

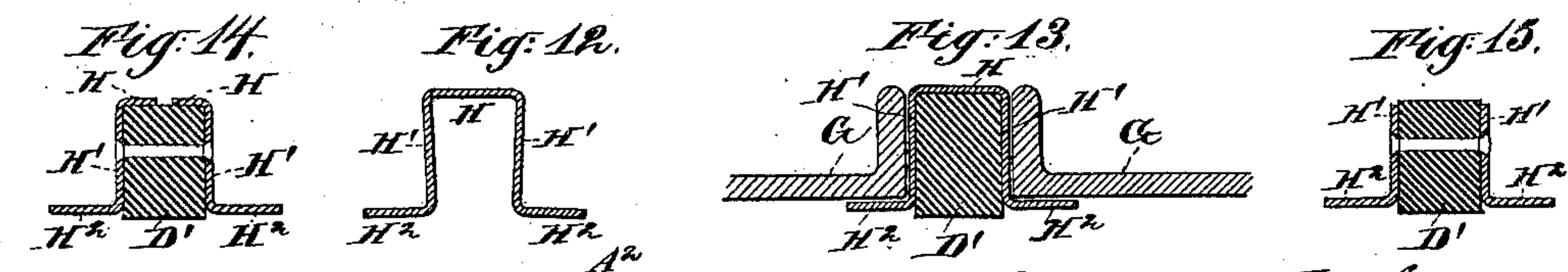
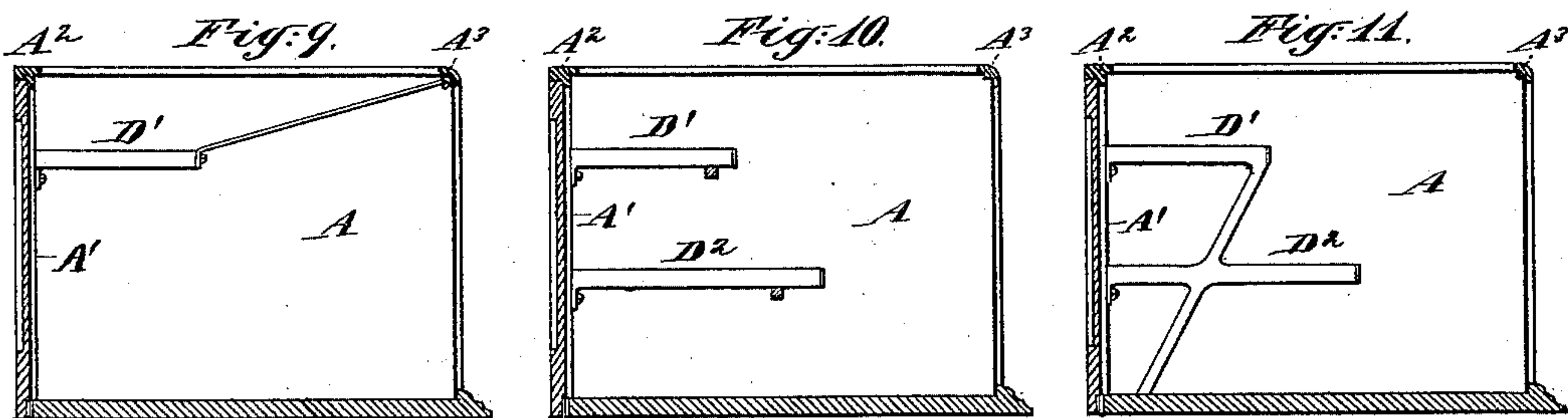
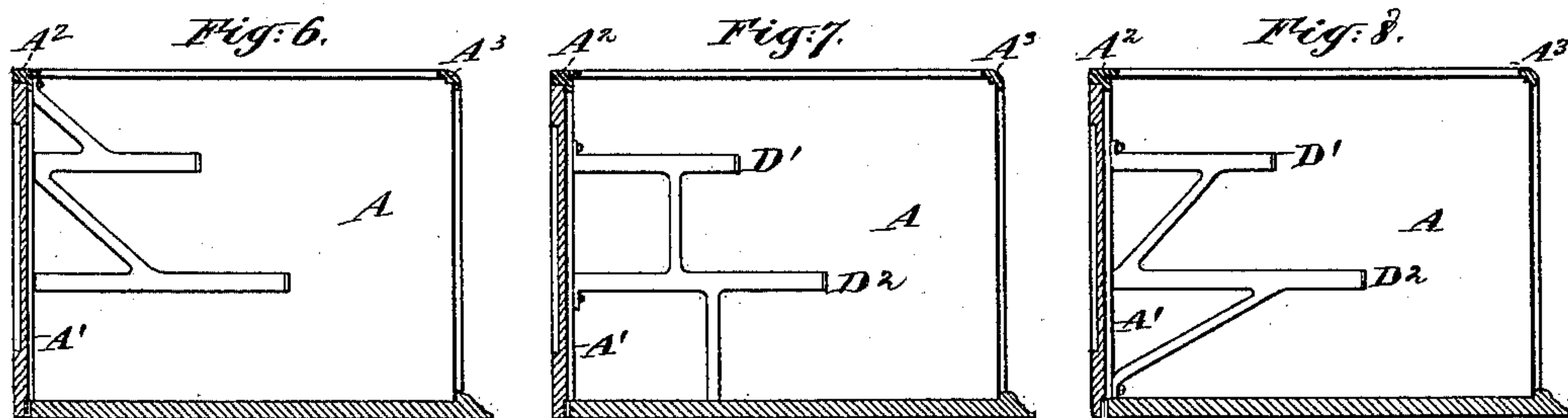
