

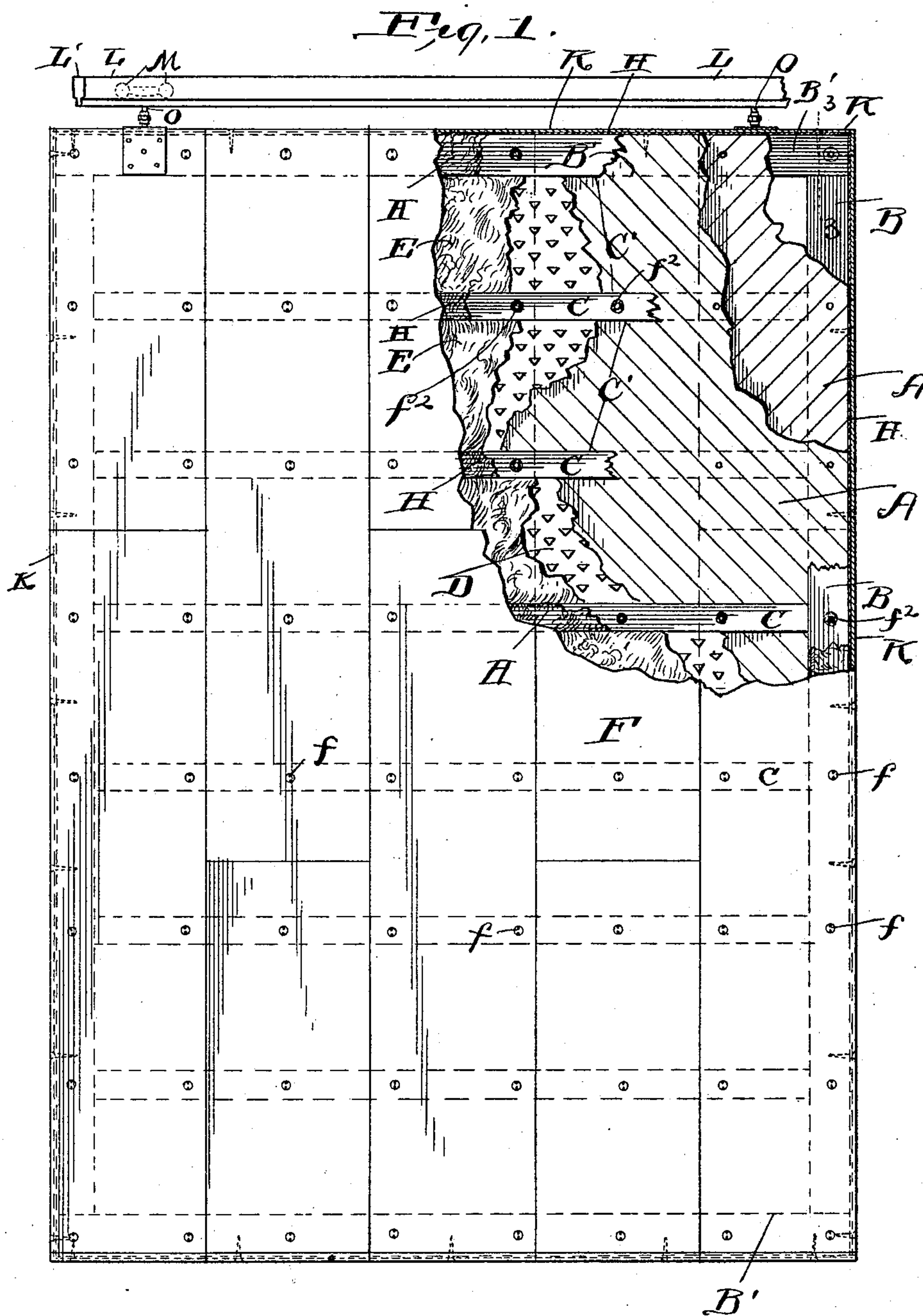
(No Model.)

3 Sheets—Sheet 1.

W. RUSSELL.  
FIREPROOF DOOR.

No. 583,713.

Patented June 1, 1897.



