

No. 664,652.

Patented Dec. 25, 1900.

F. LAMBERT.

TILING, MARBLE, &c., PREPARED FOR HAVING FITTINGS, &c., SECURED THERETO.

(Application filed Aug. 30, 1899.)

(No Model.)

Fig. 1.

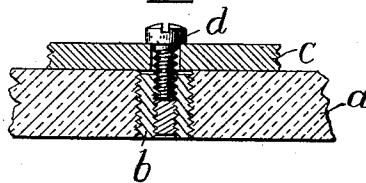


Fig. 2.

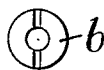


Fig. 3.

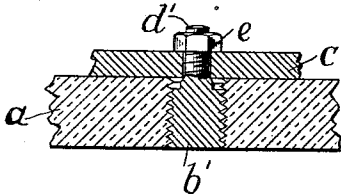
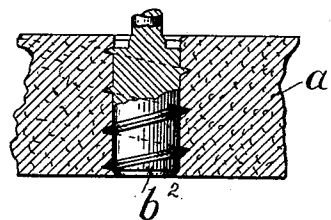


Fig. 4.



WITNESSES:

Chas A. Peard
Edith L. Parler

INVENTOR

Frank Lambert

BY

Edith J. Griswold
ATTORNEY

UNITED STATES PATENT OFFICE.

FRANK LAMBERT, OF NEW YORK, N. Y., ASSIGNOR OF TWO-THIRDS TO
SAMUEL A. CUNNINGHAM AND DAVID BELAIS, OF SAME PLACE.

TILING, MARBLE, &c., PREPARED FOR HAVING FITTINGS, &c., SECURED THERETO.

SPECIFICATION forming part of Letters Patent No. 664,652, dated December 25, 1900.

Original application filed July 8, 1899, Serial No. 723,139. Divided and this application filed August 30, 1899. Serial No. 728,960.
(No model.)

To all whom it may concern:

Be it known that I, FRANK LAMBERT, a citizen of the United States, and a resident of New York, (Brooklyn), Kings county, State of New York, have invented an Improvement in Tiling, Marble, or Like Material Prepared for Having Fittings, &c., Secured Thereto, of which the following is a specification.

This invention relates to tiling, marble, brick, slate, or like material prepared to have fittings, &c., rigidly and easily secured thereto. The mode of preparing the tiling, &c., is claimed in an application filed by me on July 8, 1899, under Serial No. 723,139, of which this application is a division.

Heretofore when plumbing or electrical fittings or the like have been fastened to such material as tiling it has been customary to bore a hole in the tile and either use an expansion-bolt therein or to force a plug of wood into the hole and secure the fitting to this wooden plug. In both these cases the fittings are held merely by friction between the plug or bolt and the sides of the hole. By the present invention I form the hole in the tile with circular grooves and ridges and form a plug with like grooves and ridges, the ridges of the plug entering the grooves in the hole, and vice versa, so that the resistance to the force required to pull the plug out of the hole is not dependent on mere friction, but on the shearing strength necessary to strip the interlocking ridges of the tile or the plug. To put the principle into practice, I drill a hole in the tile and cut a screw-thread in the hole with a tap, preferably with a coarse pitch, and to illustrate the mode of securing the fittings to tiling or the like according to my invention I have hereunto attached the accompanying sheet of drawings, in which—

Figure 1 is a sectional view of a piece of tiling having a fitting secured thereto according to my invention. Fig. 2 is a plan view of a detail shown in Fig. 1. Fig. 3 is a sectional view similar to Fig. 1, showing a slight modification. Fig. 4 is a detail hereinafter referred to.

As shown in Figs. 1, 3, and 4, the tile or the like *a a'* is represented as having a drilled hole screw-threaded by means of a tap, Figs.

1 and 3 representing comparatively hard material in which the pitch of the thread need not necessarily be very coarse, and Fig. 4 representing a softer material, such as brick. This Fig. 4 represents the hole screw-threaded by means of a tap having the threads very thin and the width of the groove between two threads comparatively large, so that a narrow groove is cut into the soft material and the thread is very strong. Common wood-screws are good examples of the form of thread for taps to use for soft material, the thread being light not causing so much crumbling of the material at the time of tapping.

A further feature of my invention is that I plug the screw-threaded hole in the tile with a material of greater resistance than the tiling, and this plug is adapted to receive or carry a screw to hold the fitting. These threaded plugs may be made in various forms and material according to circumstances, metal being generally preferable; but vulcanized fiber or rubber may be used when insulation is required.

Referring to Fig. 1, the plug *b* is here shown as having an external thread to fit the threaded hole in the tile *a* and an internally-threaded hole to receive the screw *d*, holding the fitting *c* to the tile. To facilitate the screwing of the plug *b* into the threaded hole in the tile, the top is slotted or nicked, as shown in Fig. 2.

Fig. 3 shows a plug *b'* as having a threaded extension *d'* above the tile to receive a nut *e* to clamp the fitting *c* in place.

Other things being equal, the greater the diameter of the plug and the hole in the tile the greater will be the resistance to shearing strain.

It is important to force the plug far enough into the tile to prevent the back of the fitting from coming in contact with the end of the plug, whereby the screw *d*, Fig. 1, or nut *e*, Fig. 2, in tightening the fitting will act on the plug as a check screw or nut and take away all play that may exist between the plug and the threaded hole in the tile.

As the plugs *b b' b''* are intended to be permanently fitted in the tiles or the like, it is

advantageous before screwing them into the threaded hole to touch the plugs or walls of the hole with shellac or cement, which will not only help to hold the plugs firmly in position, but will also strengthen the thread by the absorption of the cement in the pores of the tile.

By removal of the screw *d* or the nut *e* the fitting can at any time be removed for repairs or cleaning without disturbing the fit between the threaded plug and the threaded hole in the tile.

Where a fitting is to be permanently fixed to the tile or the like, it may be secured by a comparatively large screw with a coarse thread, such as shown in Fig. 4, screwing directly into the threaded hole in the tile; but as material such as tiling, brick, &c., offers less resistance to stripping of screw-threads than a metallic screw, and as it is not always practicable to use a screw having a diameter large enough to prevent stripping of threads

in the tiling, it may be preferable even for permanent fixtures to use the plugs shown in Figs. 1 and 3.

I claim as my invention—

1. Tiling or like material provided with a threaded hole and a screw-threaded plug of a material of greater resistance than the said tiling or like material.

2. Tiling or like material provided with a threaded hole of a diameter greater than the diameter of a screw necessary to support a fitting to the tile, and a plug screwed into said threaded hole and adapted to carry the screw to hold the fitting.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK LAMBERT.

Witnesses:

EDITH J. GRISWOLD,
EDITH C. SARLES.