J. COMERMA.

REINFORCED FIREPROOF PARTITION.

APPLICATION FILED JUNE 10, 1907. RENEWED APR. 8, 1909.

922,393. **Patented May 18, 1909.**

2 SHEETS—SHEET 1.

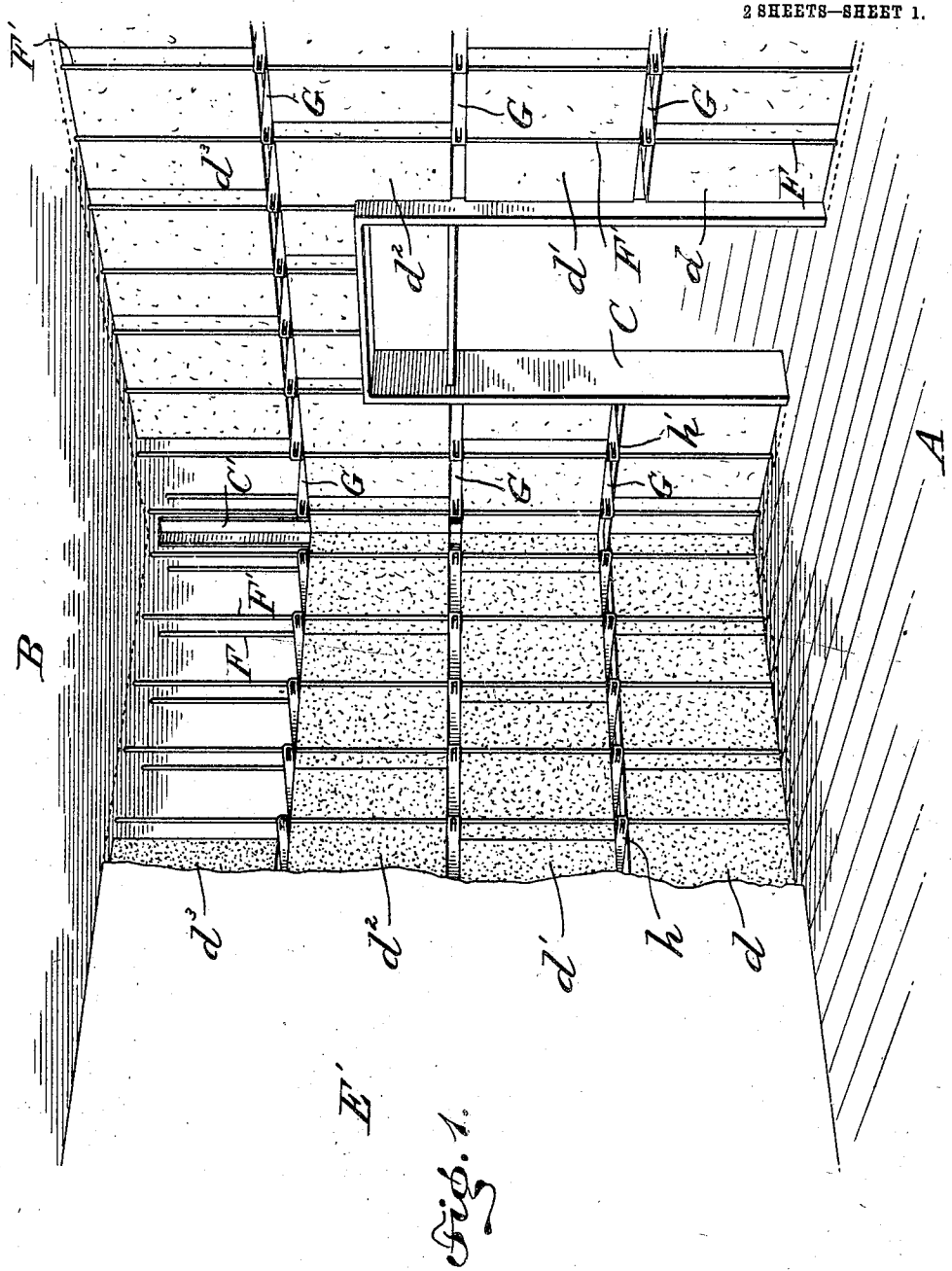


Fig. 1.

