P. GALASSI.

FLOOR AND METHOD AND APPARATUS FOR LAYING SAME.

APPLICATION FILED JUNE 16, 1920.

1,377,675. Patented May 10, 1921.

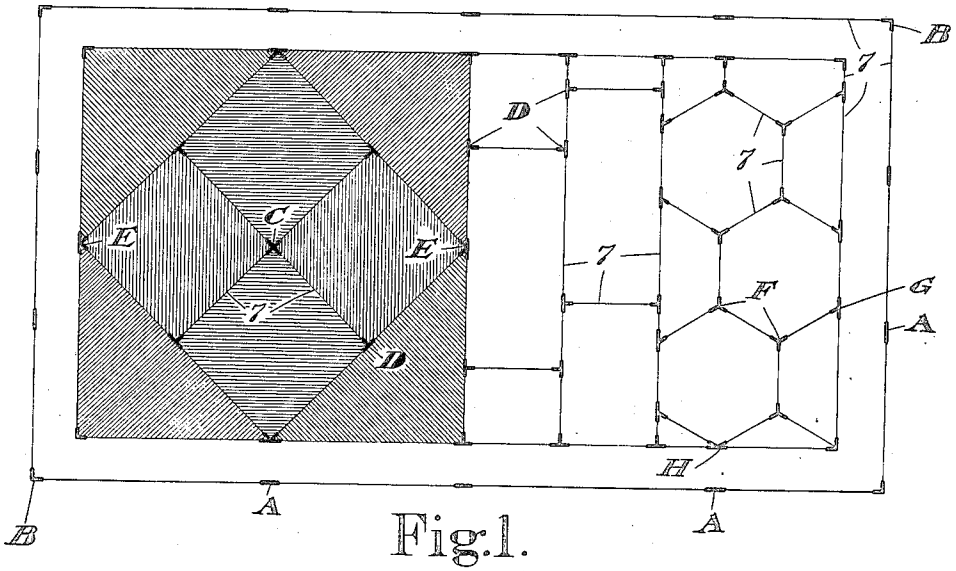


Fig.1.

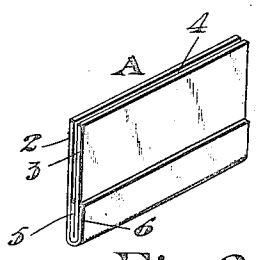


Fig.2.

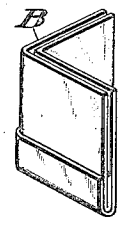


Fig.3.

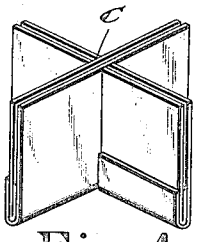


Fig.4.

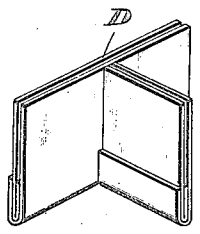


Fig.5.

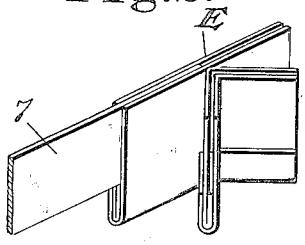


Fig.6.

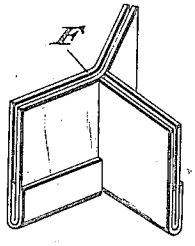


Fig.7.

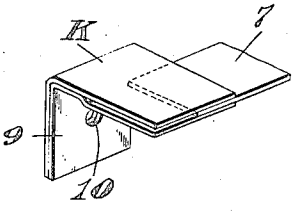


Fig.8.

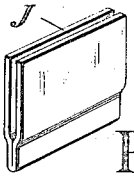


Fig.9.

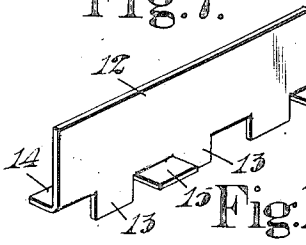


Fig.10.

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By his attorney.

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UNITED STATES PATENT OFFICE.

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FLOOR AND METHOD AND APPARATUS FOR LAYING SAME.

1,377,675. Specification of Letters Patent. Patented May 10, 1921.

Application filed June 16, 1920. Serial No. 389,312.

To all whom it may concern:

Be it known that I, PASQUALE GALASSI, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Floors and Methods and Apparatus for Laying Same, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

This invention relates to floors and walls made of plastic material such as terrazzo, granolithic, and stucco. These materials, and especially terrazzo, still remain the cheapest of the more durable floors and because of their sanitary properties, pleasing colors, and low cost they are particularly used in hospitals, schools, offices, industrial buildings, and private residences. The possibilities of design effects in these materials is unlimited, and their use has been restricted chiefly due to considerations of expense and to the liability of such floors to crack after they have been laid.

