No. 775,498. PATENTED NOV. 22, 1904.

N. B. PARSONS, W. H. WINSLOW & J. L. KAIL.

LIBRARY SHELF.

APPLICATION FILED MAR. 21, 1904.

NO MODEL. 3 SHEETS—SHEET 1.

Fig. 1.

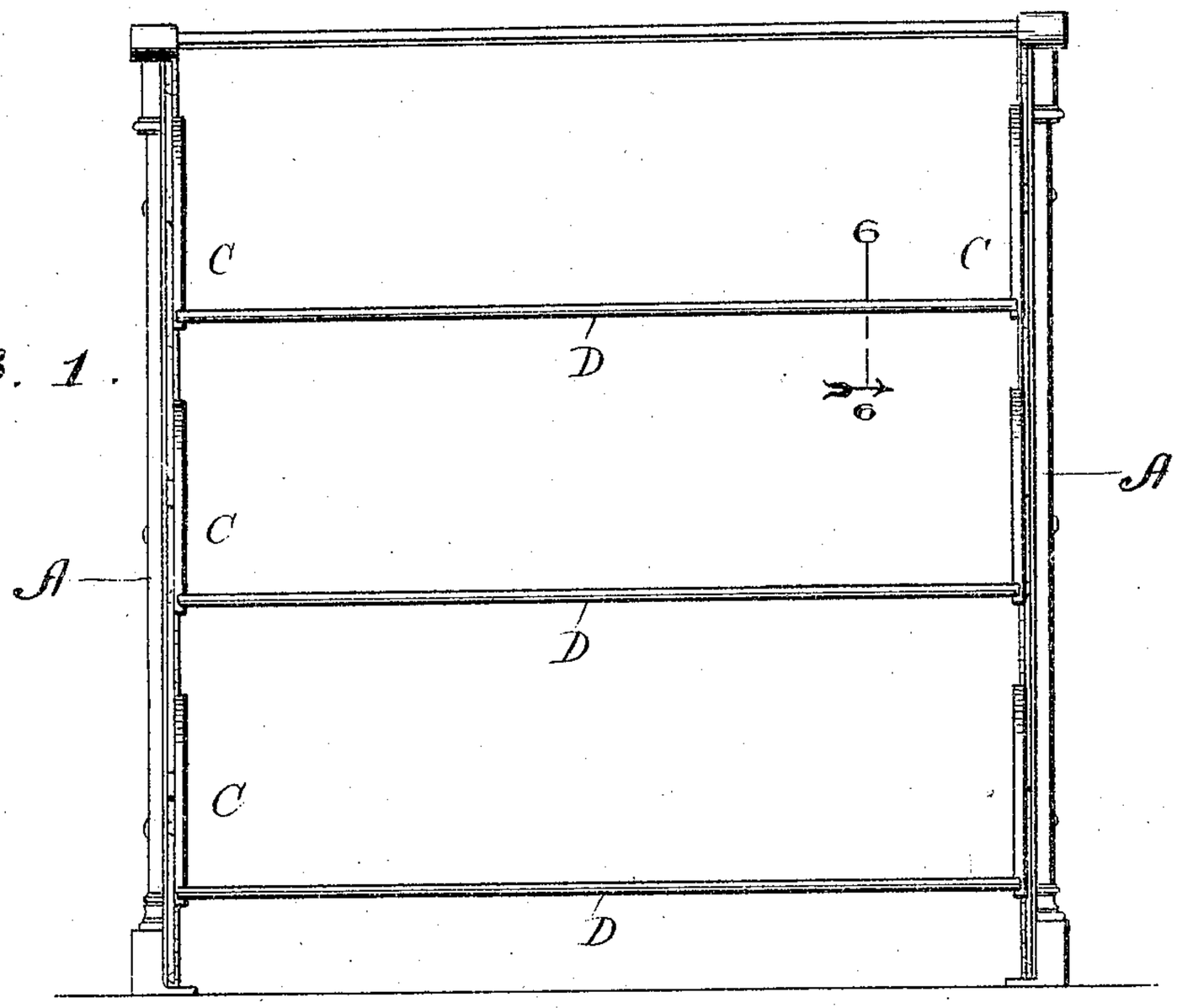


Fig. 2.