Witnesses.  
E. B. Gilchrist  
Ella E. Tilden

Inventor.  
William Russell.  
By  
Synch Dorer & Donnelly  
his Attorneys.

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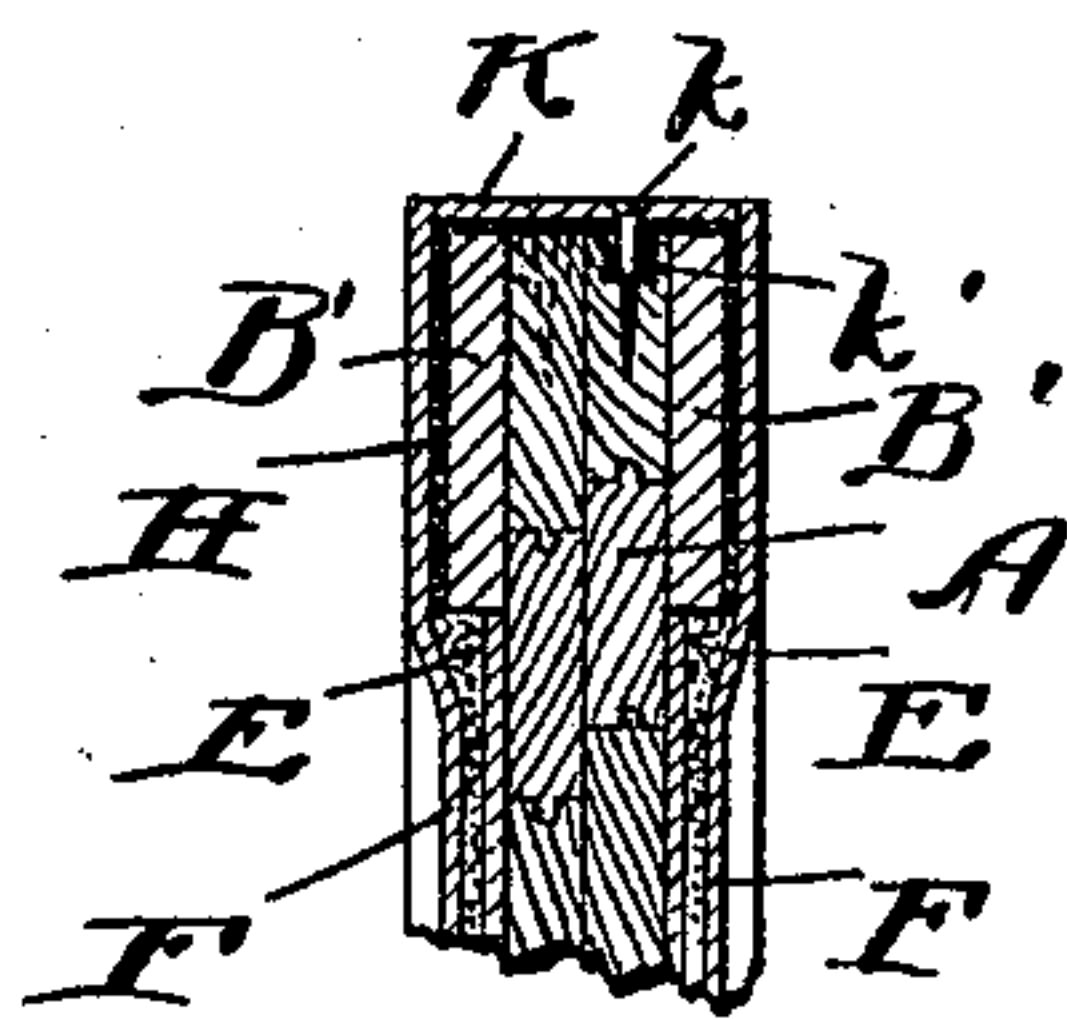
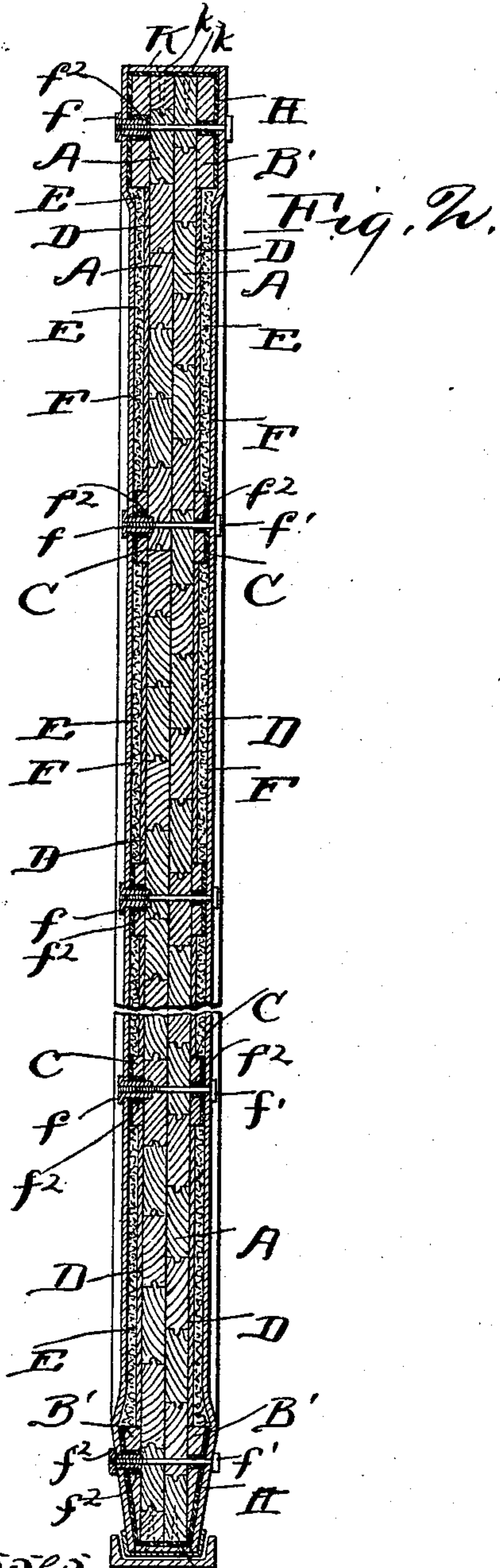