WITNESSES

H. C. Abbott

V. E. Nichols

INVENTOR

John Comerma

BY Griffin & Brinkerhoff

ATTORNEYS

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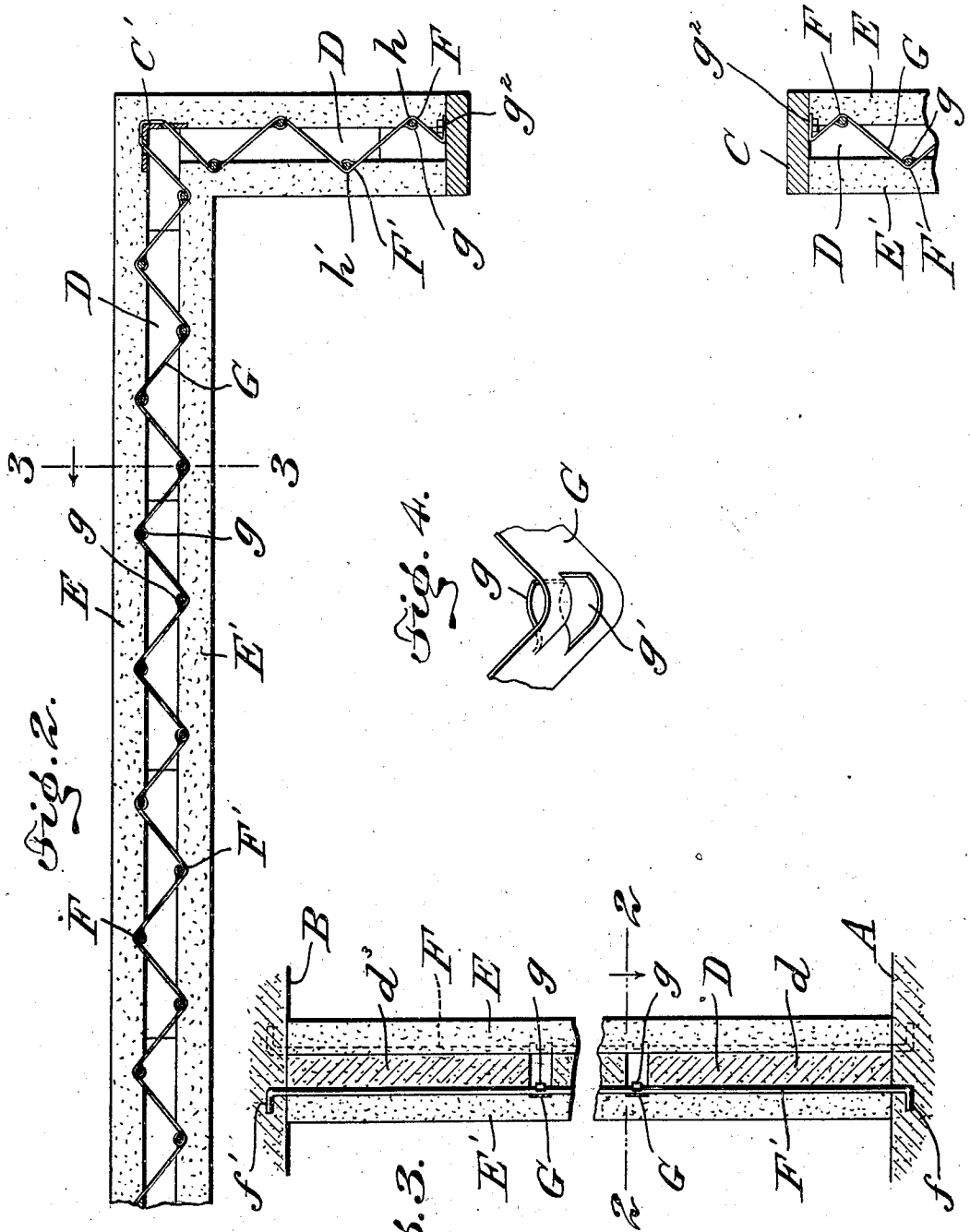


Fig. 2.

Fig. 4.

Fig. 3.

WITNESSES

H. C. Abbott

V. E. Nichols

INVENTOR

John Comerma

BY Griffin & Brumbaugh

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN COMERMA, OF NEW YORK, N. Y., ASSIGNOR TO HARRY W. BELL, OF NEW YORK, N. Y.

REINFORCED FIREPROOF PARTITION.

No. 922,393. Specification of Letters Patent. Patented May 18, 1909.

Application filed June 10, 1907, Serial No. 378,208. Renewed April 8, 1909. Serial No. 488,736.

To all whom it may concern:

Be it known that I, JOHN COMERMA, a subject of the King of Spain, residing in the city of New York, county of New York, and State of New York, have invented a certain new and useful Reinforced Fireproof Partition, of which the following is a specification.