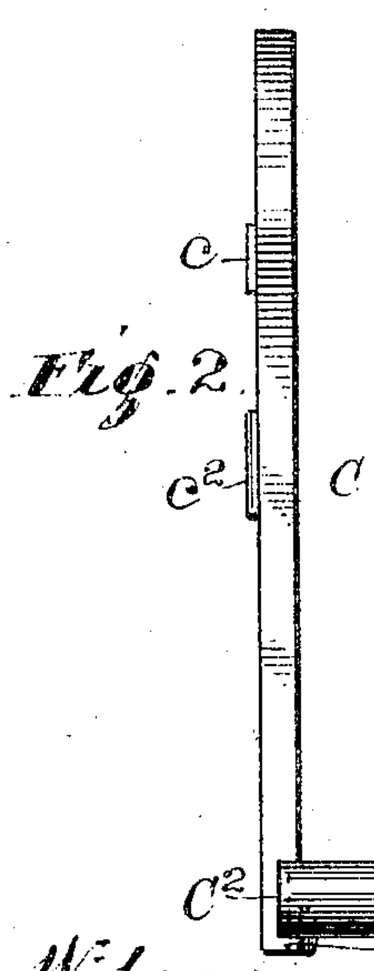
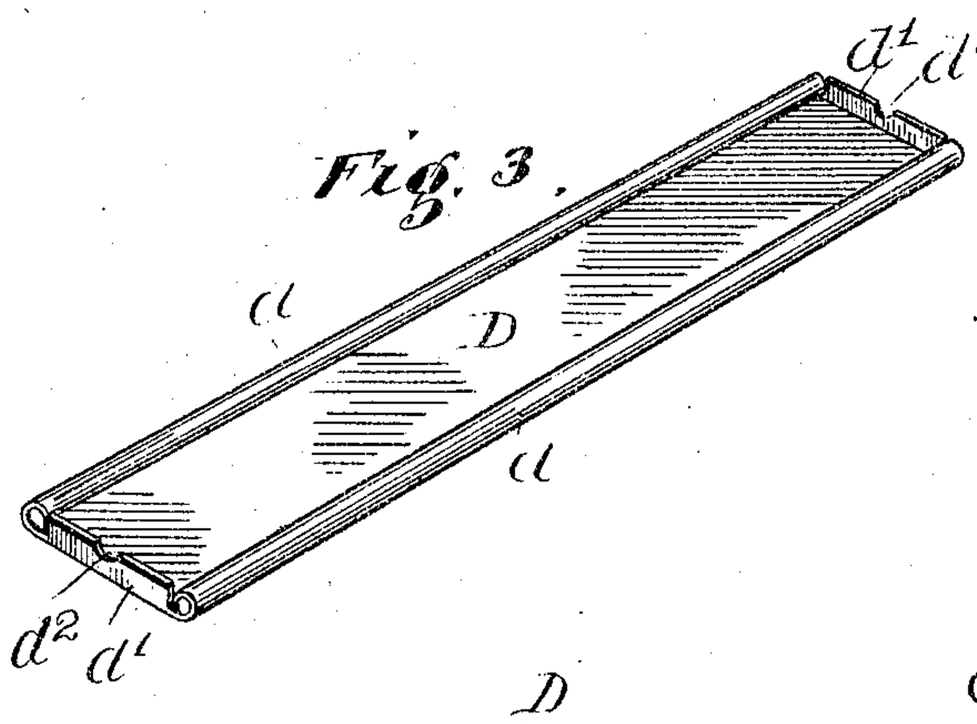
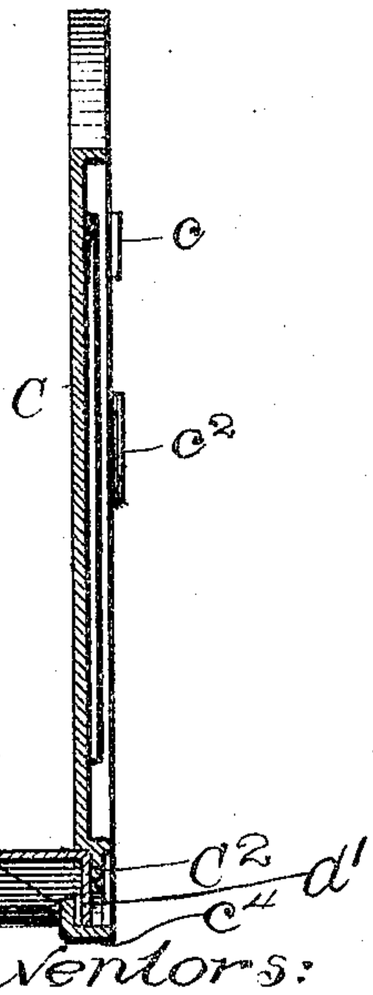


Fig. 3.





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by H. P. Bitner. Atty.