Fig. 3.

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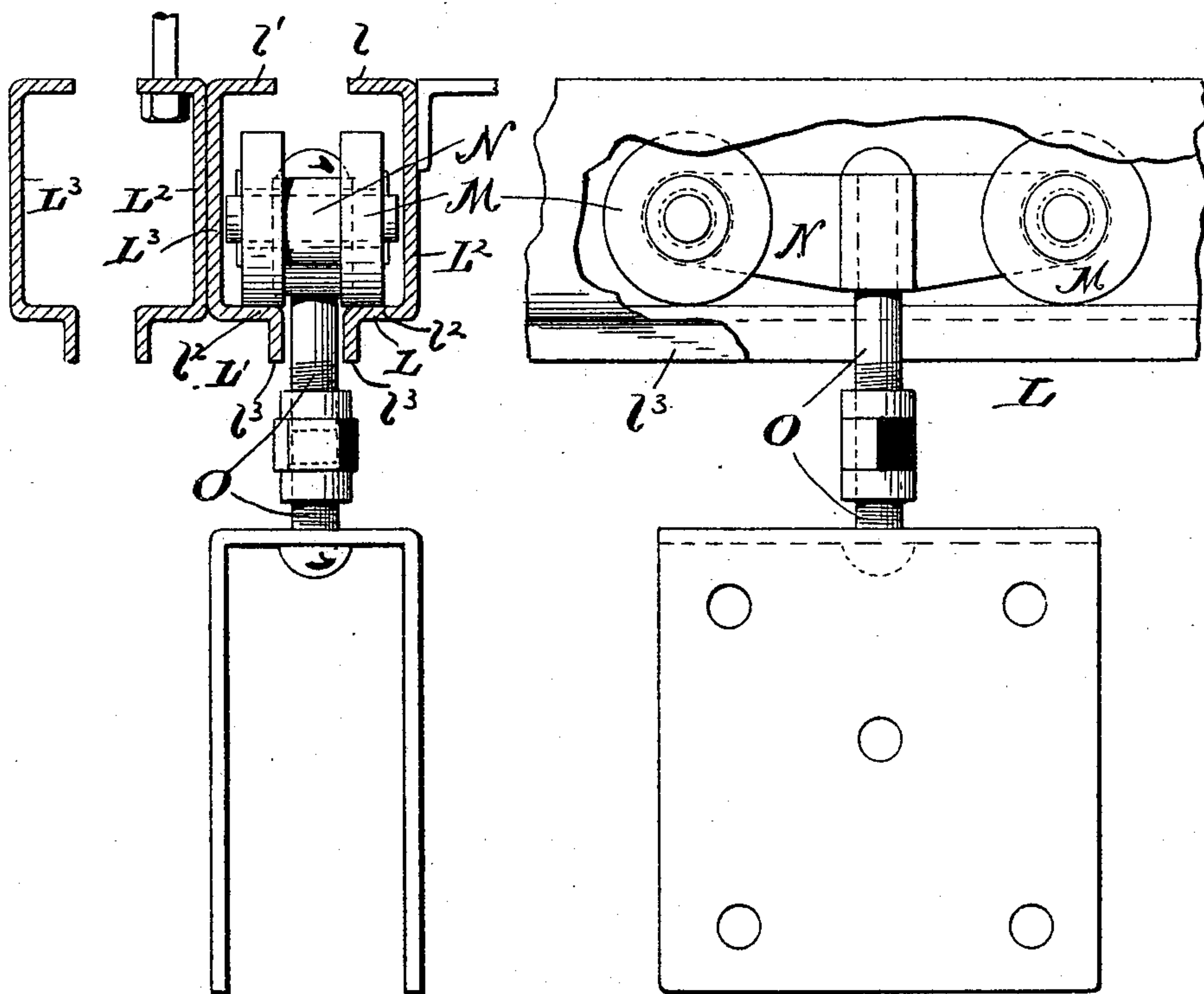


Fig. 4

Fig. 5.

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# UNITED STATES PATENT OFFICE.

WILLIAM RUSSELL, OF CLEVELAND, OHIO.

## FIREPROOF DOOR.

SPECIFICATION forming part of Letters Patent No. 583,713, dated June 1, 1897.

Application filed March 30, 1896. Serial No. 585,398. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM RUSSELL, of Cleveland, Cuyahoga county, Ohio, have invented certain new and useful Improvements in Fireproof Doors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to fireproof doors and hangers for the same; and it consists in the peculiar construction which will be hereinafter fully set forth.

In the drawings, Figure 1 is a view in elevation, partly in section, illustrating my improved door. Fig. 2 is a vertical section taken through the door. Fig. 3 is a sectional view taken at line 3 3, illustrating more clearly the mode of packing the screws and also the mode of fastening the parts together. Figs. 4 and 5 are views illustrating the mode of hanging the door.

A A represent two layers of matched lumber, which are arranged so as to run in opposite directions and brace each other, as shown. These layers form the panel of the door.

B B' represent the stiles and bars forming the frame of the door, to which the matched pieces A A, which form the panel, are secured.

C C represent cross-pieces or "slats," which run in a horizontal direction across between the stiles B and approximately parallel to the bars B'. These cross-pieces are formed of less thickness than either the stiles or bars of the frame and form in connection therewith pockets or depressions C' C' and allow of the sheathing being dished or depressed, as shown. Both sides of the door are formed alike in regard to the panel A A and frame B B' and also in regard to the cross-piece C C, and both sides are thus provided with pockets C' C'. Both sides are also alike in packing and sheathing. Secured to the bottom of the pockets C' C' or to the panel A A is metallic lathing D, such as is usually provided to retain plastering in place on walls, &c.

E represents a filling of mineral wool which is packed in the pockets C' C' and is retained in place and prevented from settling by the lathing D and cross-plates C C.