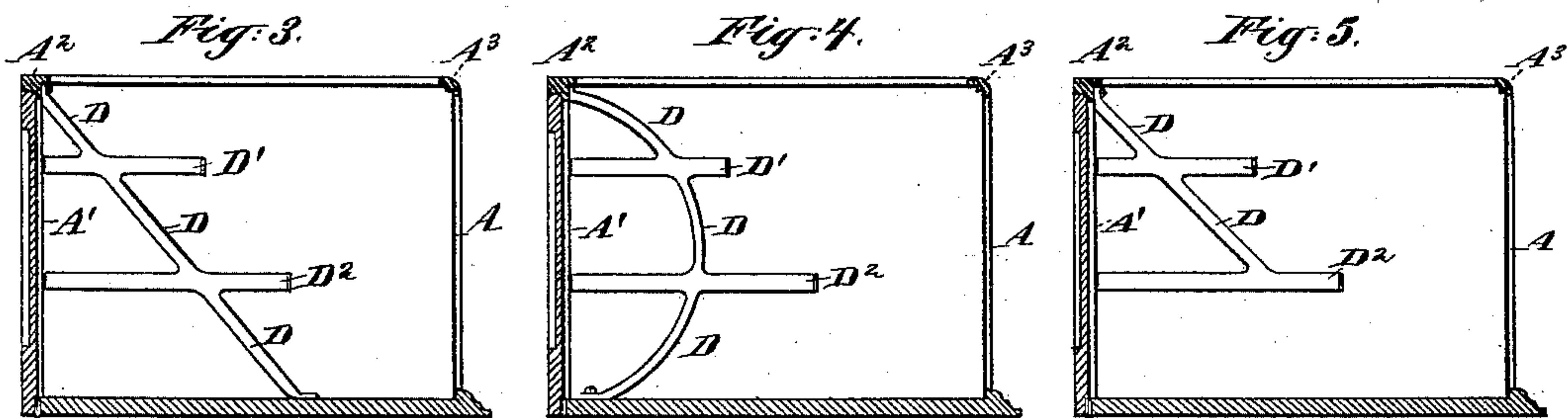
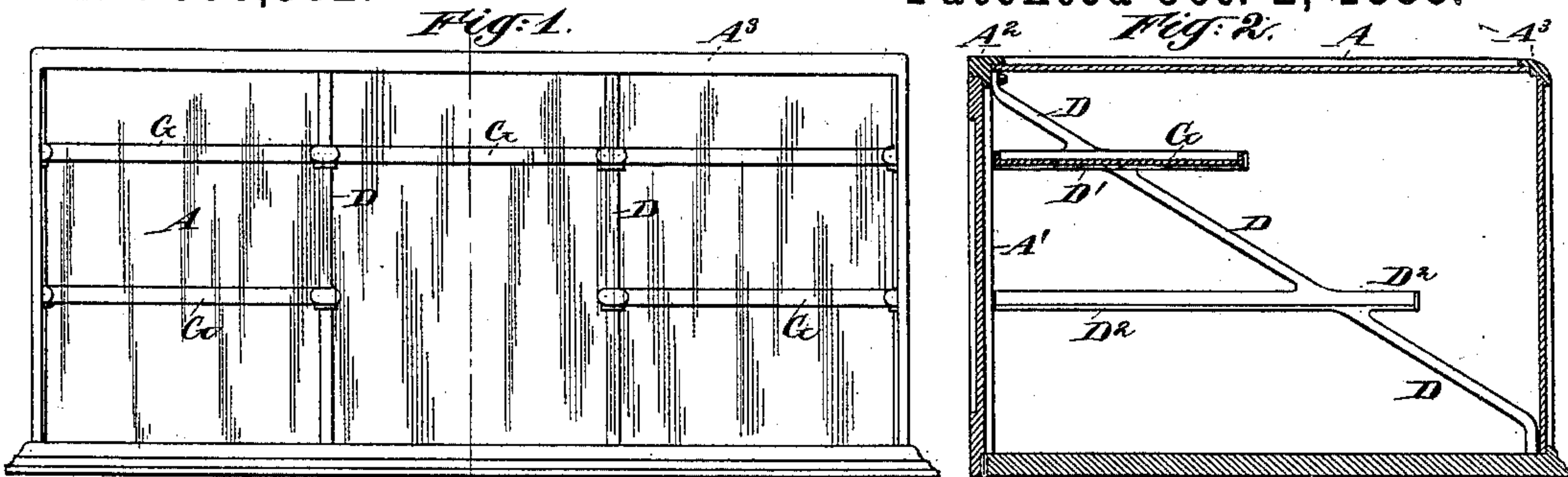
(No Model.)

