

No. 618,530.

Patented Jan. 31, 1899.

W. H. & F. A. WINSLOW.  
SHELVING CONSTRUCTION.

(Application filed Nov. 26, 1897.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

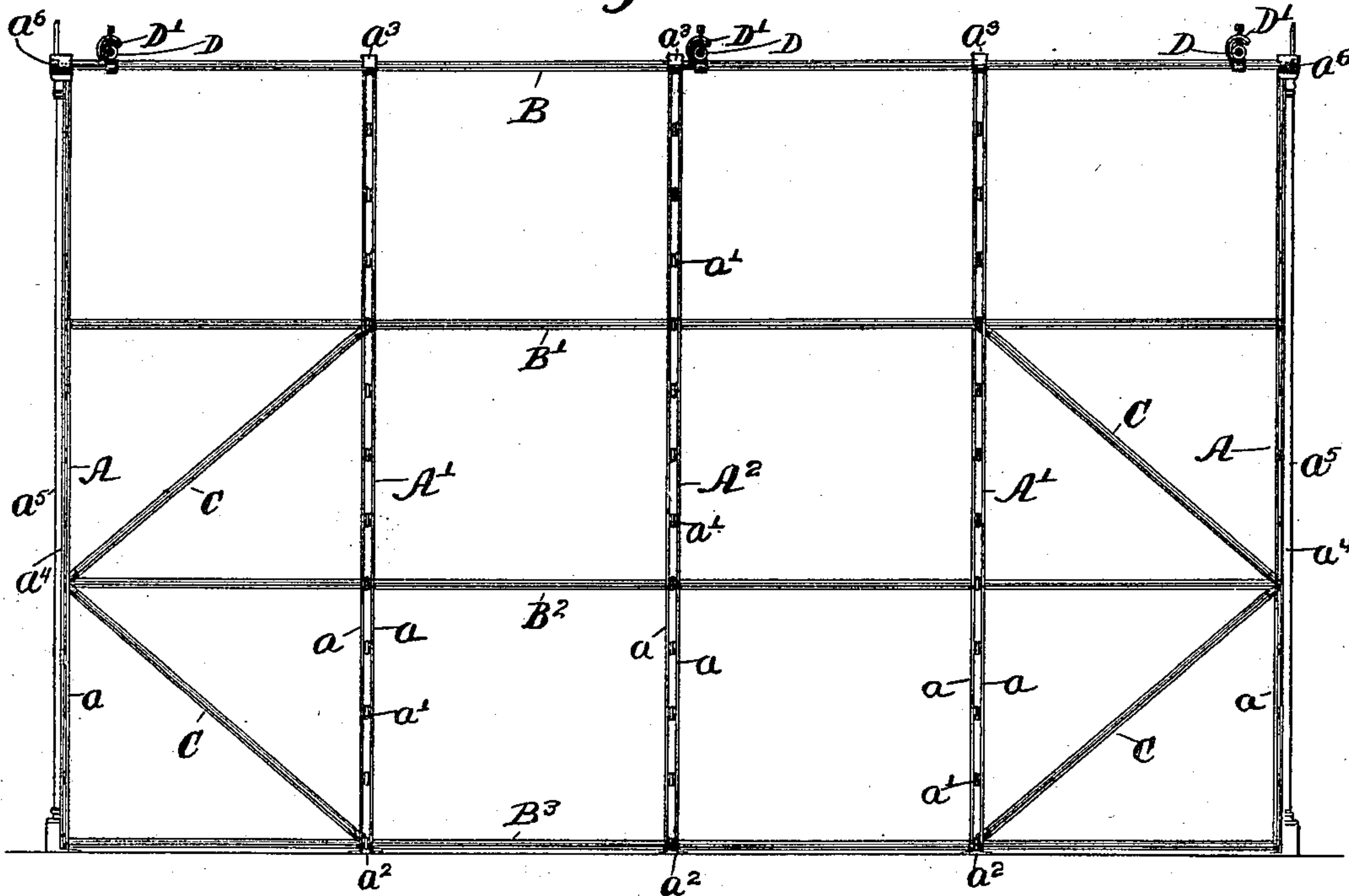


Fig. 2.