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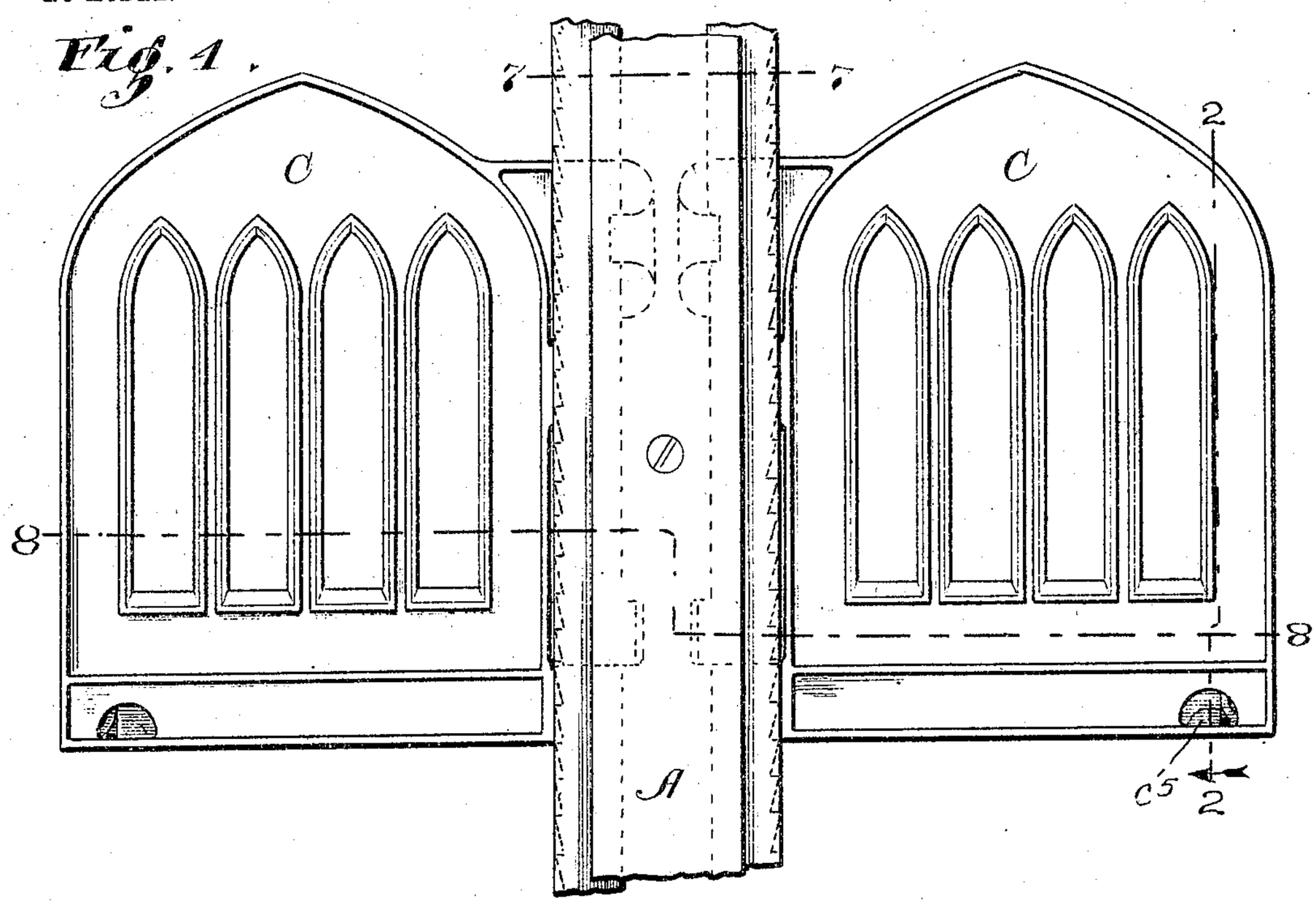
NO MODEL. 3 SHEETS—SHEET 2.

Fig. 1.