This invention is a reinforced fireproof partition adapted to be easily and quickly constructed in buildings and other structures.

The objects which I seek to accomplish are, first, to reduce the thickness of the partition as compared with prior devices; second, to increase the strength and stability of the structure notwithstanding the aforesaid reduction in the thickness thereof; third, to enable the partition to be installed economically, and without requiring the service of skilled workmen, and, to effectually conceal the reinforcing means employed in the construction of the new partition.

The invention comprises a relatively thin core which is reinforced by metallic stays and runners, the whole being incased in suitable surface layers of plastic material, said core being composed of the material known as plaster board. These plaster boards are laid in courses, so as to be bound together by vertical and horizontal lengths of metal which constitute the reinforcing bonds. Preferably, the horizontal lengths of metal are interwoven with the vertical lengths so as to assume a zig zag form in the partition, whereby the metallic bond is interwoven and made taut. Subsequently to the installation of the core and the metallic bond, surface layers of plastic material, preferably plaster, are applied to the partition so as to fill the spaces between the plaster boards and the lengths of the metal, whereby the metallic reinforce is concealed within the surface finish of plastic material.

In the accompanying drawings, I have illustrated one practical embodiment of the invention, but the construction shown therein is to be understood as illustrative only, and not as defining the limits of the invention.

Figure 1 is a perspective view showing the method of installing my new reinforced partition. Fig. 2 is a horizontal section on the line 2—2 of Fig. 3, said line of section extending through a part of a door jamb or frame. Fig. 3 is a vertical cross section on the line 3—3 of Fig. 2. Fig. 4 is a detail view showing a portion of one horizontal metallic runner.

In Fig. 1 of the drawings I have shown partitions forming two walls of a room or other inclosure. The floor, A, and ceiling, B, are of any appropriate construction, either fireproof or otherwise, and the door frame or jamb, C, may, also, be of suitable construction. As shown in Fig. 2 a post or column C′, is at the corner or angle formed by the two partitions or walls, said column being composed of a metallic flanged beam set in the floor and ceiling, but it is evident that a wooden post may be employed.

Each partition consists of a core, D, a metallic bond to be presently described, and surface coatings, E, E′, of plastic material.

The core, D, is composed, preferably, of the material known as "plaster board" for the reason that it is economical, fireproof, and readily installed. As is well known, plaster board consists of sections composed of plastic material molded and dried in slabs which may be easily and quickly assembled. The plaster board is laid or installed in courses, indicated at, d, d', d^2, d^3; and it is preferred to set the sections on edge, to impose them one upon the other, and to assemble each section so its end edges will not coincide with the corresponding edges of other sections, or, in other words, the sections will "break joints", see Fig. 1.

The metallic bond is shown by the drawings as consisting of two rows of upright stays, F, F′, and a plurality of horizontal runners, G, each stay and runner being composed of metal. It is preferred to employ a wire, cable or rod of the appropriate diameter and length to form each upright stay, F, or F′, and further, each stay is arranged vertically. The lower end of each stay is fixed or anchored in a suitable way, at f, in the floor, A, while the upper end of the stay is secured or anchored, at f', in the ceiling, B, see Fig. 3. The stays are shown as arranged in two series, on the respective sides of the core, D, although this is optional for the reason that a single series may be used.

The horizontal, or substantially horizontal, runners, G, may each be composed of any suitable material, such as a wire, cable or rod: but as shown in the drawings each runner is composed of a substantially flat metallic band. The runners and the stays are interwoven or interlaced so as to produce

an approximately grille-like structure which serves the purpose of a metallic bond or reinforce for the partition. Suitable means for connecting the runners and stays should be provided, and as shown each runner has an integral tongue, g, which is cut or stamped, as at g', in Fig. 4, from the metal of the band or hoop, said tongue being foldable around one of the stays for the purpose of connecting the runner at each point of intersection with the stays. The end portions of the runners are anchored or secured to the frame of the building, or to any other suitable part thereof, such as the door jamb, C. As shown in Fig. 2 each runner, G, has an end fastened to the door jamb, C, as at g^2, and these runners are arranged at the horizontal joints between the courses, d, d', d^2, d^3, of the plaster board core, D.