E. J. FLETCHER.

SHOW CASE.

No. 390,582.

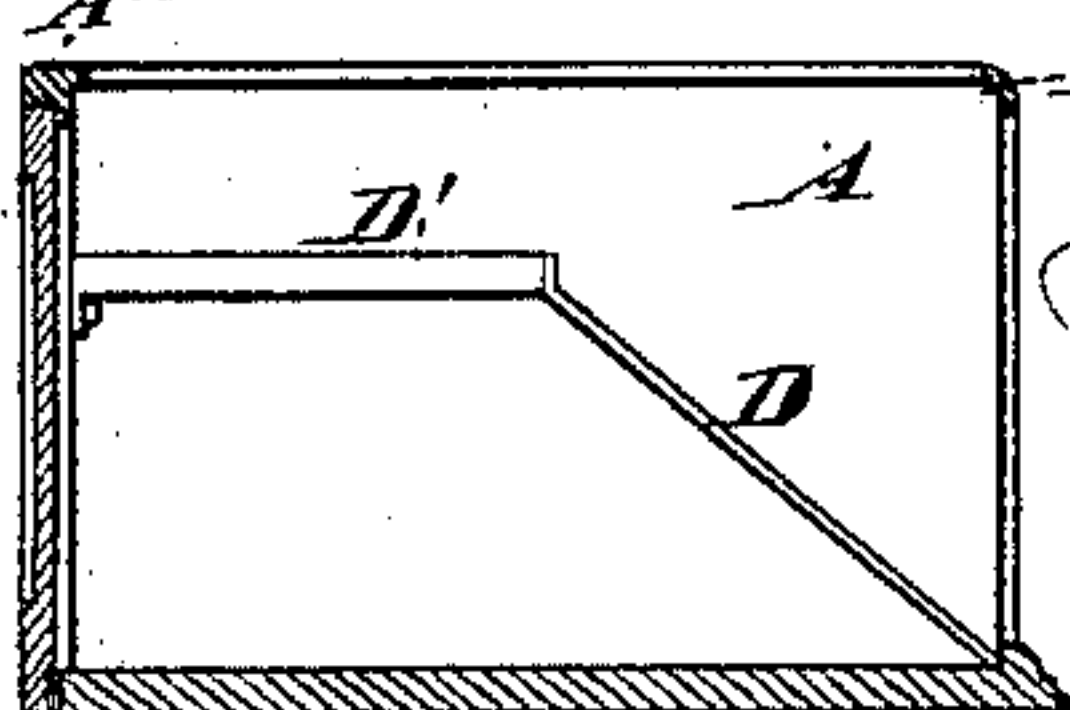
Patented Oct. 2, 1888.