The present invention is directed particularly to eliminating these objections and it provides a novel method of laying floors of this type, which method results in a novel floor construction. The invention also provides a novel form of apparatus for use in the laying of such floors. It is a further object of the invention to eliminate the danger of unsightly cracking, which, as above mentioned, has been a serious objection to the use of these floors as heretofore constructed. The invention is especially concerned with those constructions in which a design effect is desired.

Heretofore in laying granolithic and terrazzo floors where variegated designs were required, the usual process has consisted in preparing the mortar bed, allowing this bed to harden, and then nailing strips of wood to the upper surface of the bed to outline the design for the wearing surface. It was necessary to allow the bed to harden before the design could be laid out since otherwise the bed would not hold the nails by which the wooden strips were held in place. The laying of the design in this manner required much care since the strips of wood necessarily must occupy considerable space and consequently they would overlie a portion of the design.

Sections of the design for the wearing surface were next laid between these strips and these sections were allowed to harden, after which the strips were removed and additional sections laid. The laying of the floor therefore required several days simply for the setting of the bed and the successive sections of wearing surface.

The present invention provides a process and apparatus with which the time required to lay a floor of this character is greatly reduced. As a consequence the labor cost also is materially reduced.

The nature of the invention will be readily understood from the following description when read in connection with the accompanying drawings, and the novel features will be particularly pointed out in the appended claims.

Referring now to the drawings,

Figure 1 is a plan view illustrating certain steps in the process of manufacture and showing the features of apparatus provided by this invention;

Fig. 2 is an angular view illustrating one form of the socket provided by this invention;

Figs. 3 to 7 inclusive are angular views illustrating additional forms of sockets, Fig. 6 also showing a portion of an outlining strip in position in one of these sockets;

Fig. 8 is an angular view of another form of socket designed for use on walls;

Fig. 9 is an angular view illustrating another form of socket; and

Fig. 10 is an angular view showing a form of outlining strip provided by this invention.

According to the present invention the bed is prepared in the usual way. Usually this bed is composed of Portland cement and sand and it is brought up to a level, say three-quarters of an inch, of the finished surface. That is, the wearing surface is usually made about three-quarters of an inch thick, although obviously it can be made thicker or thinner as desired.

After the preparation of the bed has been completed the next step is to lay out or outline the design for the wearing surface. This operation is performed with the aid of

the sockets and strips of metal shown in the drawings. The sockets shown in Figs. 2 to 7 inclusive each comprise a body portion having two parallel walls 2 and 3 spaced apart to provide a groove or slot 4 between them. The walls 2 and 3 are secured together at their lower portions in any convenient manner, but as shown in Fig. 2 the lower part of the wall 3 is bent sharply upon itself as indicated at 5, and a portion 6 of the part 2 is bent around and embraces the lower margin of the other wall. The upper edge of the folded margin 5 forms the bottom of the slot 4. This slot is just wide enough to take a narrow strip 7 of material which bottoms on the edge of the part 5 and lies flush with the upper edges of the walls 2 and 3.

The sockets shown in the other figures are the same in their essential construction as that shown at A in Fig. 4, but differ simply in the angle of one slot with reference to the other. The socket B, Fig. 3, has slots extending at right angles to each other, and may aptly be termed an L socket, or two-way socket. That at C, Fig. 4, has four slots radiating from an intersecting point, the slots being 90° apart. That at D, Fig. 5, is a T or three-way socket, and that at E, Fig. 6, is a combination of A and B, while that at F, Fig. 8, is a three-way socket with the different slots 60° apart.

Fig. 1 illustrates the manner in which these sockets and strips are used to outline a design, the design there shown, however, being made simply for the purpose of illustrating the use of a great variety of forms of sockets. In laying out the design the sockets are embedded in the mortar which is still in a plastic condition, and the strips 7 are cut to the required length to fit in these sockets and coöperate with them to form the outline for the design.

The sockets connect and firmly support the strips 7 at their junction points so that the parts which define the outline of the pattern or design are retained with the necessary rigidity in the desired positions.

After the outlining operation has been completed the wearing surface may be immediately laid although it frequently is found preferable to allow the bed to set over night or for twenty-four hours before the wearing surface is laid. The entire surface can be laid at once without waiting for certain sections to set before others are laid, any mixing of the differently colored portions being avoided by the strips 7. Fig. 1 shows the wearing surface laid on parts of the design.