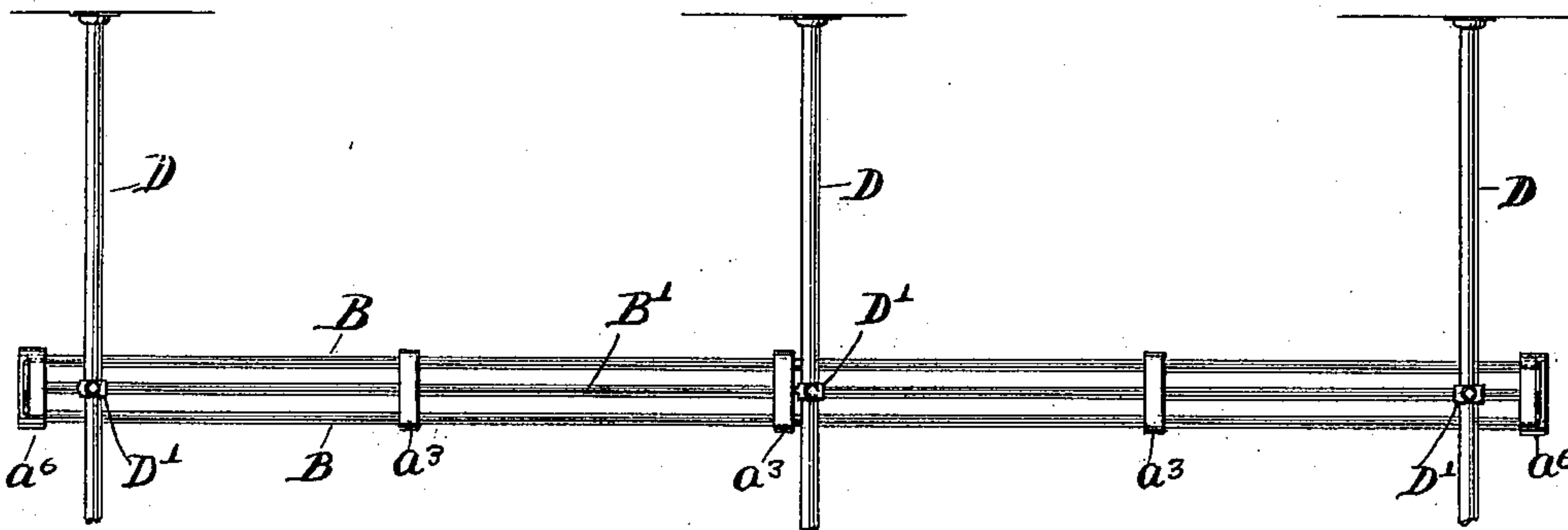
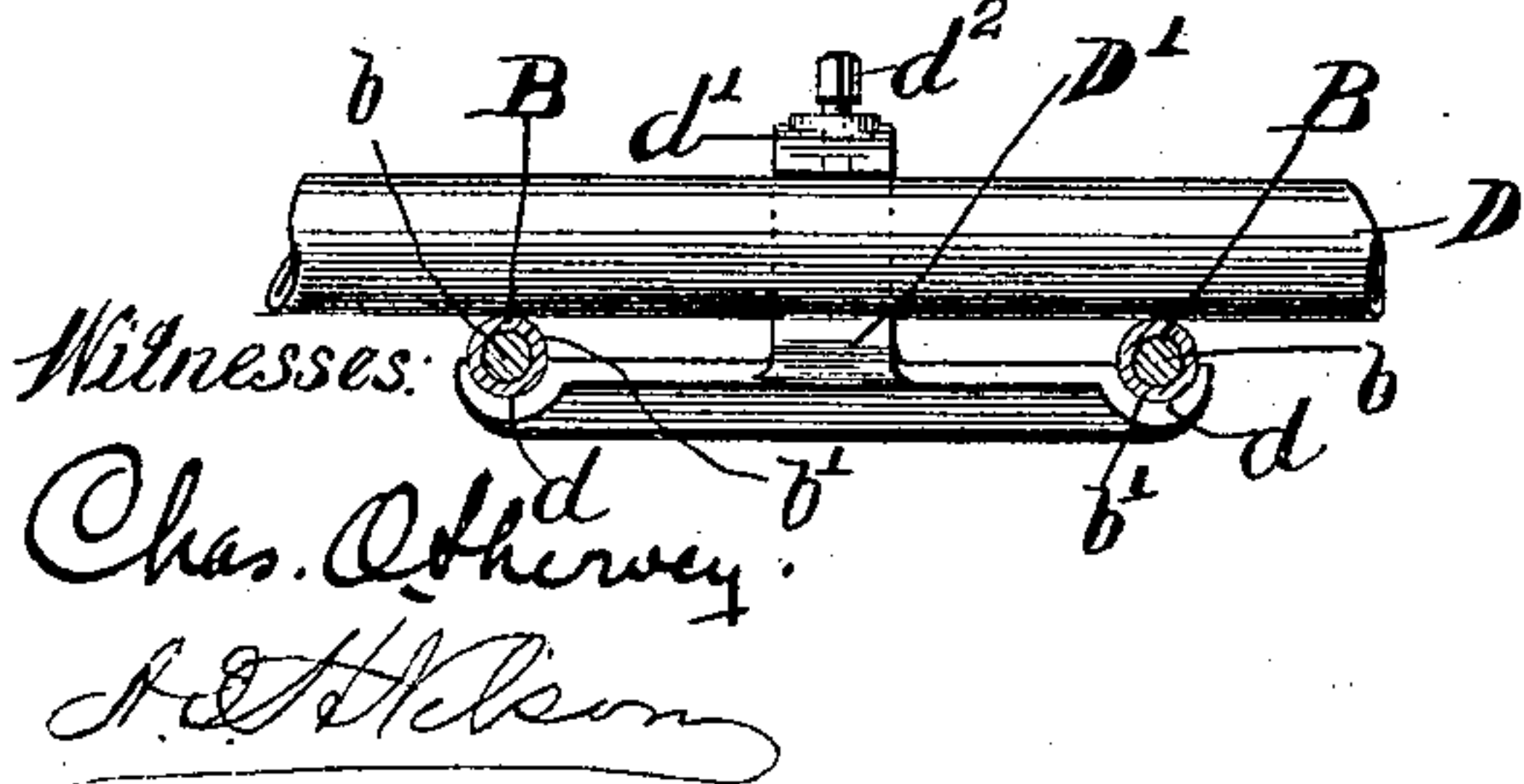
