

C. K. OLBERG & A. B. BELL.
COMPOSITE DOOR CONSTRUCTION.
APPLICATION FILED DEC. 21, 1914.

1,183,586.

Patented May 16, 1916.

Fig. 1.

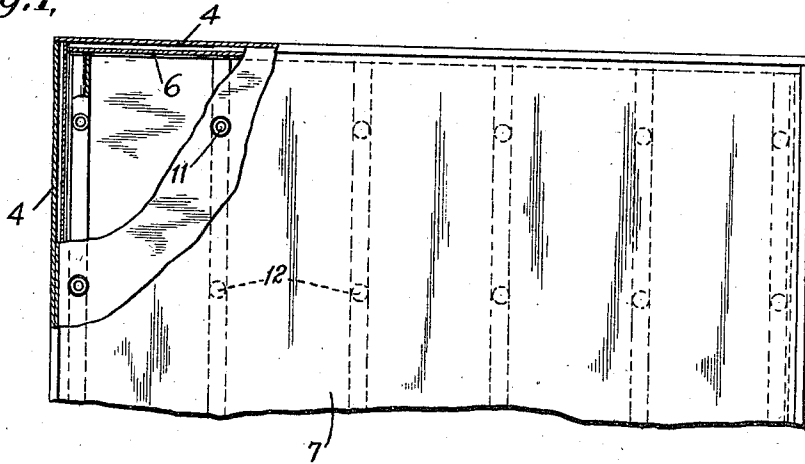


Fig. 2.

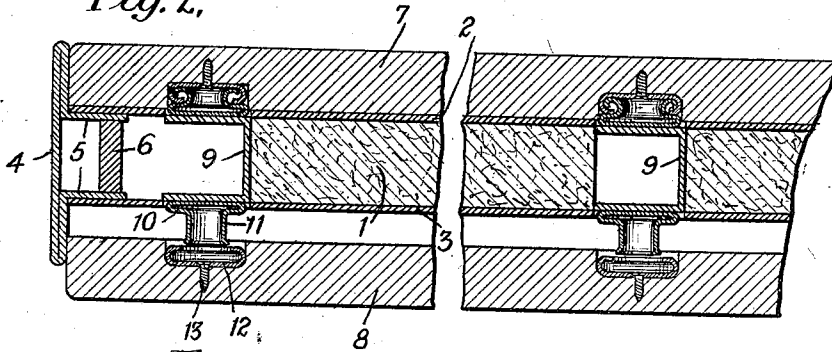
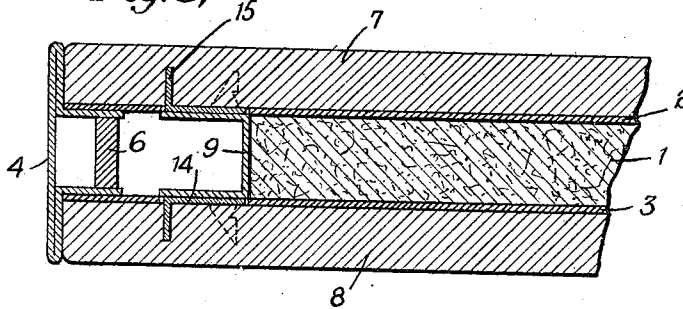
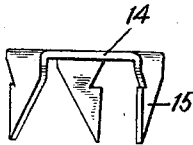


Fig. 3.



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Fig. 4.



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COMPOSITE DOOR CONSTRUCTION.

1,183,586.

Specification of Letters Patent.

Patented May 16, 1916.

Application filed December 21, 1914. Serial No. 878,239.

To all whom it may concern:

Be it known that we, CHARLES K. OLBERG, a subject of the King of Norway, and ALFRED B. BELL, a citizen of the United States, both residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Composite Door Construction, of which the following is a specification.

Our invention relates to improvements in composite door construction and particularly to improvements in the general type of composite fireproof doors described in application of said Charles K. Olberg, entitled Doors, Serial No. 857,581, filed August 19, 1914. The said application describes a door having a fireproof core of asbestos or other material interposed between plates of steel or other fireproof material, a metallic edge member extending about the door and wooden panels being secured to the outer faces of the metal plates.

The present invention relates particularly to details of construction in a door of the character described, whereby the wooden or outside panels may be quickly secured, in assembling the door, in a simple and effective manner, to the metal plates referred to, and in such a manner that the securing devices for the panels are concealed.

In order that the invention may be more clearly understood, attention is hereby directed to the accompanying drawings forming part of this specification and illustrating certain embodiments of the invention.

