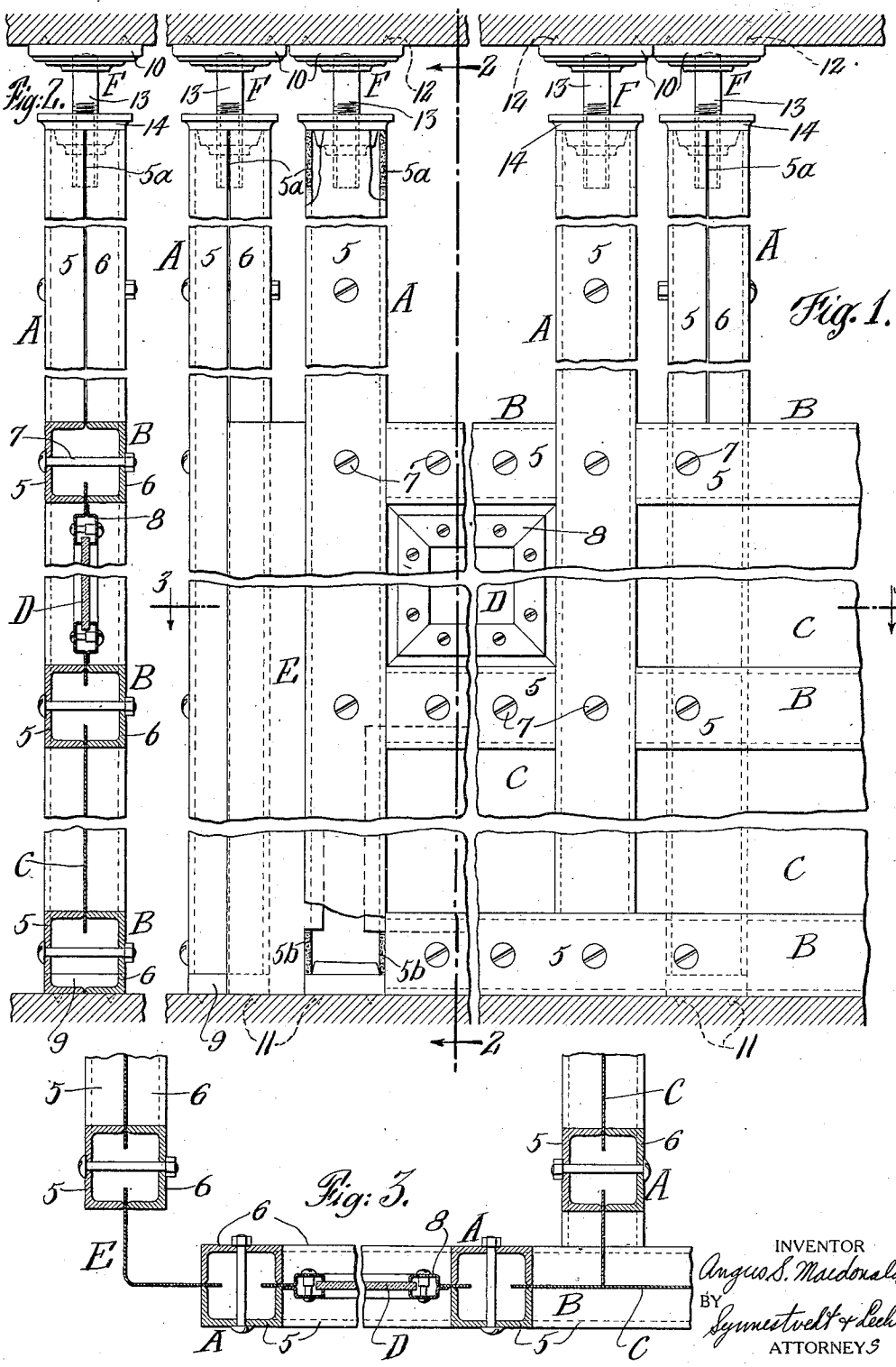
Aug. 5, 1930. A. S. MACDONALD 1,772,286

METALLIC PARTITION

Filed April 29, 1927 6 Sheets-Sheet 1



Aug. 5, 1930. A. S. MACDONALD 1,772,286

METALLIC PARTITION

Filed April 29, 1927 6 Sheets-Sheet 2

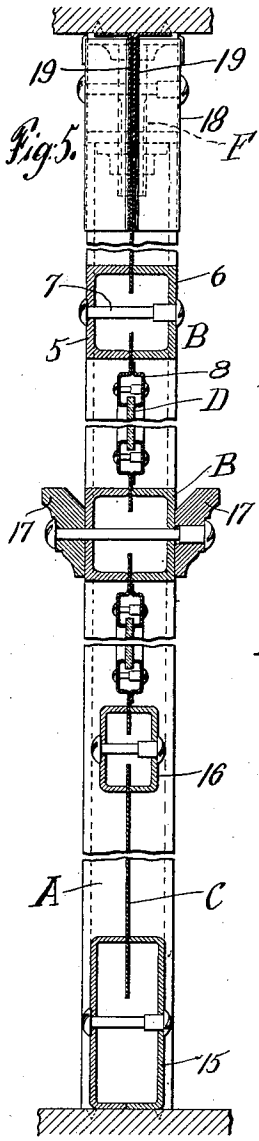


Fig. 5.