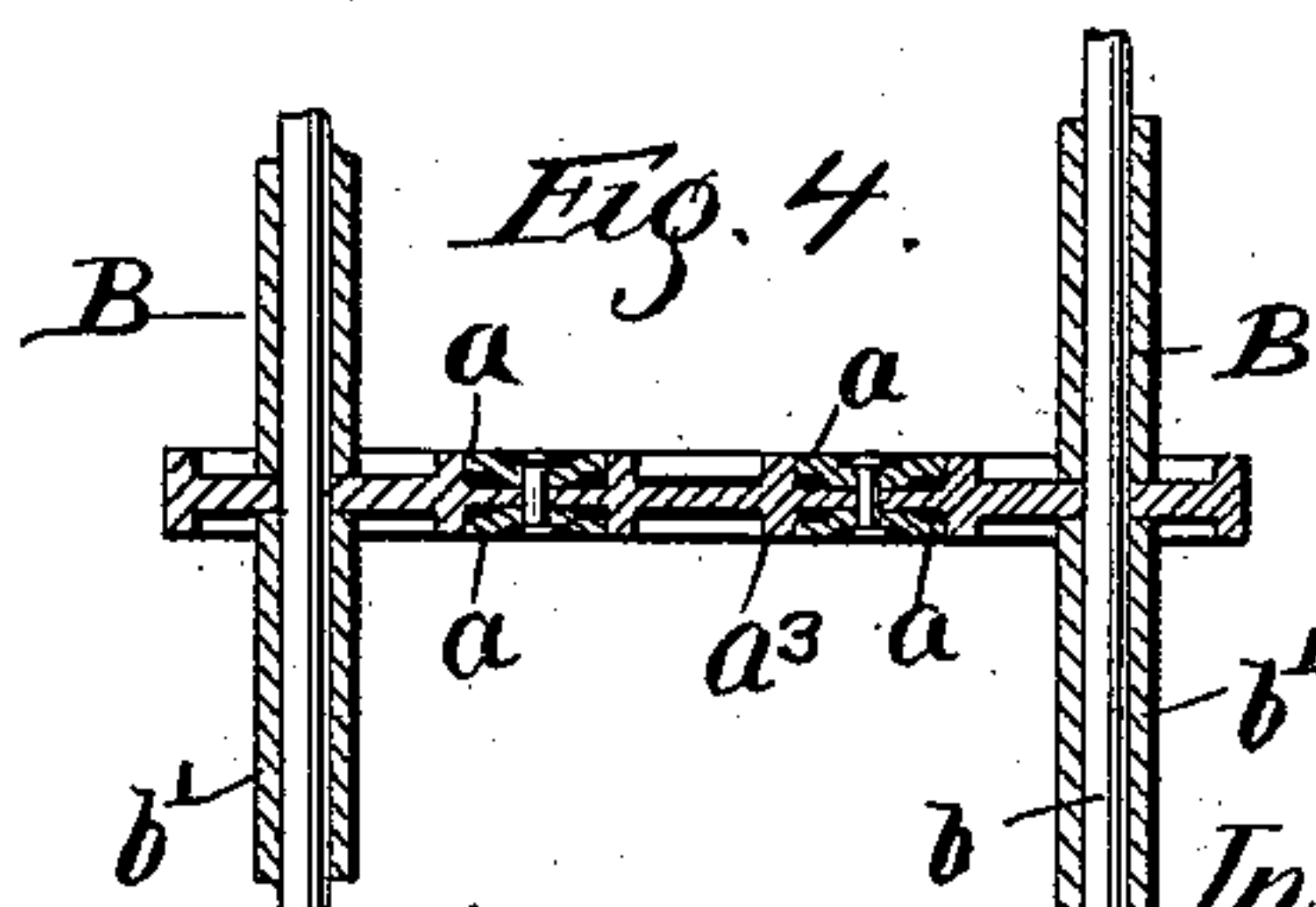


