposed horizontal intermediate series of strips 17, 18 and 19 may be attached to the wall 9 in the same manner as are the other strips just described.

The application of the strips to the wall preferably occurs in sequence. For example, if the work is started at the right hand end of wall 9, the intermediate strip 11 is usually the first applied to the wall. Thereafter, the right hand strip 13 is applied to said wall. Following this the horizontal top strip 15 and the horizontal bottom strip 16 are affixed to the wall surface. Thereafter, a section of the laminate 24, comprising a base layer or sheet of metal, such as aluminum, indicated at 25 in Fig. 3, and an ornamental covering or coating 26 of vinyl plastic, is attached to the metal strips 11, 13 and 15, or if the lower right end section 24 is applied first, to strips 11, 13 and 16. It is to be understood, of course, that whereas we refer herein to the application of a laminate of metal and plastic 24 to the wall surface, other materials used for such purposes are equally well adapted for application in accordance with the present invention. Various types of plastic and other tiles are easily applied in accordance with the teachings of this invention, as are wallboard, plywood, etc.

In actual practice, after the upright strips 11 and 13 and the top and bottom strips 15 and 16, respectively, are affixed to wall 9, the space in between and bordered by the strips is coated with some suitable filling or build-up material of adhesive nature which is indicated at 23. A sufficient amount of this adhesive is applied to the wall surface so as to build such surface up substantially flush with the face of the metal strips. The outer faces of the strips are then coated with a layer of suitable contact cement 22, see Fig. 3, and the marginal edges of the laminate covering material are likewise coated on the underface with such contact cement. Thereafter the section, laminated strip or sheet of covering material 24 is applied to the treated portions of the wall 9 and pressed against the metal strips and the filling adhesive material 23 on said wall. A block of wood is then laid over the marginal edges or areas of the laminate 24 and subjected to blows from a mallet to cause the same to adhere to the wall and strips. After the laminate-adhering contact cement 22 and the adhesive material 23 set, the sheet or section of ornamental covering is held firmly or bonded in place.

If the area of the surface to be covered is of sufficient size to justify or require it, a horizontal section or strip of metal 17 may be applied to the wall between the right-hand upright metal strip 13 and the intermediate metal strip 11. If the sheet of covering material to be applied is not of suffiicient size, this will enable the use of two sections of the covering material butt-seamed or jointed over strip 17 to provide a horizontal butt-seam (not shown) between the upper and lower sections 24 of covering material.

This same procedure is usually followed for the remainder of the wall area to be covered. In other words, the second intermediate strip of metal 12 is applied to the wall surface in the same manner as described in connection with strip 11 and, if required, a second horizontal metal strip 18 is affixed to the wall surface. Thereafter, an additional length, sheet, or section of the ornamental laminate 24 is applied to the supporting metal strips so as to produce a covering for the second group of vertically disposed sections of the wall area. When applied, the laminate of the second application will abut the vertical edge of the first laminate applied so as to overlie strip 11 and provide a flush, smooth and relatively invisible upright butt-seam or joint 28. If two sections of like size are employed to cover the area from bottom to top of each wall section, an additional flush and smooth horizontal butt-joint or seam, like seam 28, will be provided over the intermediate horizontal metal strips 17 and 18.

After the second two sections of the wall have been covered, the procedure is repeated for completing the covering of the remaining area of wall 9, namely the two sections at the left of Fig. 1. In this case, as in connection with the previously covered vertically-disposed sections, an intermediate horizontal metal strip 19 may be employed to serve as a base for supporting the horizontal abutting edges of the upper and lower sections, portions or sheets of the laminate 24 to provide a continuing butt-seam or joint 28*a* which is likewise flush, smooth and relatively invisible. It is to be understood that as each successive section or piece of the laminate is applied to the wall the steps as outlined above are followed. That is to say, the metal strips have their outer faces coated wth some suitable contact cement, the surrounding edge portions of the rear surface of the laminate covering are coated with contact cement before engagement with the metal strips, and the area of the wall 9 within the metal strips is filled with the build-up adhesive material heretofore described. It makes no difference, of course, at which end of the area to be covered the work is started. The above is given merely by way of example.

It is to be understood that the width of the metal strips may vary in accordance with the particular job to be done and the wishes of the contractor doing said job. Merely by way of example, we have suggested the use of four inch intermediate strips and preferably two inch width end wall upright strips and top and bottom horizontal strips.

Moreover, it is to be understood that the number and the spacing of the base metal strips will be determined by the size of the area to be covered and the size and type of wall covering material to be used. For example, if tile of a given size is to be used as the wall covering, there may be some additional metal base strips needed in order to provide for a permanent and sealed wall covering installation. It is to be understood also that the butt-seams, indicated at 28 and 28*a* in Figs. 1 and 3 of the drawings, are flush and smooth so that they are virtually invisible and actually cannot be detected by the passage of the fingers over said seams or joints. Prior to our present invention, the production of such flush seams or joints heretofore has not been achieved. That was due largely to the fact that the tile or other covering material, in pieces, sheets, or sections, was laid directly upon the wall surface with the mere interposition of a thin coating of some suitable cement or adhesive material which was relied upon to bond the material to the surface. Obviously, the seams or joints were not flush; nor could they be on uneven or even slightly wavy surfaces.