In the drawings, Figure 1 represents a front elevation of the upper part of a door, formed in accordance with the invention, Fig. 2 is a partial horizontal section through the same on an enlarged scale, Fig. 3 is a similar section showing a modification and Fig. 4 is a perspective view of one of the securing devices used in the construction illustrated in Fig. 3.

Referring to the drawings, the central core 1 of the door, formed of asbestos or other fireproof material of poor heat conductivity is inclosed between plates 2 and 3, formed of steel or other fireproof material. The door preferably is provided with a metallic edge member 4 secured to the edges of the plates 2 and 3, as by means of flanges 5 on the edge members inserted within the

edges of the plates and secured thereto as by electrically spot welding the same to the plates through metallic bracing members 6. The wooden or outside panels 7 and 8 are secured to the plates 2 and 3 by the means to be described. Members 9 are interposed between the plates 2 and 3 at suitable intervals and preferably comprise metallic bars of channel or other flanged section, suitably spaced apart and secured, as by electric spot welding, to the inner surfaces of plates 2 and 3. These channel bars preferably extend the length of the door vertically thereof. The devices by which the panels are secured to the metal plates are positioned against the flanges of channel bars 9 and extend through openings in plates 2 and 3. In the form of the invention illustrated in Fig. 2, the securing devices comprise plug members 10 having tubular portions 11 of thin metal extending outwardly. The wooden panels, as, for example the panel 8, have socket members 12 secured in recesses in their inner faces as by screws 13, which extend into the body of the panel. The base of each plug member may be secured, as by electric welding, to the flange of channel bar 9 against which it rests, as is illustrated. Or a channel bar of somewhat smaller dimensions might be used so that a slight space would appear between each flange of the channel bar and the adjacent faces of plate 2 and plate 3, the plug members 10 being mounted in the openings with their base flanges retained between the inner faces of the plates and the outer faces of the channel bars without being positively secured to either member, the tubular portions 11 of the plug members extending outwardly through openings in the plates. However the plug members are mounted in position, the panels are secured to the plates simply by forcing the panels against the plates so that the tubular portions of the plug members enter within the socket members in the panels, the tubular portions of the plug members splitting and curving outwardly within the socket members to interlock with the flanges of the latter. The parts are shown in position before forcing the panel 8 into position against plate 3 at the lower side of Fig. 2, the position of the parts after securing a panel in position being shown at the upper side of Fig. 2, in which panel 7 is secured to plate

2 by the interlocking of the plug members with the flanges of the socket members.

In the form of the invention illustrated in Figs. 3 and 4, pronged studs or securing devices 14 are used in place of the plug and socket members described above. Members 14 preferably take the form illustrated in Fig. 4, in which a circular base has a plurality, preferably three prongs or tapered studs, extending therefrom. Members 14 are mounted with their bases resting against the flanges of channel bars 9 and preferably welded thereto and with their prongs 15 extending outwardly through openings formed in plates 2 and 3. Panels 7 and 8 are then secured to the plates 2 and 3 simply by pressing the panels into position, the pronged studs 15 of devices 14 entering the inner faces of the panels and firmly securing the same to the metallic plates.

It will be understood that the invention described is not limited absolutely to the exact details of construction shown, but that reasonable equivalents for the devices illustrated are comprised within the invention.

Having now particularly described our invention, what we claim and desire to protect by Letters Patent is as follows:

1. In a door, the combination of a pair of parallel metallic plates, metallic flanged bars interposed between the same and having their flanges welded thereto, securing devices secured to the flanges of said bars and extending through openings in said plates, and panels on the outer sides of said plates secured by said devices, substantially as set forth.

2. In a door, the combination of a pair of parallel metallic plates, a metallic flanged bar interposed between the same having its

flanges welded thereto, securing devices positioned to press against the flanges of said bar and extending outwardly through openings in said plates, and panels on the outer sides of said plates secured by said devices, substantially as set forth.

3. In a door, the combination of a pair of parallel metallic plates, a bar interposed between the same and having its outer surfaces secured thereto, plug members having their bases positioned against the outer surfaces of said bar and having tubular portions extending through openings in said plates, and wooden panels on the outer sides of said plates having socket members secured in recesses on the inner faces of the same, said tubular portions of said plug members interlocking with said socket members and securing said panels to said plates, substantially as set forth.

4. In a door, the combination of a pair of parallel metallic plates, metallic flanged bars interposed between the same and having their flanges welded thereto, plug members having their bases positioned against said flanges and having tubular portions of thin metal extending through openings in said plates, wooden panels on the outer sides of said plates, and socket members secured in recesses on the inner faces of said panels, said plug and socket members being interlocked to secure said panels to said plates, substantially as set forth.

This specification signed and witnessed this 17th day of December, 1914.

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ALFRED B. BELL.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."