Fig. 3.



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Fig. 4.



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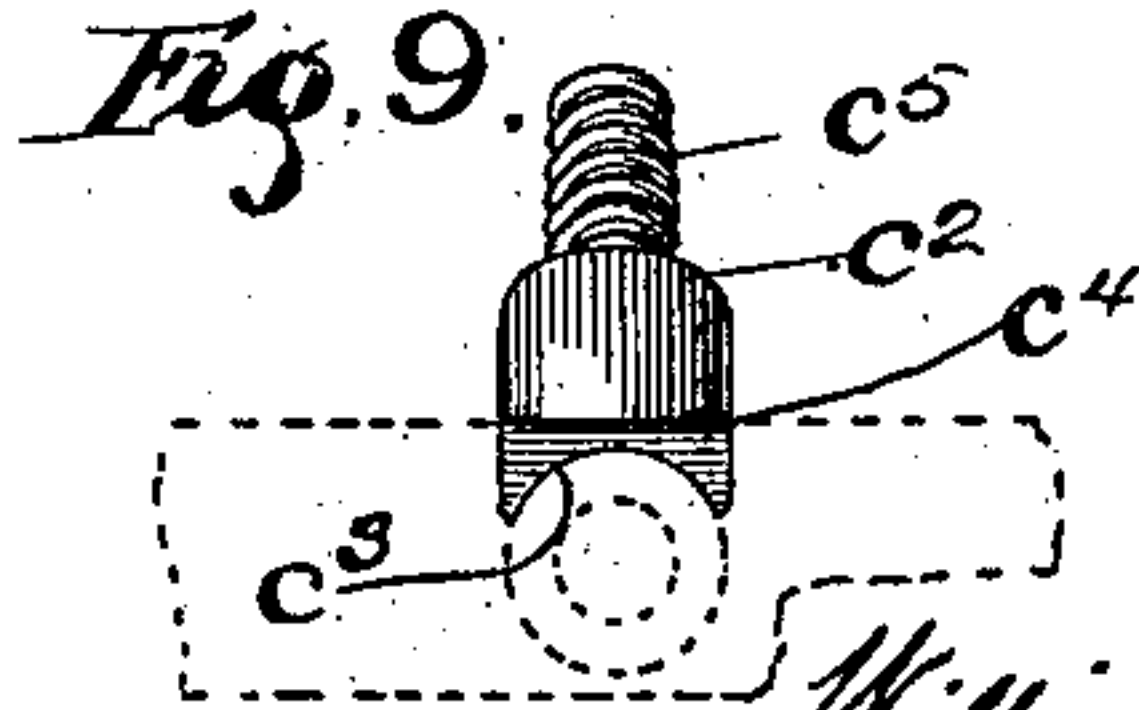
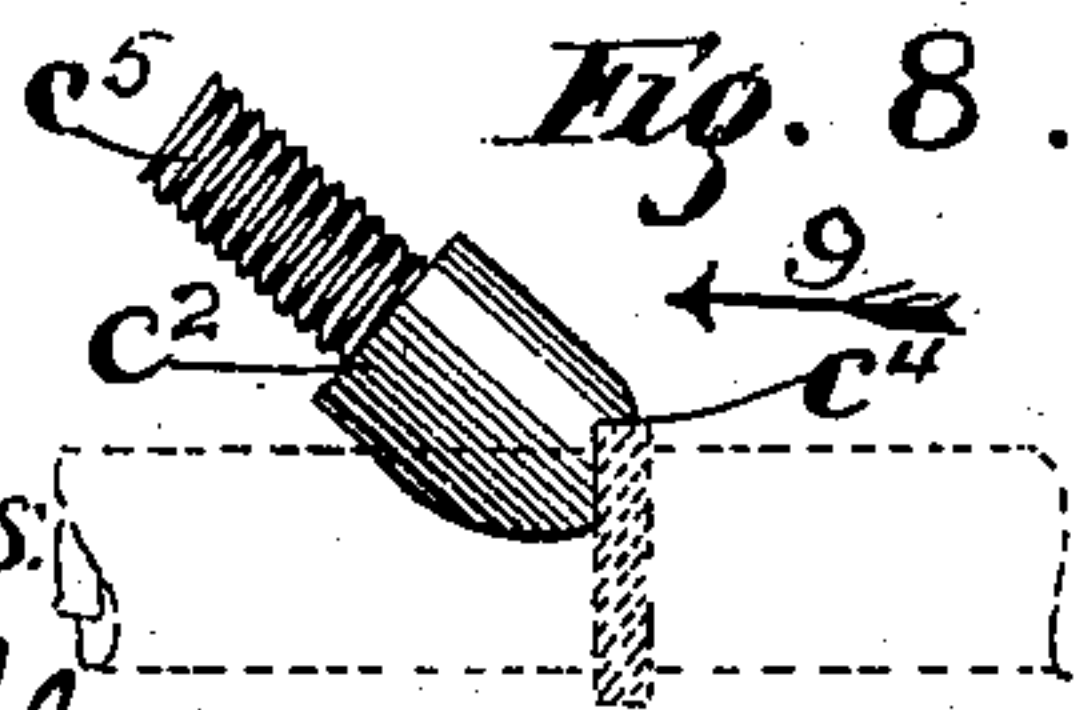
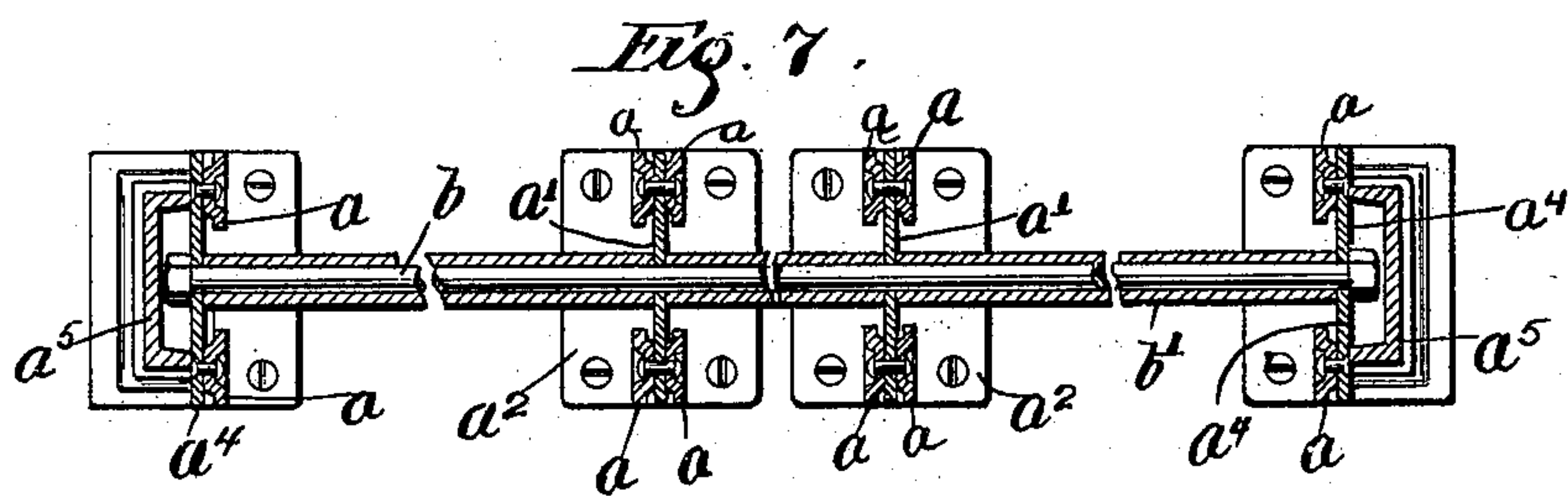