Witnesses:

Charles C. Searle.  
H. A. Johnston.

Fig. 11.



Inventor:  
Edwin J. Fletcher  
by his Attorney  
Thomas Drew Station



# UNITED STATES PATENT OFFICE.

EDWIN JOHN FLETCHER, OF NEW YORK, N. Y.

## SHOW-CASE.

SPECIFICATION forming part of Letters Patent No. 390,582, dated October 2, 1888.

Application filed November 12, 1887. Serial No. 254,951. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN JOHN FLETCHER, of the city and county of New York, in the State of New York, have invented a certain new and useful Improvement in Show-Cases, of which the following is a specification.

I have in the patent to me, dated May 24, 1887, No. 363,621, shown provisions for holding up brackets or horizontal arms which support removable trays, so conditioned that when the upper trays are removed there is nothing left to obstruct the view from above of the articles on the trays below, and when both or all the tiers of trays are removed there is nothing left to obstruct the view of the articles on the bottom of the show-case.

In my present invention I employ substantially the same brackets or horizontal arms, and introduce and remove the trays in the same manner; but instead of holding up the arms by joining their rear ends to the only or principal support, and thus subjecting each arm to a considerable strain when supporting a heavy tray, I employ supporting-braces farther forward. I can thus take hold of each arm at or near its mid-length or front end. By using nickel-plated or otherwise tastily-finished braces they contribute to, rather than detract from, the appearance of the show-case and of the goods therein.

I have devised an improved construction of the arms, using a sheet-metal or analogous covering, which may be applied on a rough cast arm, whereby I reduce the cost of manufacture and reduce the thickness of the metal required for the runners, which extend along the arms and support the edges of the trays. This latter is important, as it reduces the extent to which the arms must protrude and be visible below the bottoms of the trays.

The accompanying drawings form a part of this specification.

Figure 1 is a front view of a show-case constructed according to my invention. Fig. 2 is a vertical cross-section. Figs. 3, 4, 5, 6, 7, 8, 9, 10, and 11 are corresponding vertical cross-sections showing modifications. Figs. 12 and 13 are on a larger scale. Fig. 12 is a vertical section through one of the sheet-metal covering-plates which I employ on the several arms to give a finish and afford the proper

support for the adjacent edges of the trays. Fig. 13 is a corresponding section showing the sheet-metal covering applied on an arm. Fig. 14 is a section showing a modification of this covering. Fig. 15 is a section showing another modification. Fig. 16 is a cross-section through the entire show-case, showing still another modification of the supporting-braces.

Similar letters of reference indicate corresponding parts in all the figures where they occur.

A is the show-case, certain portions being designated, when necessary, by additional marks, as A' A<sup>2</sup>, &c. I will represent the show-case as rectangular in section, provided with doors at the back. There are the usual uprights, A', between the doors at the back, and the usual back rail, A<sup>2</sup>, extending along the top of the back. There is also in the show-case, as shown, a front rail, A<sup>3</sup>, extending along the top of the front. The frame of the show-case may be any ordinary material, as hard wood or richly-surfaced metal.

