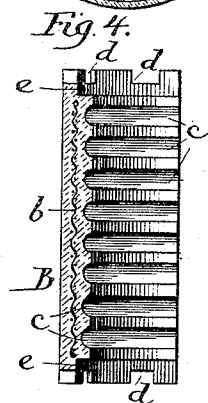
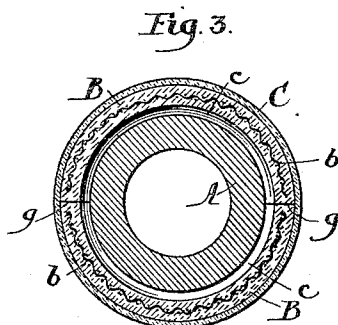
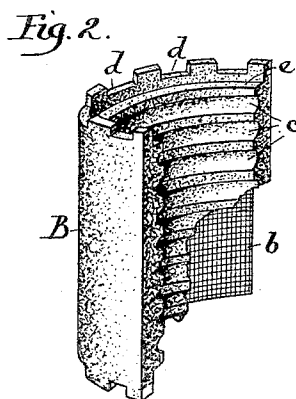
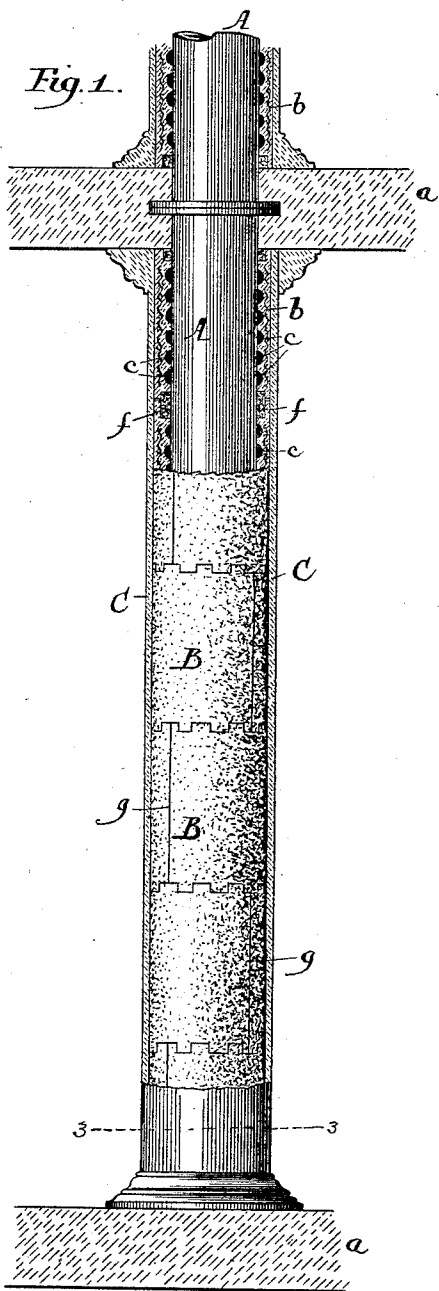


(No Model.)

F. P. MEYENBERG.
FIRE PROOF BUILDING.

No. 460,210.

Patented Sept. 29, 1891.



Witnesses:

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UNITED STATES PATENT OFFICE.

FRANZ P. MEYENBERG, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE UNITED STATES FIRE PROOFING COMPANY, OF SAME PLACE.

FIRE-PROOF BUILDING.

SPECIFICATION forming part of Letters Patent No. 460,210, dated September 29, 1891.

Application filed April 13, 1891. Serial No. 388,799. (No model.)

To all whom it may concern:

Be it known that I, FRANZ P. MEYENBERG, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fire-Proof Buildings, of which the following is hereby declared to be a full, clear, and exact description, sufficient to enable others skilled in the art to which such invention appertains to make and use the same.

The invention relates to fire-proof constructions, and designs more especially to provide an improved jacket or cover which shall protectively surround the columns, pillars, &c., used to support or sustain various parts in a building. Such jacket is to be made up of separate sections, these being severally prepared from a suitable plastic composition properly molded in form, so as to snugly inclose the adjacent face of the column, &c. By preference a netting of wire or the like is embedded in the jacket-section to promote strength and rigidity, while the ends of the section are indented, thus affording an interlocking edge in connection with the contiguous end of the jacket-section next above. Luting-seats at the internal edges of each section enable a proper bond to be established between the section-tiers, the several tiers being ordinarily arranged so that the meeting faces of the sections therein shall "break joint" with the like faces in the adjoining tiers. The surface of the jacket-sections next against the column, &c., are usually grooved horizontally, not only to promote lightness, but to afford a series of dead-air spaces, the aim being to obviate the objection due to the vertical fluting or grooving of the jacket, and which oftentimes acts to present a series of direct flues for the free passage of hot air or flame along the column.