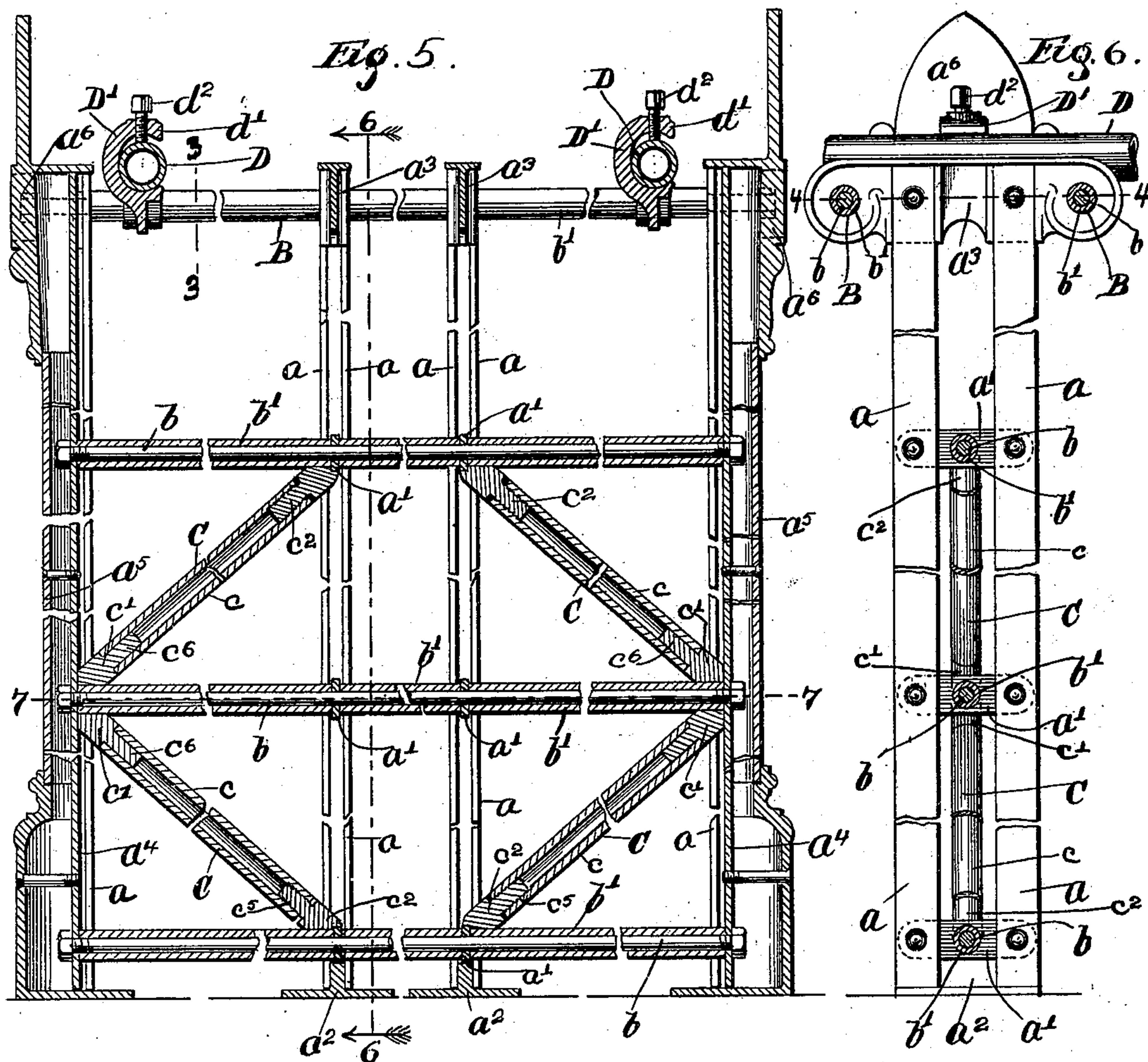
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W. H. & F. A. WINSLOW.  
SHELVING CONSTRUCTION.