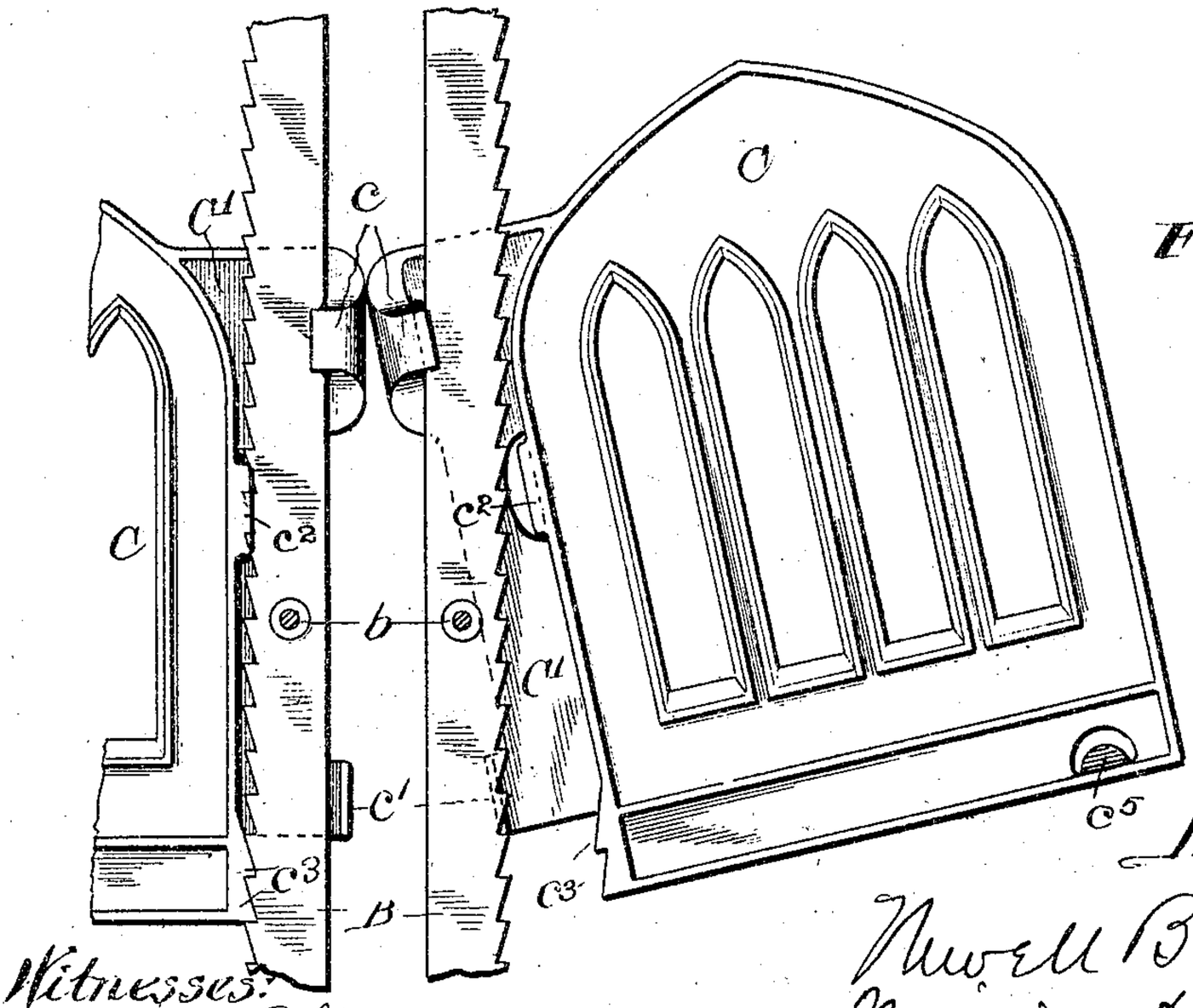


Fig. 5.