The exact nature of the improvements will appear from the description following, and be precisely pointed out by claims at the conclusion thereof.

In the accompanying drawings, which form part of this specification, like parts are denoted by like designation throughout.

Figure 1 is a sectional view showing a cylindrical column with my invention applied thereto; Fig. 2, a perspective view of one of

the jacket-sections partly broken away to exhibit the wire-netting embedded therein. Fig. 3 is a cross-section view on line 3 3 of Fig. 1; Fig. 4, a longitudinal section through one of the parts of the jacket.

The column, pillar, or the like to be protected may be of any usual material and shape, the example as shown by drawings being an ordinary cast-iron cylindrical column A, set in place between the two concrete floors *a* of a building. Completely inclosing the column is a fire-proof jacket, which can be prepared from any suitable concrete or plastic composition, preference being had for those that set or harden upon exposure, and which are not only fire-resisting, but are light and tenacious and capable of withstanding unusual blows and strains. Experience has shown that a compound consisting of fibrous material—such as asbestos, sawdust, or cork—incorporated with plaster-of-paris, caustic lime, and hydraulic cement, is quite satisfactory for the purpose. The ingredients named may be variously combined, as follows: fibrous material, twenty-five to eighty per cent.; hydraulic cement, three to ten per cent.; caustic lime, two to five per cent.; plaster-of-paris, fifteen to twenty per cent. The fibrous material is predominant and insures lightness. The plaster-of-paris renders the composition quick to harden and enables it to readily cement with any resinous or fibrous substance and produces a tough resisting compound that cannot be readily fractured by sudden jars or blows. The caustic lime acts as a preservative for metal and wood and prevents disintegration and corrosion, besides being a better non-conductor of heat. The hydraulic cement contributes to the fire-resisting qualities of the material and to its hardness and tendency to set rapidly. Greater lightness is attained by increasing the proportion of the fiber ingredient. The material is mixed with water to about the consistency of stiff mortar.

In usual practice the jacket is prepared in separate sections B by taking a suitable quantity of the plastic mass and filling the same into a mold or form of proper size and contour with reference to the column or pillar to be encased. After the mold is about one-

half filled a sheet of wire-netting *b* is laid over the plastic mass and the filling then completed above the same, so that in finished form the netting *b* is completely embedded in the section cast. The mold or form (ordinarily semicircular in section) is furnished with raised ridges at proper intervals apart, which cause corresponding grooves *c* to be left along the face of the jacket-section when it has set. Replaceable templets at the ends of the mold are furnished with indents, which produce corresponding indents *d* at the edges of the section cast. The ends of each section are cut away internally for about one-half of the full thickness, so as to form a ledge or seat *e*, which serves to receive the luting or slip *f* of mortar designed to unite contiguous tiers of the jacket-sections. The several sections are mounted in position about the column, successive tiers being interlocked by means of the indented ends *d*, while the joints *g* of the sections of one tier are preferably arranged in offset relation to the joints in the tiers next above and below. When the section-pieces for any one row are mounted in place, the luting *f* is filled into its ledge-seat *e* and the next series of sections then put in place. The internal grooves *c*, which occur along the jacket, furnish dead-air spaces to obstruct the passage of flame, while the series of luting-joints *f* set closely about the column and exclude all internal communication between the various sections of the jacket. When the protective cover is in place, a plaster finish *C* may be applied, as usual.

Changes in detail within the skill of the mechanic to effect may be made without departing from the invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In fire-proof constructions, the combination, with the column, pillar, &c., of the conforming jacket-sections having edge interlocks and internal luting-seats, substantially as described.

2. In fire-proof constructions, the combination, with the column, pillar, &c., of the conforming jacket-sections having edge interlocks and internal luting-seats, the adjacent section-tiers being in break-joint relation, substantially as described.

3. A fire-proof jacket-section for columns, pillars, &c., having a wire fabric embedded therein and furnished with edge interlocks and internal luting-seats, substantially as described.

4. A fire-proof jacket-section for columns, &c., having internally an edge luting-seat and horizontal grooves, substantially as described.

5. In fire-proofing constructions, the combination, with the column, pillar, &c., of the conforming jacket-sections having a wire fabric embedded therein and provided with internal luting-seats, substantially as described.

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