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(No Model.)

2 Sheets—Sheet 2.



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# UNITED STATES PATENT OFFICE.

WILLIAM H. WINSLOW AND FRANCIS A. WINSLOW, OF CHICAGO, ILLINOIS.

## SHELVING CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 618,530, dated January 31, 1899.

Application filed November 26, 1897. Serial No. 659,765. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM H. WINSLOW and FRANCIS A. WINSLOW, citizens of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Shelving Construction, of which the following is a specification.

Our invention relates to certain improvements in shelving construction adapted for use in libraries, stores, offices, &c., where it is desired to support great numbers of shelves for various purposes.

It consists, therefore, in certain novel features of construction adapted to produce a light, substantial, and rigid framework upon which shelves may be supported, a description of which will be found in the following specification and the essential features more definitely pointed out in the appended claims.

The invention is clearly illustrated in the drawings furnished herewith by means of nine figures, of which—

Figure 1 is a side elevation of our construction in its preferred form. Fig. 2 is a plan view thereof, certain of the staying members being broken away. Fig. 3 is a detail view of a clamp used in this construction, partly in side elevation and partly in vertical cross-section, the line of section being shown at 3 3 in Fig. 5. Fig. 4 is a detail horizontal section in line 4 4 of Fig. 6. Fig. 5 is a central longitudinal section through the construction, certain parts being broken away to enable the view to be made as large as possible. Fig. 6 is a vertical cross-section in line 6 6, Fig. 5. Fig. 7 is a horizontal cross-section in line 7 7 of Fig. 5. Fig. 8 is a detail side elevation of one of the brace-blocks, and Fig. 9 is an end view looking in the direction of the arrow 9 in Fig. 8.

Looking at Figs. 1 and 2, the main portions of the construction will be seen to consist of uprights, longitudinal connecting members, transverse connecting members for staying the framework, and diagonal bracing members. The uprights in this construction are intended to support shelves, the latter being formed with suitable clamping means by which they may be secured to the uprights. As seen in Figs. 5, 6, and 7, these uprights will each, except the end ones, be seen to