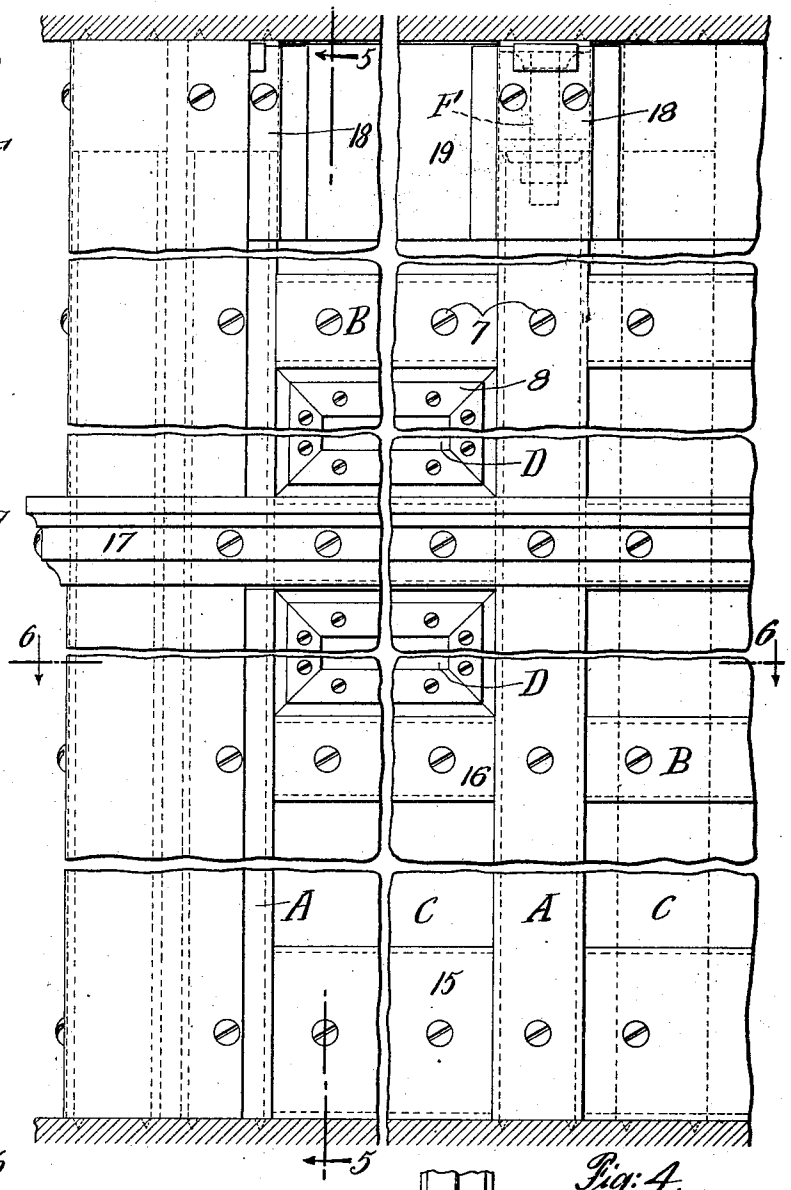


Fig. 4.

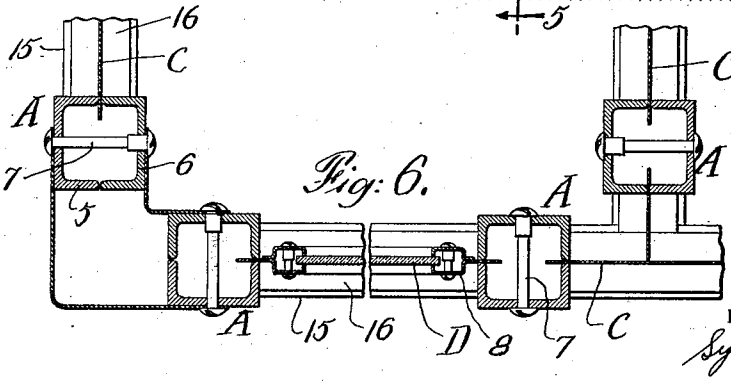


Fig. 6.

