

G. A. O'BRIEN.  
METHOD OF INLAYING LINOLEUM AND THE PRODUCT THEREOF.  
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1,351,679.

Patented Aug. 31, 1920.

*Fig. 1.*

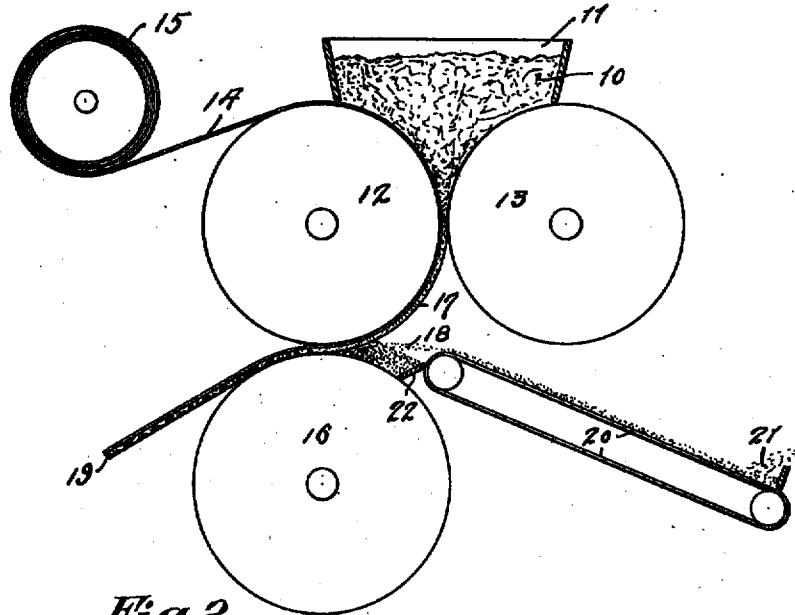


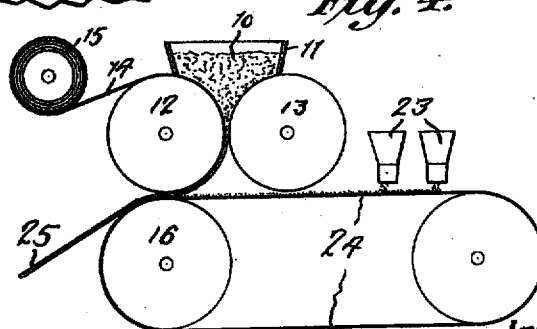
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

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## METHOD OF INLAYING LINOLEUM AND THE PRODUCT THEREOF.

1,351,679.

Specification of Letters Patent. Patented Aug. 31, 1920.

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*To all whom it may concern:*

Be it known that I, CHARLES A. O'BRIEN, a citizen of the United States of America, residing in Kearney, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Methods of Inlaying Linoleum and the Product Thereof, of which the following is a specification.

My invention relates to inlaid linoleum and the manufacture thereof, the object of my invention being to provide a novel method of manufacture which is economical and speedy. At the same time, it affords opportunity to produce various patterns, which may be controlled at will. The product is a true inlaid linoleum, but has characteristics which clearly differentiate it from the well known inlaid linoleum now generally manufactured.

In the accompanying drawings,

Figure 1 is a diagrammatic elevation of an apparatus in which my invention may be carried out;

Fig. 2 is a plan of a portion of the product;

Fig. 3 is a section on the line 3—3, Fig. 2; and

Fig. 4 is a diagrammatic elevation of a modified apparatus.

While the present method may be employed to produce various patterns in the finished article, it is particularly appropriate for the production of wood-grain or marbling effects, and I have illustrated only the latter in the accompanying drawings. Heretofore it has been customary to obtain these effects by feeding into a hopper granulated linoleum material of different colors, which flows down between a presser roller and a calender roller where the material is formed by pressure into a sheet. The difficulty with this old method is that it has been impossible to control the pattern, inasmuch as the materials of different colors are commingled indiscriminately in the hopper, and even if an attempt were made to regulate the feed at that point, it would be practically impossible to control the pattern because a deformation would be caused when the granulated material passes between the rollers which form the material into a sheet.