G are the trays, which it is the object of my invention to support. The upper series of trays are narrow, the next wider, and the trays for the floor of the show-case may extend the whole width.

D' D<sup>2</sup> are horizontal brackets or arms adapted to support the trays, the upper arms, D', being short and adapted to support the narrow trays which are employed in the upper tier. The arms D<sup>2</sup> below are longer and adapted to support wider trays.

Referring to Figs. 1 and 2, D is an inclined brace, taking hold at its upper and rear end of the back rail, A<sup>2</sup>, and either simply resting on the base at the front or being firmly screwed or otherwise fastened thereto. If firmly attached, the braces D stiffen and strengthen the general frame of the show-case. The arms D' D<sup>2</sup> may be cast in one with the braces D, being set at such an angle thereto that when the parts are in place the arms will be level or approximately level.

There is a brace D, with its arms D' D<sup>2</sup>, at each end of the show-case. There are also one or more intermediate braces and arms.

I have shown the show-case as having three doors at the back, and have correspondingly divided the show-case into three sections, adapt-



ed for receiving three lengths of the trays G. For this show-case there are required four of the inclined braces D, each with its proper arms D' D<sup>2</sup>.

5 I have improved the means of supporting the trays on the arms. It is essential that the arms have considerable depth in cross-section to give strength and stiffness vertically, and also that they have narrow horizontal ledges  
10 or runners to support the edges of the trays. I make the arms with the proper vertical depth to give strength, and without ledges or runners, and then add a suitably-formed strip of suitable material, as sheet metal, which ap-  
15 plies over the upper edge of the arm and extends down on each side, and thence outward from a line at or near the base of the arm. These horizontal extensions of the edges of the sheet metal form the runners.

20 H is the top of the sheet metal. H' H' are the extensions of the same downward, and H<sup>2</sup> H<sup>2</sup> are the runners formed by bending the portions of the metal near the edges into the proper horizontal position to support the edges of the  
25 trays. The sheet metal is formed with a disposition to spring inward, and it is forcibly opened to apply it on the corresponding arm. When it is liberated in the proper position, its elasticity causes it to embrace the arm with  
30 sufficient force to prevent its being lifted or otherwise displaced in the movement of the trays. This mode of supporting the trays, when carried out in sheet metal, attains the end with less thickness of support than is  
35 required when the ledges or runners are cast. It is important to avoid unnecessary increase in the depth of the arm and its attachments. The sheet metal may be used with its edges turned or "hemmed," or simply with its edges  
40 left plain and smoothly finished.

The sheet metal may be nickel-plated, burnished, or otherwise richly surfaced, and serves as a covering and a finish for the arms in addition to their function in mechanically sup-  
45 porting the trays.

In the modification shown in Fig. 3 the braces D are extended from the back rail, A<sup>2</sup>, or post near it, down to points about the mid-width of the bottom or floor of the show-case.  
50 The arms are set at a less angle to the brace than in Fig. 2, so that when the parts are in position the arms are horizontal and the trays are held level.

In the modification shown in Fig. 4 the  
55 braces D are fixed to the back rail, A<sup>2</sup>, at the top and describe a curve. The upper portions of these curved brackets stand in about the same position relatively to the back rail and to the upper arms, D', as the corresponding parts in Fig. 2; but below this a marked  
60 change is observed, the brace describing a graceful curve, and either taking hold of the show-case at the bottom or simply resting against the back at or near the bottom. The  
65 arms D' D<sup>2</sup> are set level and hold the trays level.

In the modification shown in Fig. 5 the braces D correspond in position to those in

Fig. 2; but instead of extending to the front they stop at their junction with the lower arm, D<sup>2</sup>. In this form of the invention the rear  
70 ends of the arms D' D<sup>2</sup> rest against the up-rights A' between the doors at the back of the show-case. The same condition in that respect may obtain with regard to the arms in the  
75 forms shown in Figs. 2, 3, and 4. Instead of resting against the up-rights A', the arms in all these forms may be united strongly to the up-rights or additional posts.

