Aug. 25, 1931. S. H. BARROWS 1,820,041

BUILDING CONSTRUCTION

Filed Jan. 27, 1927

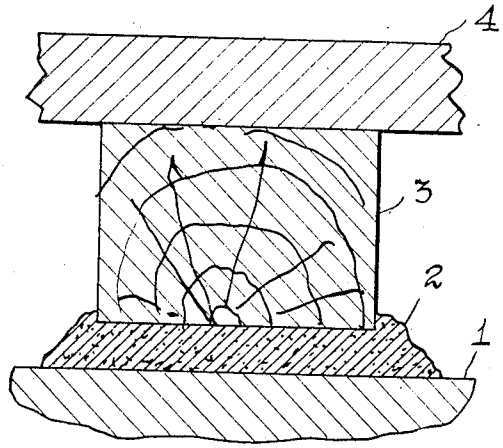


Fig. 1

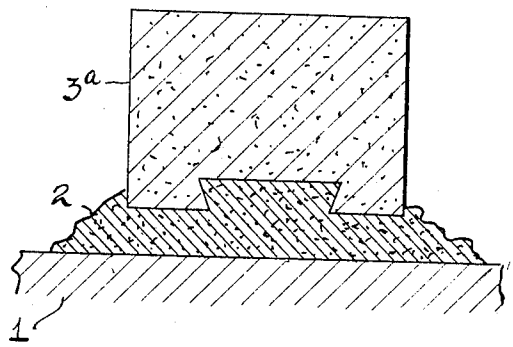


Fig. 2

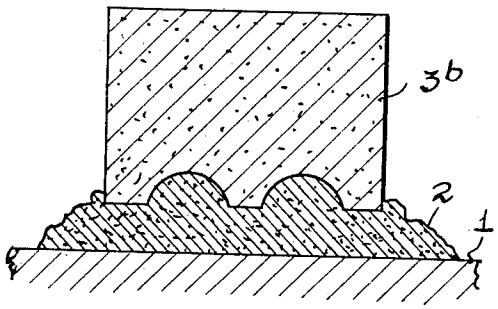


Fig. 3

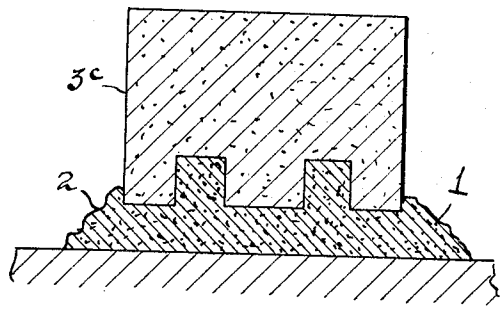


Fig. 4

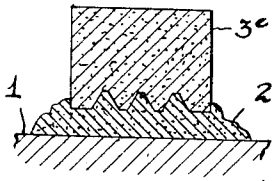


Fig. 6

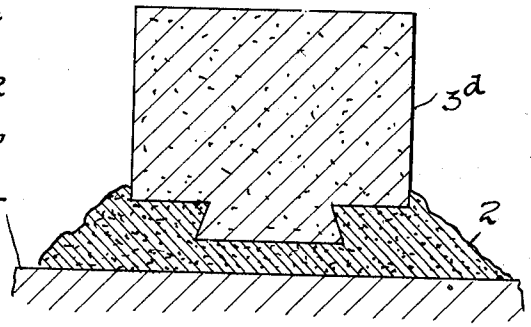


Fig. 5

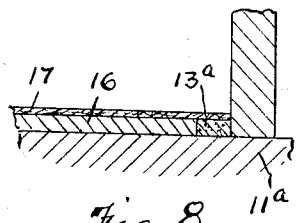
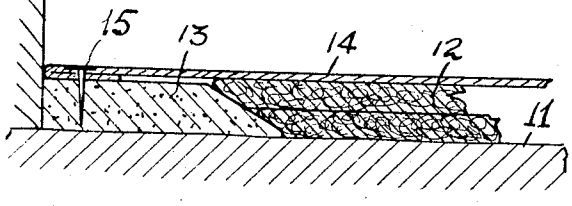


Fig. 8.

Fig. 7



INVENTOR.
Stanley H. Barrows
BY
Ray, Oberlin & Ray
ATTORNEYS.

Patented Aug. 25, 1931

1,820,041

UNITED STATES PATENT OFFICE

STANLEY H. BARROWS, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO CALIFORNIA CHEMICAL CORPORATION, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS

BUILDING CONSTRUCTION

Application filed January 27, 1927. Serial No. 163,915.

Where building elements of wood or artificial stone are to be secured to concrete, steel, etc., it is customary to employ metallic fastening means. For instance, for wood flooring over reenforced concrete, metal clips are placed in the concrete at spaced intervals and the concrete is allowed to set. When the concrete has hardened, the clips are all adjusted to proper level and the sleepers are placed thereon, so that a support may be provided as a series of strips to which the floor boards can be in turn nailed. There are also various other ways of attaching sleepers, such as drilling the concrete slab, plugging and wiring. Generally before laying the wooden floor, the spaces between the strips are filled with cinders or concrete.