While we have described above the application of the material and the carrying out of the method constituting the present invention in connection with interior walls of a building, it is to be understood that the laminate covering material mentioned, or any other suitable covering material applied in accordance with the present method, may be used to cover the ceiling of a room; or it could easily be adapted for use as a floor covering. Moreover, the use of the present invention is not limited to interior work but is equally well adapted for outside weather-exposed surfaces as well.

Another of the many uses of the present invention is illustrated in Figs. 4 and 5 of the drawings. In these views, there is shown a counter or work-surface member, such as one in a kitchen adjacent the sink. Herein, the counter is indicated as a whole at **30**. It is provided, as shown, with an inner longitudinal metal strip **31** along the wall side of the counter, an outer edge or front longitudinal metal strip **32** along the front edge of the counter, and with a right-end transverse metal strip **33** and a left-end metal strip **34**. There is also provided an intermediate transverse metal strip **35** applied and affixed to the top of the counter, or other relatively flat and horizontal surface. It is to be understood that these strips are coated on their back surfaces with some suitable adhesive and are fixed to the base or counter in the same manner as are the metal strips of the preceding views. To assure their permanent installation, the metal strips are each firmly held to the counter by means of double rows of steel nails **36**. After the strips have been applied and nailed in place and rolled under pressure to make a perfectly smooth base surface for the laminate **38**, the adhesive filling or build-up material **37** is applied to the top surface of the counter within the metal strip-framed area. After the exposed surfaces of the strips are coated with contact cement, the back surface of the laminate at its surrounding edge portions is also coated with contact cement. When the contact cement becomes slightly "tacky" the laminate is applied to the thus coated metal strips. The application of pressure in some suitable and desirable manner to the laminate will suffice to insure a smooth, level surface. Where two pieces of the laminate **38** are employed, there will be, of course, provided a butt-seam or joint such as that indicated at **39** in Fig. 4. This butt-seam is flush and smooth and overlies substantially the center of the intermediate metal strip **35**. After the application of pressure along the seam, it becomes substantially unnoticeable and cannot be detected or felt by the touch of fingers moved over or across such seam. If desirable, and to provide a neat and trim finish for the newly-covered counter **30**, an edge molding strip **40***a* may be applied. This strip may take any desired form, such as an extruded aluminum strip which is readily available in the open market for such uses.

The covering assembly or material and the method of applying it to various surfaces and which constitute the present invention is well adapted for use in connection with the covering of bathroom walls, for example. Such use or application and the carrying out of our method in this connection are illustrated in Fig. 6 of the drawings. In this view, **42** represents a conventional bath tub. In accordance with our present invention and in covering the walls adjacent the tub shown, a sheet metal base strip **43** is applied to the wall in the manner described in connection with the preceding forms of the invention. This strip is located, as shown, adjacent the foot of the tub on the wall engaged by the foot of said tub. A second upright strip **44** is attached to the wall at the back of the tub and at the corner or juncture of the two walls, there are attached two upright metal strips **45** and **46** which, as shown, are of somewhat lesser width than are strips **43** and **44**. Each of these four strips is attached to the surface of a wall in the same manner as described in connection with the several strips shown in Figs. 1, 2 and 3 of the drawings.

After the end wall and the outer surfaces or faces of the metal strips **43** and **45** have been prepared as described above to receive the covering material, a section or portion **48** of the material is applied to the upright strips **44** and **46** on the back well, as shown. Thereafter, a second section or piece **49** of the covering material is attached to the back wall and its contact cement-coated under edge portion is applied to metal strip **44** in abutting relation to the adjacent edge of covering piece **48**. This will provide, as in the preceding forms, a smooth, flush and perfect butt-seam or joint **50** which overlies the metal base

strip **44**, as shown. The wall at the foot of the tub is now covered by means of a section or length of covering material **51** which is brought into position over the metal strip **45** to provide at the juncture of the section **51** and the section **48** a butt-seam or joint **52**. The other end of section **51** is then laid over the upright metal strip **43** and becomes affixed thereto. A second section or length **53** of the covering material may now be applied to the strip **43**. As the result, at the juncture of the pieces or sections **51** and **53** there is provided a flush, smooth and relatively invisible butt-seam or joint **54**. After the steps of applying the covering material in each instance, the procedure described above is followed so as to produce a completely covered surface having a smooth and flush butt-seam wherever two pieces of the covering material meet in abutting relationship.

