

L. F. LINDLEY.
WEATHERPROOF COVERING.
APPLICATION FILED DEC. 23, 1910.

1,040,706.

Patented Oct. 8, 1912.

Fig. 1.

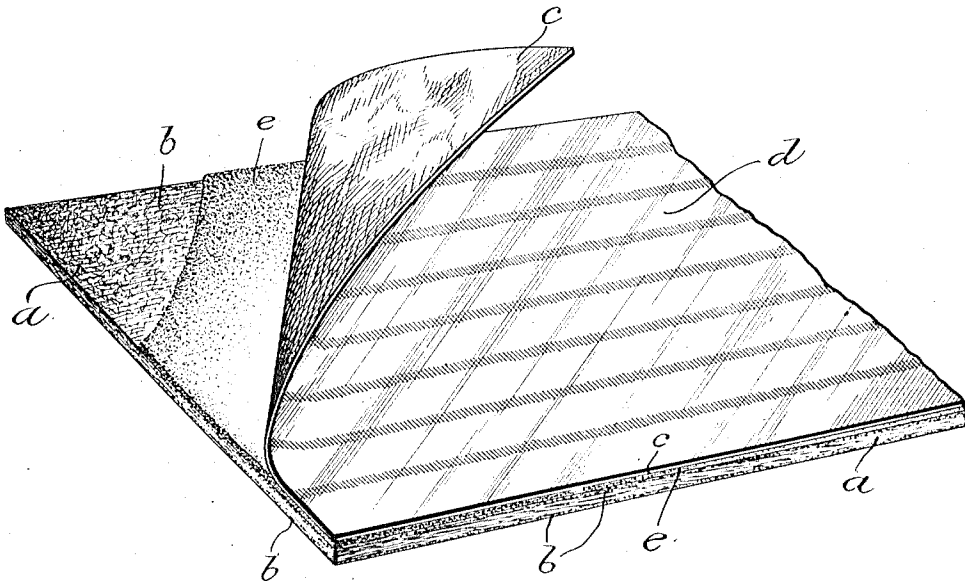
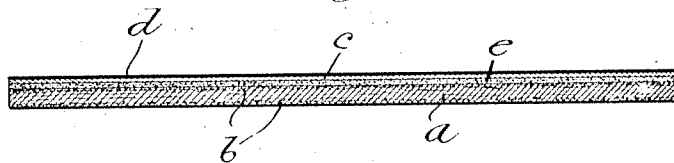


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

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To all whom it may concern:

Be it known that I, LOWELL F. LINDLEY, a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Weatherproof Coverings, of which the following is a full, clear, and exact description.

The invention relates to flexible covering, such, for example, as is used for roofing.

In practice heretofore, various methods have been proposed for finishing flexible covering in order to give different or desired colors to the exposed side thereof, and in these methods, difficulties in causing the coloring to adhere to or combine with the hydro-carbon compound with which the covering is impregnated, have been met by applying a facing consisting of a pigment, a resinous body and a fatty body, the color of the pigment predominating. One of the objections to this process of manufacturing roofing was, that the color was not visible until after exposure to atmospheric influences, because the pigment, in being treated or applied became coated with a film of pitch and the film was destroyed by oxidation resulting from exposure. Resultantly, the ultimate color was not visible when the roofing was first applied. To overcome this objection to that process, it has been proposed to apply a temporary facing of the same color as the pigment in the permanent facing, which would give to the covering the same appearance as the ultimate color or appearance of the outer face of the covering after the same had been exposed to atmospheric influences.

The present invention designs to provide an improved weather-proof covering, which may be readily colored in such a manner that the permanent color will be visible at the outset and in which the necessity of applying a temporary facing or coat will be avoided.

A still further object is to provide an improved flexible and water-proof covering which may have its exposed face of any desired color or pattern and which may be manufactured without the necessity of mixing the coloring matter or pigment with the pitch or hydrocarbon.

A still further object of the invention is to provide a water-proof covering which may be given any desired color, as distinguished from the color of those pigments which will flux with a resinous and a fatty

body and such colors as are attained by mixing the pigment with a flux containing pitch or similar ingredients.

In other words, the invention designs to provide an improved covering which may be given any desired color or pattern.

The invention further designs to provide a flexible weather-proof covering, which will have increased tensile strength and which may be sharply flexed in applying it to a roof, without breaking.