In accordance with the present invention, the necessity for special metal fittings or connections is done away with, and wood or composition members may be secured to each other or to concrete or stone or steel elements as desired.

To the accomplishment of the foregoing and related ends, the invention, then, consists of the features hereinafter fully described, and particularly pointed out in the claims, the following description and the annexed drawings setting forth in detail but few of the various ways in which the principle of the invention may be employed.

In said annexed drawings:—

Fig. 1 represents a sectional detail of one embodiment of the invention, and Figs. 2, 3, 4, 5, 6, 7 and 8 are similar views of other forms.

Referring more particularly to the drawings, the reference numeral 1 designates a building element, for instance beams or concrete slabs, as in floor frame construction. For the placement of a wooden floor over such, a cement mass 2 and a strip or sleeper 3 are put in position. The strip 3 may be of wood or of composition, a preferred composition for such purpose comprising an oxychloride cement and a filler including cellulosic material. Magnesium oxychloride cement with sawdust, shavings, rice hulls, straw, or the like, to which can also be added varying percentages of sand, crushed stone, infusorial earth, cinders, etc., may be employed. While the cement mass 2 is yet soft, the series of strips or sleepers 3 are brought to desired level, and the cement is allowed to set. This binds the strips 3 firmly to the under elements 1, and a wooden flooring 4 may then be nailed as usual to the sleepers 3.

While in some instances a bituminous composition may be used as the cement mass 2, or still less desirable Portland cement, I prefer an oxycement, oxysulphate, or better, oxychloride. Portland cement adheres rather poorly to wood or the like, and can not be relied upon if there is much of any separation stress to be encountered. The oxycements, and more especially oxychloride, give a remarkably firm bond upon wood, metal, artificial or stone surfaces, and such elements may be satisfactorily held to each other to withstand stresses, such that a wooden element may be sheared within itself before the bond at the surface breaks. I thus contemplate the joining of building elements variously, and particularly where certain of these elements are of wood, by means of properly applied oxycement.

Instead of plain sided elements as in Fig. 1, I may also use construction elements having dovetail undercuts (Fig. 2) or grooves, either rounded (Fig. 3) or square-section (Fig. 4) or inverted V-shape, (Fig. 6), or modifications as desired. In Fig. 5 is shown a locking tongue form.

Where is it desired to secure a carpet or the like over a cement or stone floor or the like, I may similarly apply a nailing strip 13 to the under flooring 11. This nailing strip 13 may be of wood, in which case it may be cemented to the concrete 11 by means of a thin layer of cement as above described, the oxychloride being somewhat preferable to the other compositions mentioned. Or instead of a wooden strip, I may similarly cement a composition strip, the composition comprising an oxycement binder and a filler including cellulosic material. Or instead of a preformed strip being cemented in place to the concrete or stone floor, I may cast such nailing strip in place, the composition preferably comprising an oxycement and a filler

including cellulosic material being put in place either by troweling or by mold pieces placed for the purpose. In either event, when the cement is set, filler pads, felts or the like 12 may be spread on the floor 11, within the nailing strip 13 and the carpet 14 may then be secured by means of tacks 15 driven into the nailing strip 13.

A further advantage where a nail-penetrable element, that is, penetrable to nails, screws, tacks, etc., is secured to a supporting element by the cementitious material, lies in the fact that where an oxy-salt cement, as magnesium oxysulphate, or better, oxychloride, is employed, the nail-penetrable element of wood or containing cellulose is safeguarded against rot. In fact with oxychloride cement, and to a somewhat less degree oxysulphate cement, an antiseptic or preservative function is attained in addition to the cementing function.

A nailing or tacking strip 13*a*, (Fig. 8) of wood or of composition as foregoing, may be provided, being cemented to the concrete or structure 11*a*, and after it is firm, a thin top coating 16 of cement is poured into place on the main floor area and brought to a level with the top of the strips. If the composition be used, the strip may be preformed or it may be cast in place, as may be preferred. The carpet 17 may be laid as usual and tacked to the strip 13*a*.

Other modes of applying the principle of the invention may be employed, change being made as regards the details disclosed, provided the means or steps stated in any of the following claims, or the equivalent of such, be used.

I therefore particularly point out and distinctly claim as my invention:—

1. In building construction, a concrete subfloor element, a secondary element including a binder and a cellulosic filler pre-formed to self sustaining shape independently of said subfloor element, and means for securing said elements together without mechanical keying, said means consisting of an oxy-salt cement.

2. In building construction, a concrete subfloor element, a secondary element of oxychloride and a filler pre-formed to self sustaining shape independently of said subfloor element, and means for securing said elements together without mechanical keying, said means consisting of an oxychloride cement.

Signed by me this 20th day of January, 1927.

STANLEY H. BARROWS.