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Aug. 5, 1930. A. S. MACDONALD 1,772,286

METALLIC PARTITION

Filed April 29, 1927 6 Sheets-Sheet 3

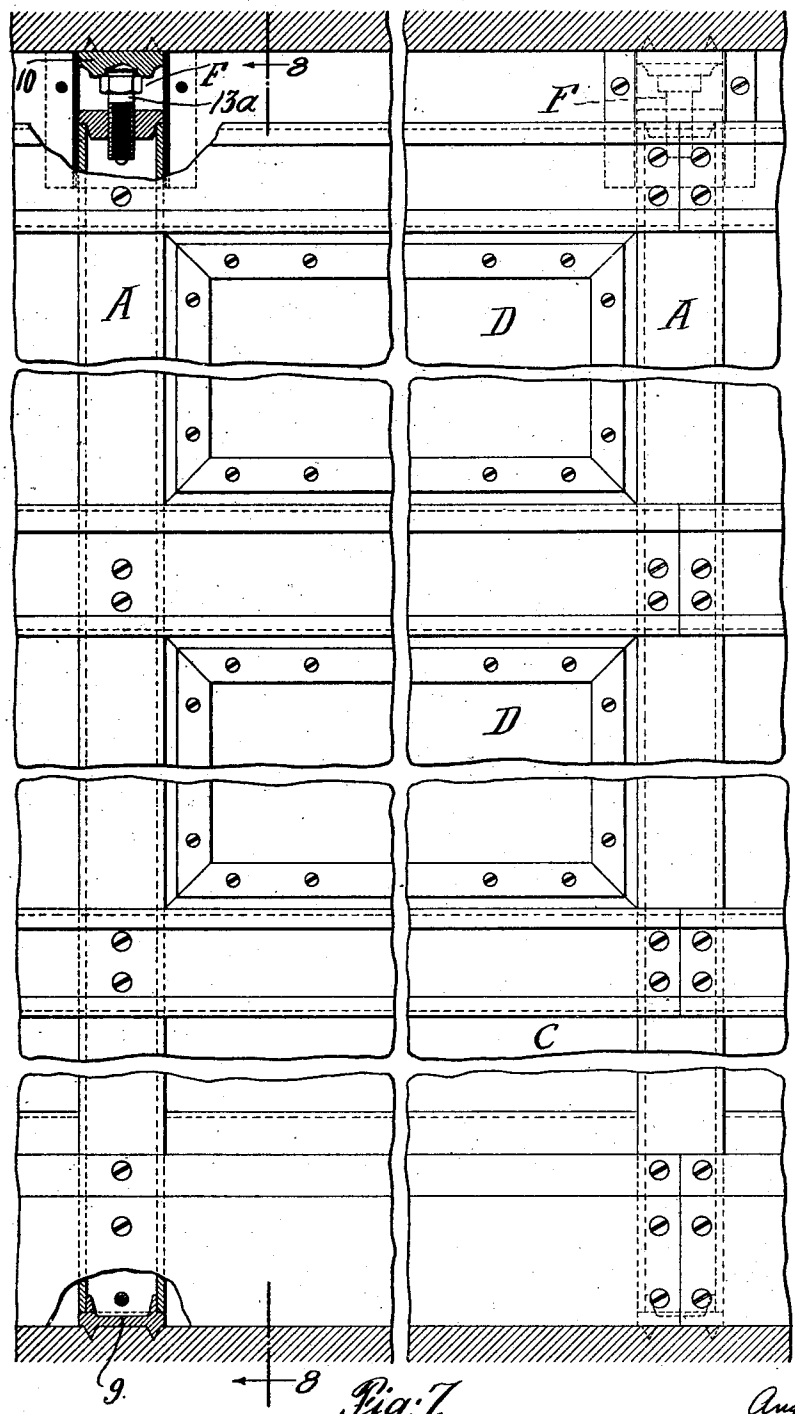


Fig. 7.

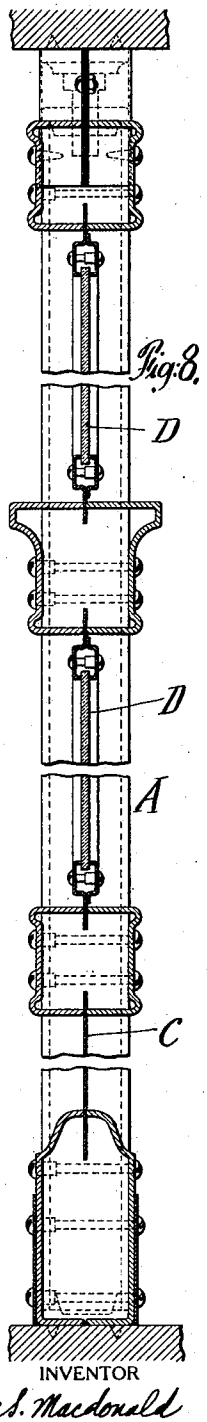


Fig. 8.