It will now be understood that this invention greatly reduces the labor and the length of time required in laying terrazzo, granolithic and similar floors. It is obvious that walls also can be laid according to the same process, and while floors have been particularly mentioned since there is a greater use for the invention in floor construction, the term "floors" will be understood to include walls.

The sockets and strips preferably are made of metal, although it is obvious that they can be made of other materials. Since both the sockets and strips remain permanently in the floor, the nature of the material from which they are made will depend upon the color scheme and design of the floor. For many purposes these sockets are made of zinc or galvanized iron, but in other locations they are made of aluminum, brass, copper, or other metals, where they not only perform the functions above described but also form a part of the color scheme and contribute to the attractiveness of the design. For this purpose also it may be convenient for some designs to make the sockets of heavier construction and to give them shapes in harmony with the design.

In addition to the forms of sockets illustrated in Figs. 2 to 7 inclusive, other forms are necessary as will be understood by those skilled in this art, and two such forms are indicated at G and H, respectively, in Fig. 1.

A somewhat different construction of socket is illustrated in Fig. 9 showing a form like that at A in Fig. 2 except that in the construction shown in the latter figure the entire socket is made of a single piece of metal folded and bent as clearly shown in said figure. Fig. 8 illustrates a socket K in the form designed for use on walls, the socket being provided with a shank 9 bent at right angles to the body portion, the shank having a hole 10 therethrough to receive a fastening by which it is held on the wall.

The strip 12 shown in Fig. 10 is designed to be used in place of the strip 7 in those locations where some lateral support is desired for the strip. It will be observed that the lower edge of this strip has been cut to form wings, the wings 13—13 extending downwardly in the same plane as the body of the strip and being designed to be embedded in the mortar bed, while the wings 14 and 15, respectively, are bent in opposite directions into a horizontal plane and are designed to rest on the surface of the mortar bed and afford lateral support for the strip, preventing it from tipping or bending out of its proper position.

It will be understood that in case there is any tendency for a floor laid in the manner above described to crack due to the settling of the building or to the expansion and contraction of the parts, the cracking naturally will take place along the strips 7 since the floor is weakest against bending strains at these points. Such cracking therefore is far less noticeable than is that which usually occurs in floors of this type. Furthermore,

the liability to crack can be substantially eliminated by laying the floor on a sand cushion of suitable thickness, say for instance, about one inch. A further advantage of this construction is that if it should become necessary to re-lay a section as, for instance, due to the necessity for tearing up a certain part of the floor to reach plumbing under the floor, the presence of the partition strips 7 obviously would facilitate the laying of the new surface.

After the laying of the wearing surface has been finished it is allowed to set and it is then polished or finished in the usual manner.

Having thus described my invention, what I desire to claim as new is:

1. That improvement in the art of producing design effects in floors made of plastic material, which consists in preparing a suitable bed for the wearing surface, laying out the design for the wearing surface with narrow strips of material, supporting the ends of said strips by means independent of said bed, and then laying the wearing surface on said bed to form the design so laid out.

2. That improvement in the art of producing design effects in floors made of plastic material, which consists in preparing a suitable bed for the wearing surface, arranging narrow strips of metal on said bed to form the outline for the design effect desired in the wearing surface, connecting said strips at their junction points to hold them securely in position, and then laying the sections of wearing surface between said strips to produce said design.

3. The method of producing design effects in floors made of plastic material, which consists in preparing a mortar bed for the wearing surface, using narrow strips of material to outline the design for the wearing surface, performing said outlining operation before the mortar bed has hardened, supporting said strips rigidly at their junction points, and then laying the sections of wearing surface between said strips to produce the pattern effect so outlined.

4. The method of producing design effects in floors made of plastic material, which consists in preparing a mortar bed for the wearing surface, arranging narrow strips of metal on said bed while the bed is still in a plastic condition to form the outline for the design effect desired in the wearing surface, securing said strips firmly in their positions, laying the sections of wearing surface between said strips to produce said design, and allowing said wearing surface to harden with said strips remaining therein and forming a permanent part of the floor.

5. The method of producing design effects in floors made of plastic material, which consists in preparing a mortar bed for the wearing surface, arranging narrow strips of metal on said bed while the bed is still in a plastic condition to form the outline for the design effect desired in the wearing surface, supporting the ends of said strips in sockets embedded in said mortar bed, and then laying the sections of wearing surface between said strips to produce said design.

6. A floor construction of the character described having a wearing surface comprising sections arranged to form a design, narrow strips of metal separating said sections of the design, and devices securing said strips together at their junction points.

7. A floor construction of the character described comprising a mortar bed, a wearing surface comprising sections forming a design, narrow strips of metal separating adjacent sections of said design, and sockets embedded in said mortar bed and supporting said strips at their junction points.

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

PASQUALE GALASSI.