consist of clamp-bars  $a$ , suitably spaced apart and connected by a series of transversely-extending struts  $a'$ , riveted or otherwise secured to the clamp-bars. A foot  $a^2$  is secured to the clamp-bars at the lower end, which may be screwed to the floor, and at the top of the clamp-bars is secured a cap  $a^3$ . (See Figs. 4 and 6.) The outer uprights are each composed of a web  $a^4$ , upon the inner face of which are secured clamp-bars similar to the ones above described. Upon the outer face of the web  $a^4$  is secured an ornamental covering  $a^5$ , the object of which will appear later on. All of the uprights are connected by a number of tie-rods  $b$ , which pass through certain of the struts  $a'$  and through the webs of the outer uprights, where they are provided with nuts for tightening up the framework. These nuts are hidden by the ornamental covering-plates  $a^5$ , thereby making a finished appearance to the end uprights, which are the only ones exposed to view when the shelves are in place. Around these tie-rods are tubes  $b'$ , which space the uprights apart, these tubes extending between the struts and between the webs upon the outer uprights and the strut upon the upright next to it. The caps  $a^3$  at the tops of the uprights are also connected by a pair of tie-rods  $b$ , which extend between the finishing-cap  $a^6$  upon the outer uprights and through the intermediate ones. These tie-rods are also provided with nuts upon their ends for tightening up the same and are also fitted with tubes extending between the caps. It is obvious that when the nuts upon the various tie-rods are screwed up a comparatively rigid frame is formed; but in order to insure perfect stability of the same we provide sway-braces  $C$ , extending diagonally, as clearly shown in Figs. 1 and 5. These sway-braces are preferably composed of tubes  $c$ , provided upon their ends with blocks  $c'$   $c^2$ , (see Figs. 8 and 9,) adapted to engage certain members of the framework. The blocks  $c^2$  are formed with concave surfaces  $c^3$  to enable them to embrace the tubes  $b'$  of the longitudinal members  $B'$   $B^2$ , and with shoulders  $c^4$  to engage the struts  $a'$ . They are also provided with screw-threaded stems  $c^5$ , threaded in the tubes  $c$ , whereby the distance between the two blocks upon each tube may be increased or



diminished. The blocks  $c'$  engage the longitudinal member  $B'$  and web  $a^4$  of the end up-  
rights and are also provided with stems  $c^6$ ,  
which, however, are not threaded, but swiv-  
eled loosely in the tubes, so that after the  
uprights and longitudinal members are put to-  
gether the sway-braces may be inserted in the  
position shown in the drawings, the tubes be-  
ing given a few turns, thereby tightening the  
sway-braces in place and at the same time  
stiffening the frame.

To guard against any lateral swinging of  
the construction, we provide stay-rods  $D$ , (see  
Figs. 2, 3, and 5,) one end of which may be se-  
cured to the wall of the building and con-  
nected to the framework in any desired man-  
ner, here shown as a clamp  $D'$ , having two  
sockets  $d$ , adapted to engage the under side  
of the longitudinal members  $B$ , and a hook  
 $d'$ , embracing the stay-rod  $D$ . Set-screws  $d^2$   
are threaded in the hooks  $d'$  and impinged  
upon the stay-rod, so that by tightening  
up the screws the framework may be rigidly  
clamped to the stay-rod.

We claim as new and desire to secure by  
Letters Patent—

1. The combination with a series of support-  
ing-uprights and a series of longitudinal  
bracing members consisting of tubes bearing  
against the uprights and tie-rods passing  
through the latter and through the tubes of  
a series of diagonal bracing members having  
croched end pieces adapted to embrace the  
tubes, suitable bearing-faces to rest against  
the uprights and intermediate portions screw-

threaded upon the end pieces whereby said di-  
agonal bracing members may be extended  
longitudinally to tighten up the structure;  
substantially as described.

2. In combination with a series of support-  
ing-frames containing the longitudinal brac-  
ing members,  $B$ ,  $B$ , and the transverse brac-  
ing members,  $D$ , the clamp,  $D'$ , having the  
two sockets,  $d$ , adapted to engage the under  
sides of the bracing members,  $B$ , the hook,  
 $d'$ , adapted to embrace the upper side of the  
transverse bracing member,  $D$ , and a set-  
screw adapted to crowd said members to-  
gether; substantially as described.

3. In a shelf-supporting frame the combi-  
nation of uprights having free oppositely-ex-  
tending edges arranged in pairs transversely  
of the frame, a series of connecting devices  
uniting the members of each pair, said con-  
necting devices being secured to the middle  
portions of the uprights and being spaced  
away from the inner edges of the latter, and  
longitudinal connecting members connecting  
the middle portions of said connecting de-  
vices; substantially as described.

In witness whereof we have hereunto set our  
hands, at Chicago, in the county of Cook and  
State of Illinois, this 18th day of November,  
A. D. 1897.

WILLIAM H. WINSLOW.  
FRANCIS A. WINSLOW.

Witnesses:

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A. I. H. NELSON.