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Filed April 29, 1927 6 Sheets-Sheet 4

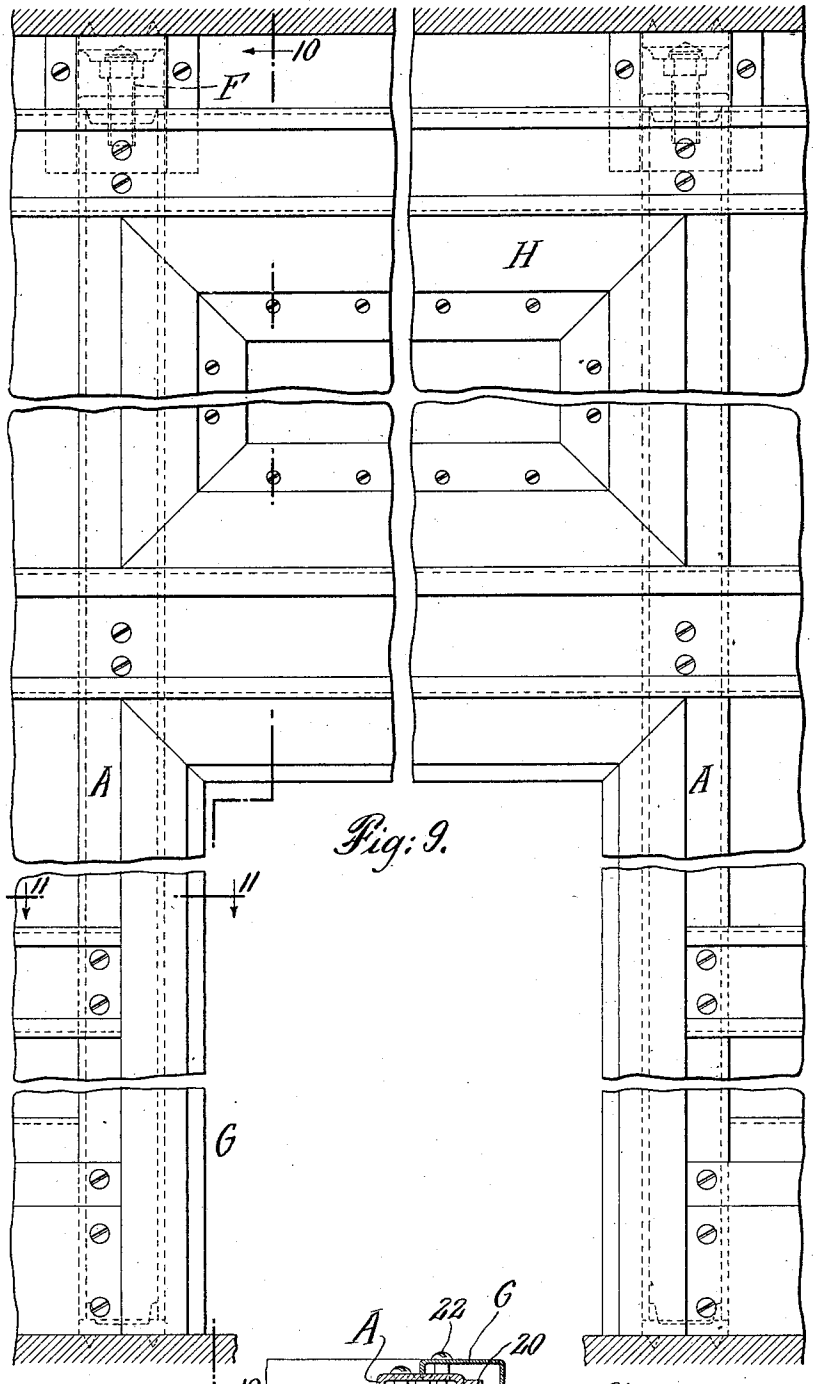


Fig: 9.

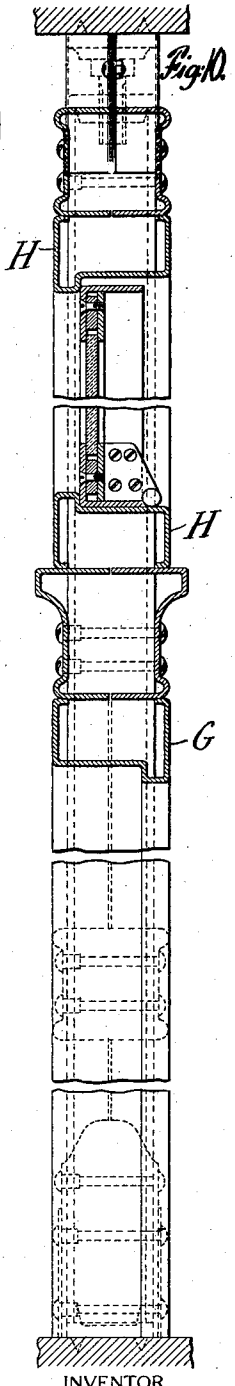


Fig: 10.