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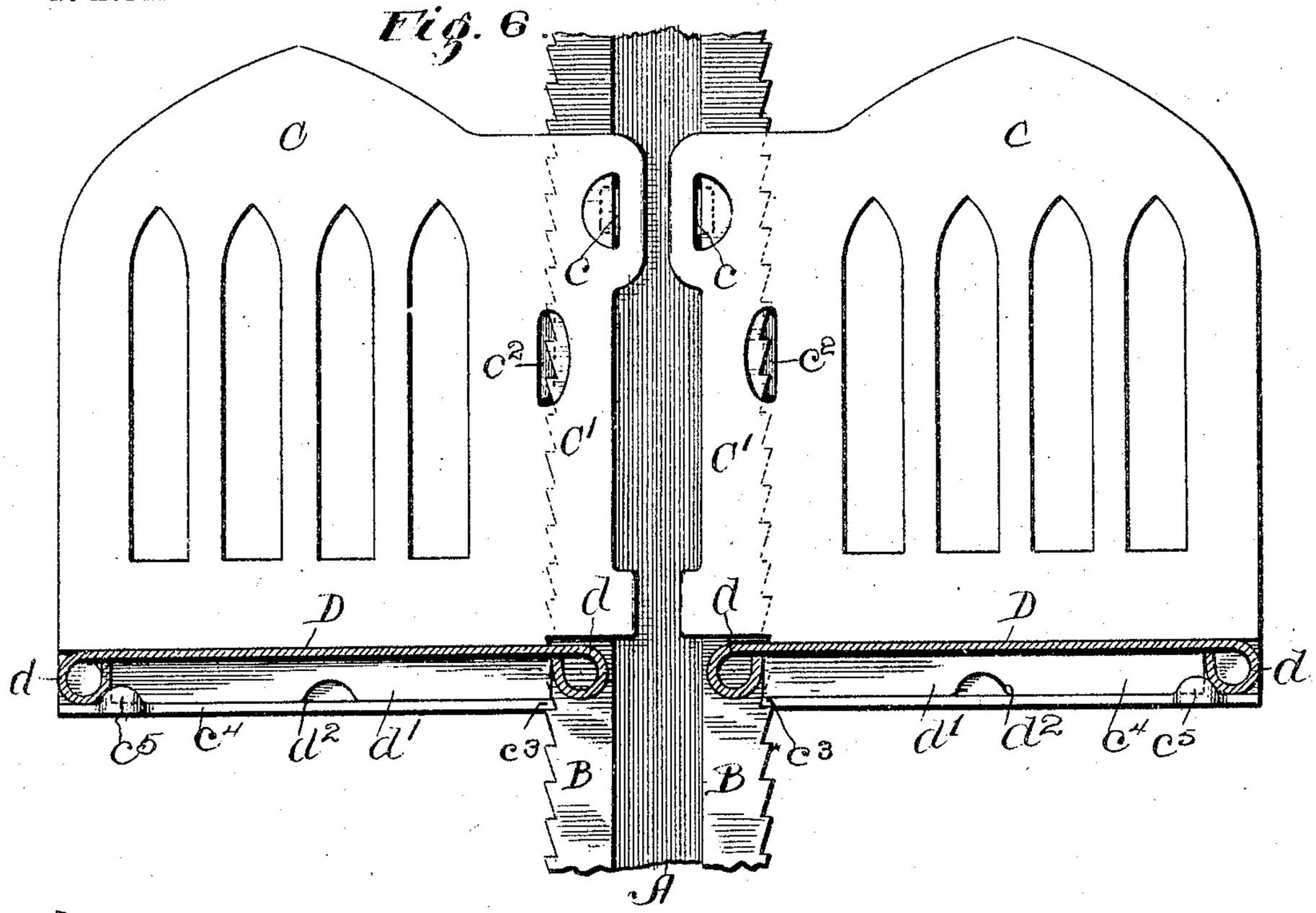
APPLICATION FILED MAR. 21, 1904.

NO MODEL. 3 SHEETS—SHEET 3.

Fig. 6.