F represents a sheathing of sheet or plate metal which is secured in position, as shown in Figs. 2 and 3, by means of flanged nuts *f* and bolt *f'*, which I prefer to pack with fireproof and heat-non-conducting material *f*<sup>2</sup>, as shown. Between the sheathing F and the stiles, bars, and slats of the door is a layer of asbestos H, thus keeping the sheathing from direct contact with the wood of the door.

K represents strips of metal which are secured around and inclose the edges of the door. These strips K are secured to the edges by means of wood-screws *k*, which are packed around with mineral wool *k'* at that part which would first come in contact with the wood, thus preventing the heat (in case of fire) from being conducted by the screws and charring the wood and loosening the fastenings of the strips K, inasmuch as the screw must be long and the part of the wood in direct contact therewith is protected. If desired, I may place asbestos between the strips K and the edges of the door, as shown.

In Figs. 4 and 5 I have shown a construction of hanger and track especially adapted to my improved door, which I will proceed to describe.

L L' represents my improved track. Each track consists of two flanged pieces, as illustrated, the upper flanges *l l'* of each piece providing means for securing the track, and the lower flanges *l*<sup>2</sup> *l*<sup>2</sup> providing the tread for the wheels M M of the hanger. The lower flanges *l*<sup>2</sup> *l*<sup>2</sup> are reinforced by vertical flanges *l*<sup>3</sup> *l*<sup>3</sup>, which extend downward from the tread-flanges. The main portion or sides *L*<sup>2</sup> *L*<sup>3</sup> of the pieces L L' are so constructed as that they may abut against each other and leave but a small space between the treads of the tracks when it is desired to use two or more tracks for hanging overlapping doors. In forming the tracks for use with two or more overlapping doors the parts *L*<sup>2</sup> *L*<sup>3</sup> are preferably secured together by rivets or bolts or in any other suitable manner, which helps to strengthen the tracks and keep them in relative position. The wheels M M are journaled in bearings provided in a frame or cross-truss N. Depending from the frame N is a hanger or connecting-rod O, which is formed in two parts which are provided with reverse screw-



threads and united by a nut with corresponding threads, so that as the nut is turned in one direction or the other the hanger or connecting-rod O is lengthened or shortened and  
 5 the door suspended therefrom is lowered or raised, as desired. To the lower end of the hanger O is secured an inverted-U-shaped clip of metal which is secured to the upper portion of the door and acts as a connection  
 10 between the hanger O and the door.

With my construction of track and hanger two or more doors may be allowed to pass each other and still overlap by forming and securing the tracks, as shown in Fig. 4.  
 15 Also, the tracks being formed of two pieces, they are set and secured in position more easily, inasmuch as the bolts or fastenings may be easily inserted in the upper flanges.

What I claim is—

20 1. In a fireproof door, the combination with the panel of said door, said panel being surrounded by a frame, of strips or cross-pieces located approximately parallel to the bars of the frame and acting as a support to the metal  
 25 sheathing, and metallic lathing located between said strips acting to support the packing, substantially as and for the purpose shown and described.

30 2. A fireproof door, consisting of a frame and panel or panels of wood metallic lathing

suitably secured to the panel or panels, packing supported by said lathing and a metallic sheathing inclosing the whole, substantially as and for the purpose shown and described.

3. In a fireproof door, the combination with 35 an edge strip or strips, of securing-screws, the said screws being surrounded or packed above where they engage the wood with a heat-non-conducting and fireproof material, substantially as and for the purpose shown and de- 40 scribed.

4. A hanger-track for fireproof doors consisting of the separate horizontally-flanged pieces, said horizontal flanges being located at the upper and lower faces of the track, the 45 upper flange providing a means for securing the track in position, and the lower flange having a downwardly-projecting reinforcing-flange and providing the tread for the hanger-wheels, said downwardly-projecting flanges 50 also acting as guards against the side movement of the hanger, substantially as shown and described.

In testimony whereof I sign this specification, in the presence of two witnesses, this 27th 55 day of February, 1896.

WILLIAM RUSSELL.

Witnesses:

L. WARD HOOVER,  
 ELLA E. TILDEN.