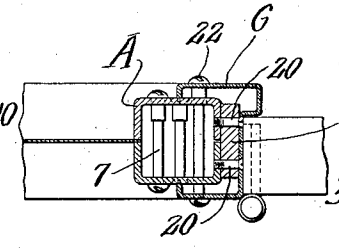


Fig: 11.

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METALLIC PARTITION

Filed April 29, 1927 6 Sheets-Sheet 5

Fig: 12.

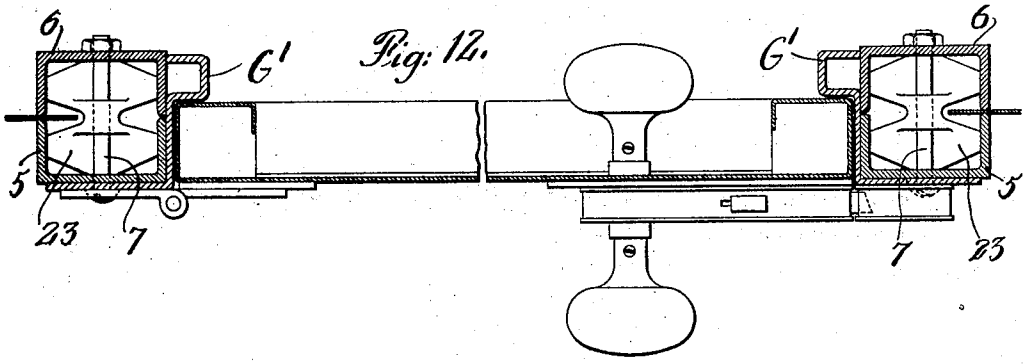


Fig: 15.

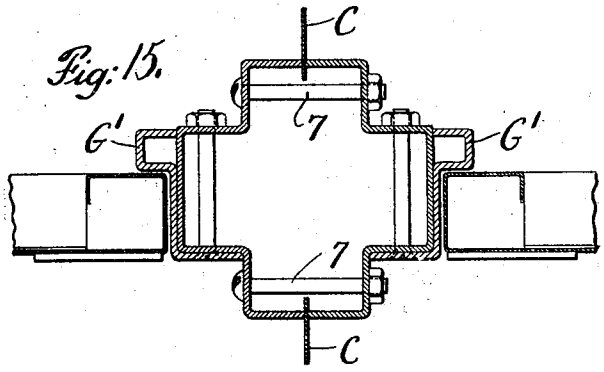


Fig: 13.

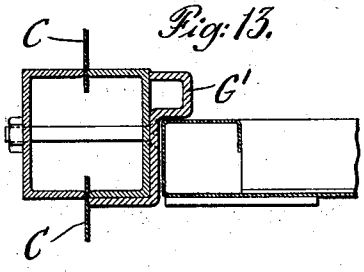


Fig: 16.

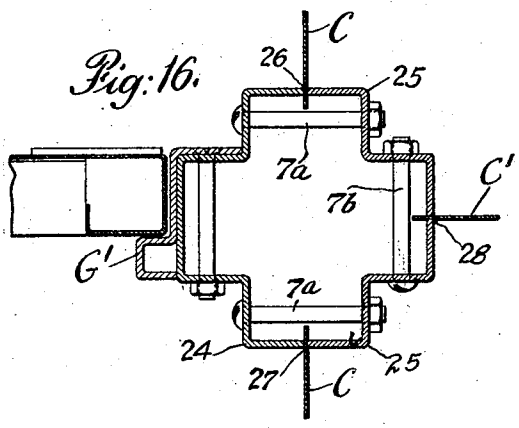
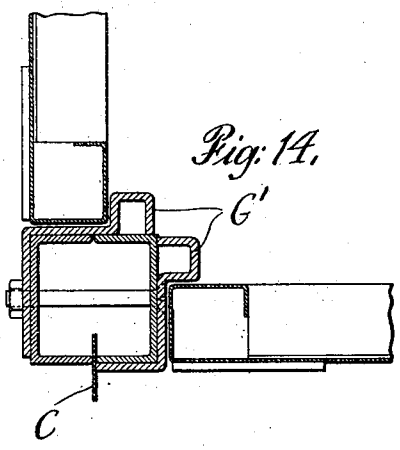


Fig: 14.