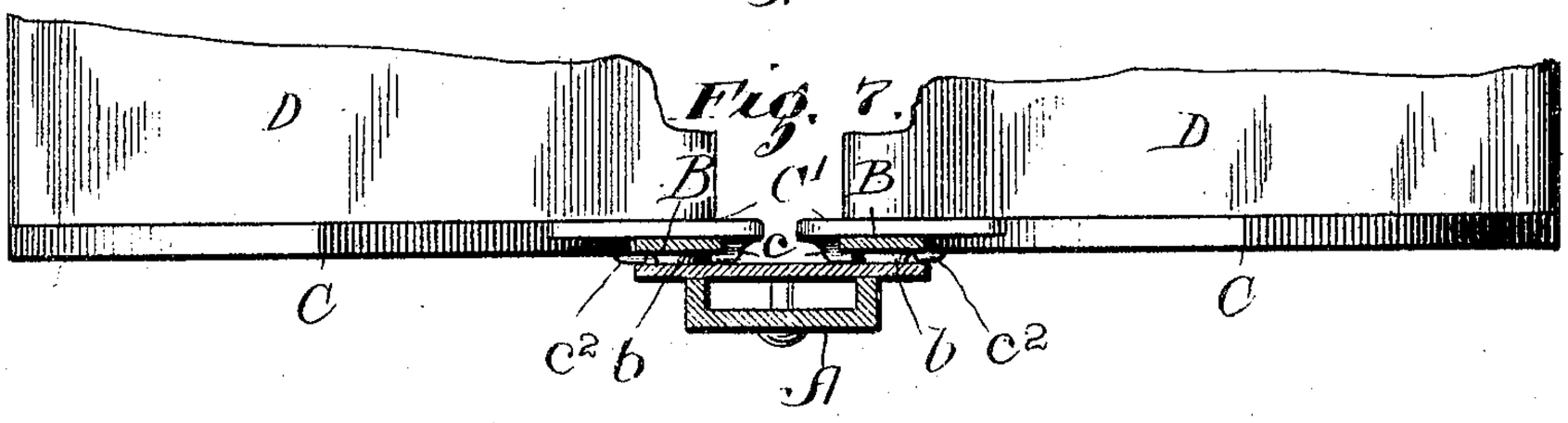
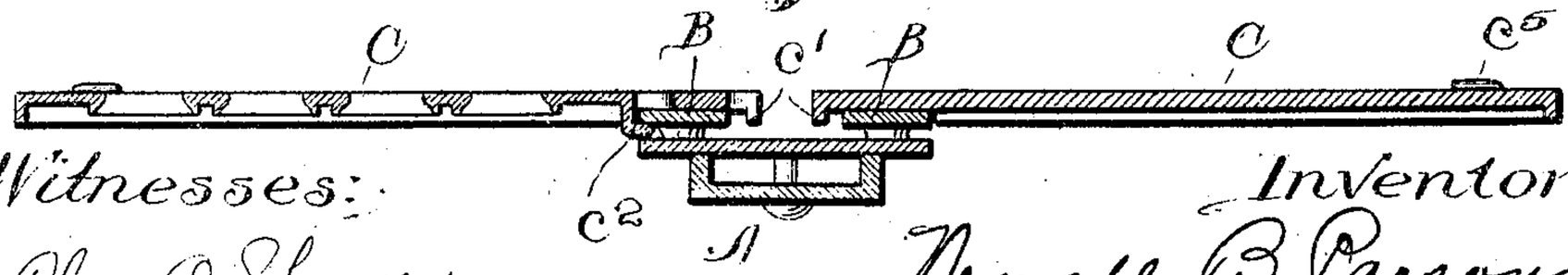


Fig. 7.

Fig. 8.



Witnesses:

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No. 775,498. Patented November 22, 1904.

UNITED STATES PATENT OFFICE.

NEWELL B. PARSONS, WILLIAM H. WINSLOW, AND JACKSON L. KAIL, OF CHICAGO, ILLINOIS, ASSIGNORS TO LIBRARY BUREAU, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

LIBRARY-SHELF.

SPECIFICATION forming part of Letters Patent No. 775,498, dated November 22, 1904.

Application filed March 21, 1904. Serial No. 199,272. (No model.)

To all whom it may concern:

Be it known that we, NEWELL B. PARSONS, WILLIAM H. WINSLOW, and JACKSON L. KAIL, 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 Library-Shelves, of which the following is a specification.

Our invention relates to certain new and useful improvements in library-shelves; and its object is to produce a device of this class which shall have certain advantages, which will appear more fully and at large in the course of this specification.

To this end our invention consists in certain novel features of construction, which are clearly illustrated in the accompanying drawings, and described in this specification.

In the aforesaid drawings, Figure 1 is a front elevation of a library-stack embodying our improved shelving. Fig. 2 is a view of one of the shelves and the brackets secured to the same, the left-hand end of the figure being an elevation and the right-hand end a vertical section in the line 2 2 of Fig. 4. Fig. 3 is a perspective of one of the shelves. Fig. 4 is an end view of a portion of the stack. Fig. 5 is a similar view, certain members of the end piece being removed and one of the brackets in a position occupied in its removal from the end piece. Fig. 6 is a transverse section through two of the shelves in the line 6 6 of Fig. 1. Fig. 7 is a horizontal section in the line 7 7 of Fig. 4, and Fig. 8 is a horizontal section in the broken line 8 8 of Fig. 4.