According to the present method, the material forming the base color, or ground, is

fed alone to the sheeting rolls, and the material of the second or inlay color is thereafter pressed into the ground sheet. It is preferably subjected simultaneously to the drawing action of a presser moving at different speed from the travel of the web. As here illustrated, the ground material 10 is fed into the hopper 11 and passes therefrom between the two rollers 12 and 13, where it is formed into a sheet upon the fabric backing 14 from the reel 15. Beneath the roller 12 is a third roller 16 of larger diameter and having a slightly greater peripheral speed. The sheet 17 of ground material on the backing 14 is carried around the roller 12 between the bottom of the latter and the roller 16. As it passes between these rollers, the inlay material 18 of another color is injected in any suitable way between the face of the sheet 17 and the roller 16, and is forced into the sheet 17 by the roller 16 which, at the same time, by reason of its greater peripheral speed, causes a striation which gives the desired grain effect. The thus inlaid sheet 19, issuing from rolls 12 and 16, may be carried through any remaining steps necessary to its finishing, and eventually be reeled in the usual manner.

The feed of the inlay material 18 to the ground 17 may be accomplished in any suitable fashion. Very desirable effects can be obtained by manually throwing the material 18 into the bite between the rolls 16 and 12. After a little experience, an operator working in this way produces quite unusual effects which far more closely approach the desired grained appearance than has heretofore been attained. Obviously, however, a mechanical device could be substituted, and I have shown, for example, a conveyor 20 upon which the inlay material 18 is fed from a source 21. The conveyor may travel at a speed sufficiently high to throw the material into the bite between the rollers 16 and 12. A catch board 22 may be provided, however, to catch the material which falls short, as it is fed up to the sheet 17 by the roller 16.

In Fig. 4 I have indicated diagrammatically a modified arrangement. Here the inlay material is fed from one or more hoppers 23 onto an endless band 24, which may be of metal, passing around the roller 16 at suitable speed. By controlling the feed

from the hoppers 23 to the band, very definite designs may be produced. The effect may be heightened by employing different colors of inlay material in the different hoppers, or by making the deposits from the hoppers upon the band intermittent at predetermined intervals.

The product 19 in one case, or 25 in the other case, discloses the fact that the inlay material penetrates the ground 17 in many cases all the way to the fabric backing 14, and always to some extent, so that the product is really inlaid linoleum. This is particularly true where the material 18 is slightly harder than the ground 10.

Obviously, if desired, an inlaying operation, such as that shown in Fig. 1, may be repeated with other color materials upon the product 19. The opportunity for obtaining various effects, according to the present process, is quite remarkable.

The underlying thought of my invention is to form a plain web and thereafter to inlay the latter by forcing inlay material into it by pressure as the web travels forward. The inlaying may thus be carried out by a rolling process, which is not only very expeditious and inexpensive *per se*, but also obviates the wastes incident to cutting tesserae from separate webs and the tedious method of building up a pattern by the insertion of the tesserae in a ground.

If it be desired to use the product 19 or 25 in an inlaid linoleum of the old type; that is to say, if tesserae are to be cut from the web 19, the fabric backing 14 would be omitted.

Various ways of accomplishing substantially the same result may occur to those skilled in the art. I do not limit my invention, therefore, to the precise method indicated, which may be variously modified without departing from what I claim as my invention.

I claim:

1. A method of inlaying linoleum which consists in forming a ground web and thereafter rolling into the material thereof spaced elements of differently colored material to form therewith a patterned ground said colored material being in comminuted form.

2. A method of inlaying linoleum which consists in forming a ground web and thereafter rolling into the material thereof a pattern of different color material, and subjecting the thus patterned surface to the striating action of a member having a peripheral speed greater than that of the travel of the web with which it comes in contact.

3. A method of inlaying linoleum which consists in forming a ground web and rolling into the surface thereof spaced elements of a substantially homogeneous color material in comminuted form.

4. As a new article of manufacture, inlaid linoleum comprising a ground web penetrated to unequal depths by spaced elements of linoleum material in comminuted form of different color forming a pattern on said ground web.

5. As a new article of manufacture, inlaid linoleum comprising a ground web penetrated to unequal depths by spaced elements of pattern material in comminuted form of different color and consistency.

6. As a new article of manufacture, inlaid linoleum comprising a ground web penetrated to unequal depths by striated pattern material of different color.

7. As a new article of manufacture, inlaid linoleum comprising a fabric backing, a ground web thereon and pattern material irregularly penetrating said ground material.

In testimony whereof I have signed my name to this specification.

CHARLES A. O'BRIEN.