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METALLIC PARTITION

Filed April 29, 1927 6 Sheets-Sheet 6

Fig: 17.

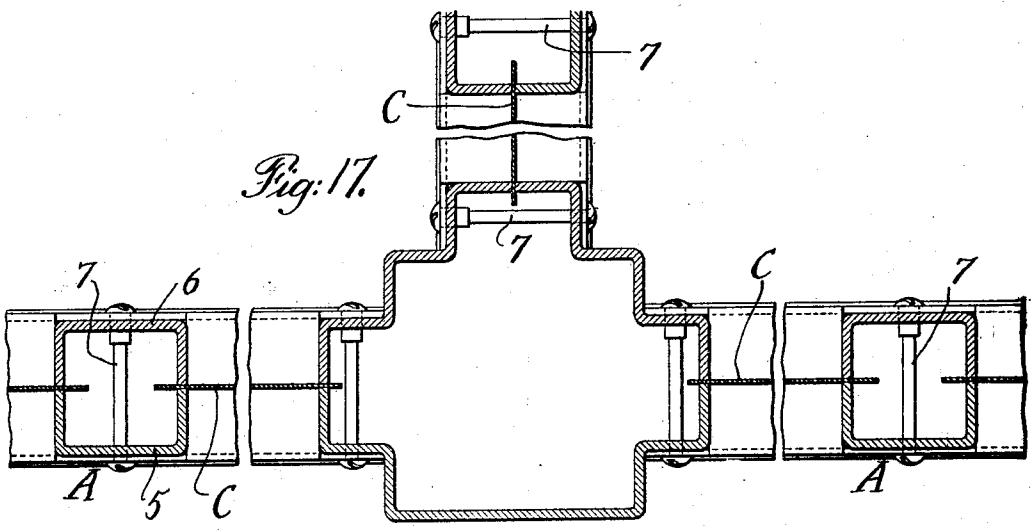


Fig: 18.

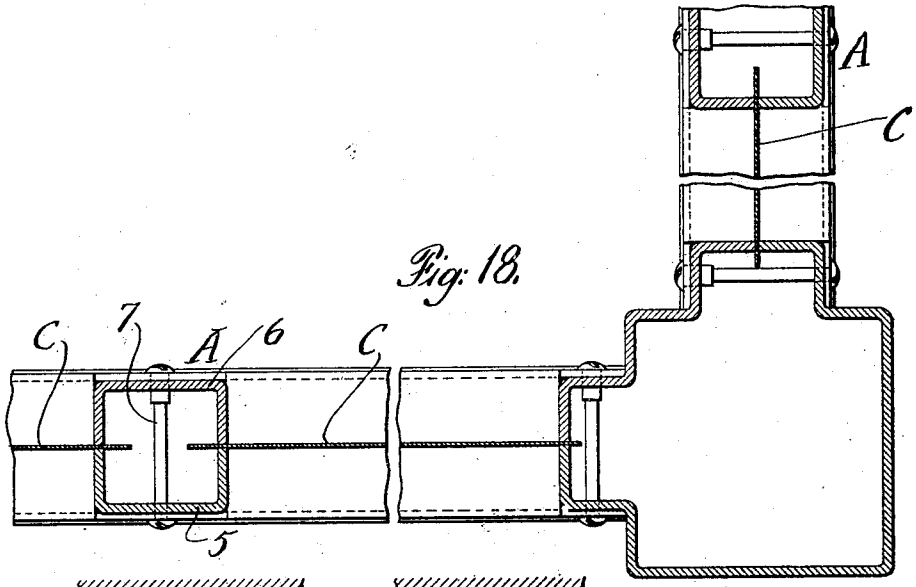


Fig: 19.

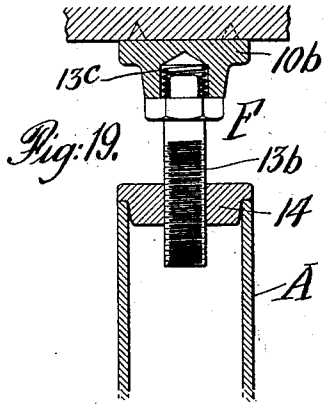
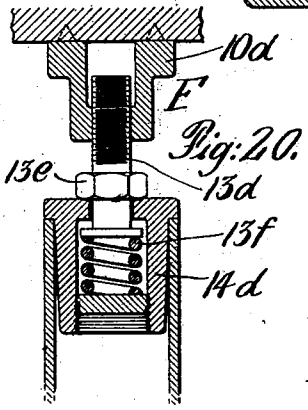


Fig: 20.



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UNITED STATES PATENT OFFICE

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METALLIC PARTITION

Application filed April 29, 1927. Serial No. 187,437.