As a preferred construction, the horizontal runners, G, are interlaced with the upright stays, F, F', so as to assume the zig zag form shown in Figs. 1 and 2. Each runner is fastened at one end to the frame or door jamb, C, as at g^2, then bent at, h, around one stay, F, then carried diagonally across the core, D, to the next stay, F', around which it is bent at, h', thence extended diagonally backward across the core, C, to the next stay, F, around which it is bent at h, and so on throughout the series of stays and the length of the partition. By bending the runners as described, they draw the stays taut, and it is preferred to bend the stays so that they, also, extend diagonally to and fro with respect to the core, D. The runners and stays are held from sliding on each other by bending them at, h, h', and by bending the tongues, g, of the runners on the stays, all as shown clearly in Fig. 2. When partitions are built around two or more sides of a room, the runners, G, are looped around the corner post or column, C', and on the corner stays of the series F', as shown in Fig. 2.

The first step in the installation of a partition as contemplated by the preferred mode of procedure is to erect the stays, F, F', at the proper places, and fasten them to the bed or floor, A, and to the ceiling. The first course, d, of the plaster board is then placed in position between the stays, and then the first runner, G, is interlaced with the stays and extended diagonally across the plaster board, d. One end of said runner, G, is fastened, the runner is stretched so as to strain the stays, thereby making all the parts taut and drawing the stays across the plaster board, the other end of the runner is suitably fastened to a part of the building, and the tongues, g, are bent around the stays. The next course, d, of plaster board is now placed in position and forced down between and upon the stays so as to engage, practically, with the zig zag first runner, and the second runner, G, is now applied in the manner heretofore described, after which the operations are repeated until the partition is built up. The final step consists in applying the incasing material, E, E', to the respective surfaces of the partition. Said material may consist of plaster, or any other wall covering, and said plastic material may be applied in one or more layers as desired. The plastic incasing material fills up the spaces and crevices in the plaster board, and between the courses thereof, and between and around the stays and the runners, whereby the core and the metallic reinforcing means are thoroughly covered and the layers, E, E', give a proper finish to the partition.

My new structure, and the novel method of installing the same herein described, is characterized by a remarkable degree of strength in the partition, owing to the fact that the metal is interlaced and united with the core. The partition is not as thick as ordinary structures, it is thoroughly fireproof, and can be installed economically, quickly and without the labor of skilled workmen.

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

1. In a device of the class described, a core composed of sections of plaster board imposed edgewise one upon the other, a plurality of series of vertical stays stretched on the respective sides of the core, the stays of one series being parallel to the stays of the other series, metallic runners extending transversely through said core and interlaced with said stays, and plastic material incasing the stays and the core.

2. A reinforced partition, wall, or the like comprising a metallic frame composed of two parallel series of vertical stays and a plurality of horizontal runners interlaced alternately with the stays of the aforesaid series, a core of fireproof material confined between the stays, said core being intersected by said runners, and incasing material for said stays and the core, said incasing material forming a dressing on one or both surfaces of the partition or wall.

3. In a device of the class described, a core composed of courses of fireproof slabs, two parallel series of stays stretched on the respective sides of the core, a series of horizontal runners interlaced alternately with the stays of the aforesaid series and extending in zig zag paths through the core, and suitable incasing material.

4. In a device of the class described, two series of upright stays, the stays of one series being in a different vertical plane from the stays of the other series, a plaster board core between the stays, and runners crossing the core and interlaced with the stays, the stays and the runners being individually anchored.

5. In a device of the class described, two

series of upright stays, each stay anchored separately, and the stays of one series being in a different vertical plane from the stays of the other series, a core of plaster board between the stays of the respective series, and zig zag runners crossing the core and engaging with the stays.

6. In a device of the class described, a plurality of series of upright stays each stay being anchored in place individually, the stays of each series being in a vertical plane different from the stays of an adjacent series, the said series of stays being parallel to each other, a core between said series of stays, and runners having tongues attached to said stays, said runners crossing back and forth between the stays and intersecting the plane of the core.

7. In a device of the class described, two separate series of upright stays anchored individually at their ends, the stays of one series being substantially parallel to the stays of the other series, a core between the series of stays, and anchored horizontal runners interlacing with the stays and crossing the plane of said core.

8. In a device of the class described, a plurality of series of upright stays, the stays of one series being in a different vertical plane from the stays of the other series, runners looped on the stays, each of said runners extending in a zig zag course across the space between the adjacent parallel series of stays, and a core within the stays.

9. In a device of the class described, a core composed of sections of plaster board imposed edgewise one upon the other, runners extending in zig zag paths between the courses of said core, and individually anchored stays cooperating with the runners, the whole being incased within plastic material.

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

JOHN COMERMA.

Witnesses:
H. I. BERNHORD,
V. E. NICHOLS.