It may be desirable in some cases to provide an additional pair of metal strips in horizintal position at the juncture of the backwall and the top of the bathtub and at the juncture of the wall at the foot of the tub and the adjacent end of said tub. Such strips are indicated in broken lines at **55** and **56**, respectively, in Fig. 6. It will be understood that because of the nature of the material comprising the covering for the walls, and the manner or mode of application thereof, the surfaces surrounding the tub are completely moisture and waterproof. This will, of course, eliminate the possibility of water seeping through normal spaces or cracks at the upper edge of a tub and gaining access to the walls, thus causing damage and deterioration thereof. Under previously known methods of applying covering to walls around bathtubs, lavatories, sinks, and the like, water seeped into so-called "dry wall" installations and caused serious damage. By virtue of our novel flush butt-seams, there is no danger of adhesive oozing out through the seams, as heretofore.

Many other uses will be made of our method as set forth above, one of which is in connection with the hanging of pictures, framed or unframed, on walls. In this use, a piece of metal is attached to a wall as above described. Another metal piece is attached to the picture back or frame back. Contact cement is applied to both metal exposed surfaces. When brought together a bonding occurs and the picture is firmly held in place upon the wall.

We claim:

1. An ornamental, waterproof and weatherproof covering for a building interior or exterior surface, comprising a laminated structure including a relatively stiff covering material, bordering metal strips and one or more intermediate metal strips in bonding attachment to said surface, said strips also being nailed to said surface, a layer of adhesive material on the surface in the area between said strips to a depth corresponding to the thickness of said strips, and at least two pieces of said covering material having their line of abutment on one of said metal strips and held by adhesive attachment to said strip to provide a flush butt-seam covering a metal strip.

2. An ornamental protective covering for use in connection with a building surface, comprising a laminated structure having spaced metal strips and at least two sections of an ornamental covering material in bonding attachment thereto, said strips being attached to the surface to be ornamented by nailing, riveting, or the like, and a layer of adhesive material in the space between said strips to a depth corresponding to the thickness of said strips, two of said sections of covering material being bonded to one of said metal strips with their line of abutment overlying said strip to provide a smooth, even and flush butt-seam at said line of abutment.

3. A method of protecting, sealing and ornamenting a surface, such as a wall surface, with a covering material, comprising the steps of attaching covering material-supporting base means to said surface at spaced points, filling the spaces between the supporting base means with adhesive material to build up the surface to be flush with

the outer surface of said means, and thereafter applying at least two pieces of said covering material to the built-up surface and supporting base means in bonding relationship thereto and with the line of abutment of the two pieces overlying the means in flush butt-seam arrangement.

4. A method of attaching a covering material to a surface, comprising the steps of affixing a support for the material to said surface, applying a contact cement to the support, applying some of contact cement to the back of said covering material, applying adhesive material to said surface to a thickness corresponding to that of said support, attaching the covering material to said support and adhesive-coated surface, and thereafter applying pressure thereto in the area overlying the support to bond said covering material to said support.

5. An ornamental protective covering for use in connection with a building surface, comprising a laminated structure having spaced metal strips and at least two sections of an ornamental covering material in bonding attachment thereto, said strips being pressed against and attached to the surface to be ornamented, and a layer of adhesive material in the space between said strips to a depth corresponding to the thickness of said strips, and abutting sections of covering material being bonded to one of said metal strips with their line of abutment overlying said strip to provide a smooth, even and flush butt-seam at said line of abutment.

6. An ornamental protective covering for use in connection with a building surface, comprising a laminated structure having at least one flexible strip and at least two sections of an ornamental covering material in bonding attachment thereto, said strip being pressed against and attached to the surface to be ornamented, and a layer of adhesive material in the space along at least one side of said strip to a depth corresponding to the thickness of the strip, and abutting sections of covering material being bonded to said strip with their line of abutment overlying said strip to provide a smooth, even and flush butt-seam at said line of abutment.

7. An ornamental protective covering for use in connection with a building surface, comprising a laminated structure having at least one flexible strip extending transversely of said structure and at least two sections of an

ornamental covering material in bonding attachment thereto, said strip being pressed against and attached to the surface to be ornamented, and a layer of adhesive material in the space along at least one side of said strip to a depth corresponding to the thickness of the strip, and abutting sections of covering material being bonded to said strip with their line of abutment overlying said strip to provide a smooth, even and flush butt-seam at said line of abutment.

8. An ornamental protective covering for use in connection with a building surface, comprising a laminated structure having at least one flexible strip extending lengthwise of said structure and at least two sections of an ornamental covering material in bonding attachment thereto, said strip being pressed against and attached to the surface to be ornamented, and a layer of adhesive material in the space along at least one side of said strip to a depth corresponding to the thickness of the strip, and abutting sections of covering material being bonded to said strip with their line of abutment overlying said strip to provide a smooth, even and flush butt-seam at said line of abutment.

9. An ornamental protective covering for use in connection with a building surface, comprising a laminated structure having at least one flexible strip and at least two sections of an ornamental covering material in bonding attachment thereto, said strip having an adhesive on its surface-engaging face and being pressed against and attached to the surface to be ornamented, and a layer of adhesive material in the space along at least one side of said strip to a depth corresponding to the thickness of the strip, and abutting sections of covering material being bonded to said strip with their line of abutment overlying said strip to provide a smooth, even and flush butt-seam at said line of abutment.

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