This invention relates to metallic partitions for buildings, and it has, for one of its primary objects, the provision of a partition structure of simple construction in which the structural or frame members in themselves are adapted to hold the panel members in position without employing moldings, attachment strips, or the like, as has been the practice heretofore.

Another object of the invention is the provision of a partition structure which may be largely constructed of metallic parts as they come from the mill.

Still another object of the invention is the provision of a partition structure which may be erected and secured in erected position in a very simple manner.

The advantages of a partition constructed in accordance with my invention are manifold, some of which have been pointed out in the foregoing, and others will become apparent to those skilled in the art.

How the foregoing, together with such other objects and advantages as may hereinafter appear, or are incident to my invention, are realized, is illustrated in preferred form in the accompanying drawings, wherein—

Fig. 1 is a fragmentary elevation of a partition constructed in accordance with my invention, certain portions being broken out to condense the figure.

Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1.

Fig. 3 is a plan section taken on the line 3—3 of Fig. 1.

Fig. 4 is a view similar to Fig. 1 illustrating a modified form of the invention.

Fig. 5 is a vertical section taken on the line 5—5 of Fig. 4.

Fig. 6 is a plan section taken on the line 6—6 of Fig. 4.

Fig. 7 illustrates another modification, the view being similar to Fig. 1.

Fig. 8 is a vertical section taken on the line 8—8 of Fig. 7.

Fig. 9 is a fragmentary elevation of the door and transom portion of a partition, the door being omitted.

Fig. 10 is a vertical section taken on the line 10—10 of Fig. 9.

Fig. 11 is a plan section taken on the line 11—11 of Fig. 9.

Fig. 12 is a plan section through a door opening of a modified construction, with a door indicated in place.

Figs. 13, 14, 15 and 16 are fragmentary plan sections of certain details of the invention, and

Fig. 17 is a plan section showing a form of post employed where partitions are arranged in T-form.

Fig. 18 is a plan section showing a form of post employed at corners.

Figs. 19 and 20 are detail views of two forms of securing means for holding the partitions in their erected position.

Referring to Figs. 1, 2 and 3, it will be seen that the partition therein illustrated is constructed entirely of metallic parts, with the exception of one glass panel, and that it comprises upright or vertical structural members A, lateral or horizontal structural members B, metallic panel members C, glass panel members D, corner members E, and securing and positioning devices F.

The structural members A and B are, in this instance, each formed of a pair of standard channel irons 5 and 6 positioned with their flanges facing each other whereby these members take a square form. It will be noted that these channel irons are spaced slightly apart so that the structural members formed thereby are longitudinally split along their center lines, thus providing a slit for receiving the various panel members of the partition as will further appear.

The flanges of the upright structural members or posts are preferably welded together at the ends of the posts, as indicated at 5^a and 5^b in Figs. 1 and 2 of the drawings, which holds the channels in a fixed mutual relation, thus preventing the flanges of one channel from slipping by the flanges of the other channel. This also makes the strength of the posts approximate the strength of a square post of equal cross section.

The novel, simple and convenient manner in which the panel members are held in place

will now be described, as will be the general assemblage and erection of the partition.

In the foregoing, it has been pointed out that the structural members are provided with longitudinal slits or openings by virtue of which these members are adapted to receive the edge portions of the panels C and D, and of the corner members E. After the panels and corner members are inserted into the openings they are gripped fast between the flanges of the structural members by tightening up the suitably spaced bolts 7 which pass through the channels. It will thus be seen that a very simple method of securing these members in place is provided which enables me to employ plain sheet metal plates or panels as they come from the mill, there being no necessity for shop fabrication. The glass panels D are preferably provided with a metal frame 8, which frame is gripped between the flanges of the structural members in the same manner as the panels C. The corner members E are formed of sheet metal bent at right angles and also gripped in like manner.

In this connection, it is pointed out that by reason of the mutual grip the horizontal and vertical structural members have on the same panel member, it is unnecessary to provide any attachment between said structural members. Furthermore, the structural members themselves hold the panels and frames in position, which eliminates the use of any intermediate mouldings, attachment strips, or the like, such as are ordinarily employed in partition structures.

Further novelty of the invention resides in the simple manner in which the partitions are secured in proper erected position which will now appear.

Each post or upright structural member has associated therewith a securing and positioning device F functioning to put the posts in compression whereby the anti-slip base members 9, on which the posts rest, are caused to take a firm grip on the floor, and the anti-slip top shoe members 10 are caused to take a firm grip on the ceiling, thus stabilizing the partitions. The members 9 and 10 are preferably provided with pointed projections 11 and 12 respectively to insure such firm grip. The device F, as illustrated in Figs. 1 and 2, comprises a stud 13 having adjustable screw threaded engagement with the post cap 14, and socketed engagement with the top shoe member 10. It will be apparent that by this construction I am enabled to erect the partitions without drilling holes in the floors or ceilings.