Referring to the drawings, which show the preferred construction, A A are two vertical end pieces or posts which form the supporting members for the shelves. These end pieces are provided with suitable bases which rest upon the floor. The end pieces or posts can be made of any desired form to adapt them to ornamentation of various sorts. Each end piece A has secured to its inner face two vertical ratchet-bars B. These ratchet-bars in the preferred form of construction are provided with stamped projections *b*, Fig. 7, by which they are secured to the end pieces A, so that the ratchet-bars are well within the end pieces and out of contact therewith. It will be seen that they have teeth upon one edge, the points of the teeth being preferably directed upward. These ratchet-bars B support a plurality of brackets C. Each bracket C is made of any desired configuration and has on the edge adjacent to the support of the stack a projecting plate C′, which is flush with the inner surface of the bracket and which lies immediately inside of and in contact with the adjacent ratchet-bar B. At the outer edge of each laterally-projecting plate C′ near the top is a hook *c*, which overhangs the rear edge of the ratchet-bar, and on the same edge near the bottom is a flange *c′*, which lies behind the same edge of the ratchet-bar. Upon the edge of the bracket adjacent to the ratchet-bar is a projecting lug c^2, which, like the hook *c*, lies between the ratchet-bar and the adjacent face of the end piece A, and at the lower edge of the bracket, between the inner and outer faces thereof are two teeth c^3, which are adapted to engage with the teeth of the ratchet-bar to prevent downward movement of the bracket. The brackets are secured in place in the stack by hooking the hook *c* around the ratchet-bar, as indicated in Fig. 5, and then swinging the lower corner of the bracket into place. There is sufficient space between the projecting members on the bracket to permit the flange *c′* to swing behind the ratchet-bar, and when this takes place the bracket is guided by the hook *c*, the flange *c′*, and the lug c^2, so that the teeth c^3 engage with the teeth of the ratchet-bar. The flange *c′* allows enough play between the teeth c^3 and the teeth on the ratchet-bar that the bracket can be moved up and down without difficulty. It will be obvious that when the bracket is thus placed in position its own weight will throw the teeth c^3 into engagement with the ratchet-bar and prevent any accidental displacement.

Each bracket C is made with a horizontal channel C^2 on its inner face adjacent to the lower edge thereof, the flange at the bottom of this channel being indicated in the draw-

ings by c^4. Each flange c^4 has near its forward end an upturned lug c^5.

D indicates one of the shelves used in our improved device, which in the preferred form is made of sheet metal, having its longitudinal edges bent into a bead d for strength and also to give a finished appearance. The ends of the shelf are turned down to form flanges d', each of which has a central notch d^2, slightly larger than the lug c^5 on the flange c^4. The flanges d' are substantially the width of the channels C^2 at the lower edge of the bracket and fit the same. After the brackets are hung in place on the ratchet-bars, as above described, the lower corners of the brackets are swung apart, and one of the shelves is pushed in between them level with the two channels C^2. When the shelf is pushed in half-way, the lugs c^5 will register with the notches d^2 and swing in through the same, and the flanges on the ends of the shelves will rest in the channels C^2, the lugs c^5 overhanging said flanges, as indicated in Fig. 2. The shelf is then pushed in the rest of the way, its motion being finally arrested by engagement of the lug c^5 with the bead d. In this way our improved shelving can be very readily assembled, and when so assembled the parts are self-locked in position. The notch d^2 is arranged in the center of the flange d' in order that the shelves may be reversible. It is to be particularly noted that in assembling a stack having our improved shelf construction the hook at the upper corner of the bracket is first engaged with the inner edge of the ratchet-bar. The lower corner of the bracket is then swung into engagement with the ratchet-bar, the flanges and lugs thereon preventing accidental disengagement of the corner. When the lower corner is in engagement with the ratchet-bar, then it is impossible to disengage the hook without first disengaging the flange at the lower corner. After the upper and lower corners of the bracket are engaged with the ratchet-bars the shelf is slid into place, and this positively prevents the lower corner from becoming disengaged, consequently preventing the hooks at the upper corner from being moved out of place. The result is, then, that when the shelf is in place the entire structure is firmly locked together and cannot possibly be removed from the ratchet-bars without taking down the entire structure. It will also be observed that after a shelf is secured in place between two brackets the height of the same may be varied as desired without disturbing the parts.

While we have described our invention as embodied in a stack having two sets of shelves arranged back to back, it is evident that one set of shelves can be entirely omitted, if desired, the invention being fully embodied in a single shelf provided with the proper supporting ratchet-bar.

We also realize that considerable variation is possible in the details of this construction without departing from the spirit of the invention, and we therefore do not intend to limit ourselves to the specific form herein shown and described.

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

1. In a device of the class described, the combination with two notched vertical supporting-posts, of suitable brackets, hooks near the top of the brackets engaging that side of the post farthest removed from the body of the brackets and adapted to be hooked around any portion of the posts when the lower end of the bracket is disengaged therefrom, suitable devices on the brackets below the hooks, engaging with the posts to prevent movement of the lower end of the bracket with respect to said posts, the hooks on the brackets being locked with respect to the posts when the engagement devices at the lower end of the brackets are engaged with the posts, and a suitable shelf adapted to be inserted between said brackets and supported by the same, said shelf, when in position, locking the engagement devices at the lower end of the bracket to the post.