In the drawings: Figure 1 is a perspective of a piece of the improved covering manufactured in accordance with the improved method, the fabric being folded back for clearness in illustration, and Fig. 2 is a section of the covering.

The base of the flexible covering consists of any suitable material such as felt, made of either woolen, cotton or straw-material, which is first impregnated with a water-proofing compound, such as liquid tar or any of the end series of hydrocarbon, commonly known as asphalts and pitches, such as are now in common use for impregnating water-proof felts for roofing. The felt is saturated in this compound while the latter is hot. The next step in the process of manufacturing the improved material consists in coating one surface only of fabric, such as unbleached sheeting, with a compound that leaves a hard and dry surface but which is very pliable. This coating compound consists of a suitable vegetable oil in connection with resin or gums and of a compound which has some of the properties of rubber and may consist of rubber and ingredients fluxed with rubber to make a water-proof compound. Therefore, in using the term rubber in the claim appended hereto the same is to be construed to embrace any materials possessing the characteristics of rubber. This compound is allowed to set on the sheeting.

The coating may be made any desired color by mixing with the coating compound, pigment of the desired color. If desired this coating may be printed on the fabric in striped or ornamental patterns. The purpose of this coating is to provide a colored finish with a comparatively hard surface on that face of the covering which will be exposed in use. The following compound, in proportions designated by weight, will make a pliable water-proof finishing coat or facing of dark red color when applied to the

fabric: rubber, 1 part; Pontianik gum, 3 parts; paragol, 10 parts; litharge, 5 parts; whiting, 23 parts; white rubber scrap, 20 parts; and red oxid, 10 parts. The fabric
 5 with this water-proof compound thereon is then united to the felt by a binder coating of a hydrocarbon mixture embodying tar, resin, petroleum or any of the series of asphalts commonly known on the market.
 10 The union of the sheeting and the impregnated felt or base is effected by pouring on one of the surfaces of the impregnated felt, a hot solution of this compound and then passing the felt and coated sheeting together
 15 between a pair of squeeze-rolls; which will cause the flux to unite the fabric and the impregnated felt by penetrating the interstices of the fabric of said sheeting as far as said coating only. The following binding com-
 20 pound in proportions designated by weight, will serve to effect a firm union of the fabric and the impregnated felt; gilsonite, 20 parts; petroleum pitch, 60 parts; resin, 10 parts, and maltha asphalt 10 parts.
 25 In the covering shown in the drawing, *a* designates a sheet or web of felt, *b* the water-proofing compound with which the felt is impregnated, *c*, the sheeting, *d* the water-proof finishing coating on the outer side
 30 only of the sheeting, and *e* the binding compound for uniting the fabric and impregnated felt. As a result, the invention provides a covering which is exteriorly coated with an elastic compound, which will not be
 35 volatilized by heat and will not be destroyed by atmospheric conditions and which may be of any desired color or pattern. The outside coating increases the water-proof qualities of the covering and the sheeting
 40 materially adds to the tensile strength of the covering. By employing sheeting to which the water-proofing compound is applied, the finishing coat may be of any de-

sired color and not necessarily one which will flux with a binder compound or flux, 45 since the colored coat is applied first to the outside only of the sheet, and the binder flux to the other side, so that while said binder is free to penetrate the interstices of the fabric of the sheet, it can penetrate only so far 50 as said outer coating, which will limit said penetration and yet leave said outer face of the sheet unaffected as to color by said binder.

The product is flexible and possesses an 55 appearance which does not require atmospheric influences to develop its color and furthermore the necessity of providing a temporary colored facing is avoided in order to make the color of the covering initially 60 visible. By reason of the flexible properties of the finishing coat, and the increased strength resulting from the fabric, the covering may be sharply flexed without breaking. 65

The invention is not to be understood as restricted to the precise proportions, ingredients or practice set forth, since these may be modified according to the product desired, and within the scope of the appended 70 claim, without departing from the spirit and scope of the invention.

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

A flexible waterproof covering, comprising 75 a base composed of a flexible material impregnated with a compound containing hydrocarbon, and a fabric having a rubber compound pressed onto its outer face only and united on its uncoated face to said base 80 under pressure.

LOWELL F. LINDLEY.

Witnesses:

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 FRANK W. BEMM.