In the modification shown in Fig. 6 the parts corresponding to the inclined braces D are in  
80 two short lengths, one extending from the back rail, A<sup>2</sup>, to the upper arm, D', and the other extending from a lower point on the corresponding upright A' to unite with and support the lower arm, D<sup>2</sup>. The arms D' in  
85 this modification rest against or are strongly secured to the corresponding rear upright, A', of the show-case.

In the modification shown in Fig. 7 one length of each brace D extends upward from a  
90 point near the mid-width of the show-case, and joins to the lower arm, D<sup>2</sup>, at right angles, while another length of the brace D extends upward from a point farther rearward on the lower arm, D<sup>2</sup>, and joins to the upper  
95 arm, D'. Both the arms in this modification bear against or are strongly joined to the corresponding rear up-rights, A', or additional posts.

In the modification shown in Fig. 8 the two  
100 arms D' D<sup>2</sup> are strongly attached at their rear edges to the corresponding rear upright, A', or to an additional upright bar provided in front of such upright, and the front edge of each arm is supported by an inclined brace ex-  
105 tending therefrom downward and rearward and taking hold of the rear upright, A', or of the additional upright in front thereof.

In the modification shown in Fig. 9 the lower arms, D<sup>2</sup>, are omitted, and only the up-  
110 per arms, D', are employed. The rear ends of these are attached to the up-rights introduced at the back or up-rights of case. The forward end is supported by an inclined brace standing in the position represented, and unit-  
115 ing the front end of the arm D' with the front top rail of the show-case.

Fig. 10 shows the arms held up by horizontal bars extending lengthwise of the case, said bars being supported at or near the ends of  
120 the show-case. The arms may or may not engage the posts at the back.

In the forms shown in Figs. 2, 3, 9, and 10 the manner of placing the braces in the case may be reversed, that is to say, the brace may  
125 engage the front rail, A<sup>2</sup>, of the case, then descend to the rear of the case, and rest on or be fastened to the floor of the case or upright or other support.

In the modification shown in Fig. 11 each  
130 arm is supported by the back, as above, and an inclined brace is also introduced at a more forward position.

In all the forms the arms D' D<sup>2</sup> may be at-



tached at the rear to the uprights A', or to separate uprights standing in the rear of the case; or in many of the forms the arms need not extend quite to the rear, and need not engage with or touch anything at the rear.

It is not essential to the success of the invention that the arms D' D<sup>2</sup> be cast in one with the braces D. They may be made separately and joined by brazing, bolting, riveting, or other rigid connection.

All the modifications may be used with one arm, or with three instead of two.

In the form shown in Fig. 16 the lower end of brace extends obliquely from the front of the arm to the front of the case; but it may rest or be fixed at any point rearward. In this form, as in the other, the back end of the arm may engage with the upright of the case, or it may engage with an upright or other support at or near the back of the case.

I can use other material in place of sheet metal for the coverings H H' H<sup>2</sup>. I propose, especially, to try glass; but for general use I prefer sheet metal—as hard brass—nickel-plated.

When the covering is sheet metal, it may be made in two pieces, riveted or otherwise fastened at the sides of the arm, as shown in Figs. 14 and 15.

I claim as my invention—

1. In a show-case, the series of bracket-braces D, extending up and down near the center thereof at any desired angle, in combination with one or more bracket-arms, D' D<sup>2</sup>, for supporting the trays G, as herein specified.

2. In a show-case, the combination, with one or more horizontal arms, D' D<sup>2</sup>, of the covering H therefor, having projecting flanges H' H<sup>2</sup>, arranged to serve as a finish and bearing for the trays G, as herein specified.

In testimony whereof I have hereunto set my hand, at New York city, this 10th day of November, 1887, in the presence of two subscribing witnesses.

EDWIN JOHN FLETCHER.

Witnesses:

H. A. JOHNSTONE,  
M. FREEMAN BOYLE.