In the modification illustrated in Figures 4, 5 and 6, the upright structural members or posts C and certain of the horizontal structural members, as B, are formed of the channel iron construction above described, while others of the horizontal members are formed of channel members of pressed metal construction, whereby the structural members may be conveniently given various shapes in cross section, as exemplified by the base rail 15 and the chair rail 16 in Figs. 4 and 5. Should ornamentation of the structural members be desired, moulding strips may be secured thereto in any suitable manner, as indicated at 17.

Reverting to the construction shown in Figs. 1 and 2, it will be noted that the upper portion of the partition is left open, while in Figs. 4 and 5 panel members are provided all the way up to the ceiling. In such constructions shield members 18 and filler members 19 are employed, the shield members 18 shrouding the securing device F′ and the filler members covering any gap existing between the upper row of panels and the ceiling. In Fig. 6 a modified corner arrangement is illustrated.

In Figs. 7 and 8, the same general principles of construction are carried out, there being, however, a slight modification in the adjustable compression stud 13^a, which stud is provided with a hexagon portion for turning the same. The horizontal members in this instance are formed into ornamental moulding shape.

Referring to Figs. 9, 10 and 11, it will be seen that I have therein illustrated a convenient construction employed where doors and transoms are to be provided in the partition. The door frame G and the transom frame H are formed of pressed metal members which are secured to the posts A by means of screws 20, as seen in Fig. 11. In this connection, it is pointed out that in order to add rigidity to the posts to which these frames are fastened, I have provided header splices 21 between the frames and the post. In addition to the screws 20 the clamp screws 22 are provided for securing the frames in place.

Fig. 12 shows a modified door frame G′ of light, simple and inexpensive construction. In this view, I have also indicated a plate-like member 23, which may be termed a "nest plate" between the channels 5 and 6, which serves to keep the flanges of the channels from sliding by each other when the clamping bolts are tightened up, thus preventing one channel from nesting into the other and avoiding the possibility of subjecting the panel members to bending strains. These nest plates may be employed at suitable intervals along the length of the structural members.

Figs. 13 to 16, inclusive, show various arrangements which may be employed in applying door frames to the partitions.

Fig. 17 shows the form of posts I employ in cases where one partition joins another intermediate its ends, that is to say, in T constructions. Here, as in the preferred form above described, the parts of the post, when

clamped together, secure the panel members in place.

Fig. 18 illustrates a convenient form of corner post also embodying the clamping feature of my invention. In some cases, a corner post of this construction would be preferable to the corner members illustrated in Figs. 1, 3, 4 and 6.

In Fig. 19, I have illustrated a modified form of securing and positioning device F in which a spring 13^e is interposed between the adjusting stud 13^b and the top shoe member 10^b whereby a yielding compression means is provided to compensate for any increase in the distance between the post A and the ceiling. In such event the spring 13^e acts to maintain the post under compression.

Fig. 20 shows another modified arrangement of the device F in which the stud 13^a is screw-threaded into the shoe member 10^a. In this construction, the hexagon nut portion 13^e of the stud acts on the post cap 14^a to put the post in compression. A spring 13^f is provided for maintaining the post under compression in the event that the gap between the top of the post and the ceiling should increase.

From the foregoing, it will be seen that a partition constructed in accordance with my invention lends itself very well to manufacture by quantity production methods, and may be readily erected by unskilled labor.

It is to be understood that in some cases I may prefer to employ wire work in place of sheet metal panels, which wire work would be held in place in the same manner as the sheet metal panels. Paneled railings may also be advantageously constructed in accordance with my invention.

Reverting now to the structural member disclosed in Fig. 16, it will be seen that it comprises a channel iron 24 and a pair of angle irons 25, 25 positioned with their flanges facing each other. The panel members C enter at their edge portions between the channel iron 24 and the angle irons 25, 25, as indicated at 26 and 27, and a panel member C′ enters at its edge between the angle irons 25, 25, as indicated at 28. Bolts 7^a are provided for securing each angle iron to the channel iron and bolts 7^b are provided for securing the angle irons together whereby the panel members are gripped and held in place.

I claim:—

A metallic partition comprising structural members, each composed of a pair of channel irons positioned with their flanges facing each other, panel members entering at their edge portions between the channel irons, and means for securing the channel irons together whereby the panel members are gripped and held in place, other structural members each composed of a channel iron and a pair of angle irons positioned with their flanges facing each other, panel members entering at their edge portions between the channel and angle irons, means for securing each angle iron to the channel iron, and means for securing the angle irons together whereby the panel members are gripped and held in place.

In testimony whereof I have hereunto signed my name.

ANGUS S. MACDONALD.