2. In a device of the class described, the combination with two notched vertical supporting-posts, suitable brackets, hooks near the top of the brackets engaging that side of the post farthest removed from the body of the brackets and adapted to be hooked around any portion of the posts when the lower end of the bracket is disengaged therefrom, suitable devices on the brackets below the hooks engaging with the posts to prevent movement of the lower end of the bracket with respect to said posts, the hooks on the brackets being locked with respect to the posts when the engagement devices at the lower end of the brackets are engaged with the posts, and a suitable shelf adapted to be inserted between said brackets and supported by the same, said shelf, when in position, locking the engagement devices at the lower end of the bracket to the post, and means for preventing the shelf from being removed from the bracket except by direct forward pull.

3. In a device of the class described, the combination with suitable supporting-posts, of suitable brackets hung upon the posts, mutually engaging devices on the posts and brackets, to prevent vertical movement of the brackets, and a shelf adapted to be supported by the brackets, said shelf, when in place, serving to lock the brackets to the posts.

4. In a device of the class described, the combination with suitable supporting-posts, of suitable brackets hung upon the posts, mutually engaging teeth and notches on the posts and brackets, and a shelf adapted to be supported by the brackets, said shelf, when in place, serving to lock the brackets to the posts.

5. In a device of the class described, the combination with suitable vertical ratchet-bars, of suitable brackets having flat projecting flanges, hooks at the upper ends of the flanges engaging with the rear of the ratchet-bars, lugs opposed to the flat flanges on the brackets projecting from the brackets, and adapted to confine the ratchet-bar between themselves and the flat flanges, suitable teeth on the brackets adapted to engage with the teeth of the ratchet-bar, and a shelf supported by the brackets.

6. In a device of the class described, the combination with suitable vertical ratchet-bars, of suitable brackets having flat flanges, hooks at the upper ends of the flanges engaging with the rear of the ratchet-bars, lugs opposed to the flat flanges on the brackets, projecting from the brackets, and adapted to confine the ratchet-bar between themselves and the flat flanges, a lug at the rear of the flange near the bottom, adapted to lie behind the rear edge of the ratchet-bar, suitable teeth on the brackets adapted to engage with the teeth of the ratchet-bar and a shelf supported by the brackets.

7. In a device of the class described, the combination with suitable vertical ratchet-bars having upwardly-pointing teeth on their forward edge, and a smooth rear edge, of brackets, flat projecting flanges on the brackets, lying behind one of the lateral faces of each ratchet-bar, a hook at the upper end of each flange overhanging the smooth rear edge of each ratchet-bar, a lug opposed to the flat flange on each bracket confining the ratchet-bar between itself and the flat flange, a lug at the rear lower end of each flange, lying behind the smooth rear end of the ratchet-bar, projecting teeth on each bracket engaging with the teeth of the ratchet-bars, and a shelf supported by the brackets.

8. In a device of the class described, the combination with suitable supporting-posts and brackets supported thereby, of channels in the lower end of each bracket open at the front, a shelf having downwardly-turned flanges at its ends and lugs projecting upward from the lower surface of the said channels, and engaging with the flanges to prevent lateral movement of the brackets with respect to the shelves when the shelves are in place.

9. In a device of the class described, the combination with suitable supporting-posts and brackets supported thereby, of channels in the lower end of each bracket open at the front, a shelf having downwardly-turned flanges at its ends, notches in the lower edges of said flanges, and lugs projecting upward from the lower surface of the said channels, and adapted to pass through the notches in the flanges at the ends of the shelves to permit the ends of the shelves to enter the channels when the shelves are partially pushed into place, said lugs engaging with the flanges to prevent lateral movement of the brackets with respect to the shelves when the shelves are pushed entirely into place.

In witness whereof I have signed the above application for Letters Patent, at Chicago, in the county of Cook and State of Illinois, this 25th day of February, A. D. 1904.

NEWELL B. PARSONS.

Witnesses:
RUSSELL WILES,
CHAS. O. SHERVEY.

In witness whereof I have signed the above application for Letters Patent, at Cocoanut-grove, in the county of Dade and State of Florida, this 4th day of March, A. D. 1904.

WILLIAM H. WINSLOW.

Witnesses:
H. T. PAINTER,
HOWARD H. SCHNEIDER.

In witness whereof I have signed the above application for Letters Patent, at Chicago, in the county of Cook and State of Illinois, this 16th day of March, A. D. 1904.

JACKSON L. KAIL.

Witnesses:
CHAS. O. SHERVEY,
IDA S. KAIL.