No. 790,020. PATENTED MAY 16, 1905.

E. ALLEN.

ADJUSTABLE CABINET.

APPLICATION FILED JAN. 22, 1904.

2 SHEETS—SHEET 1.

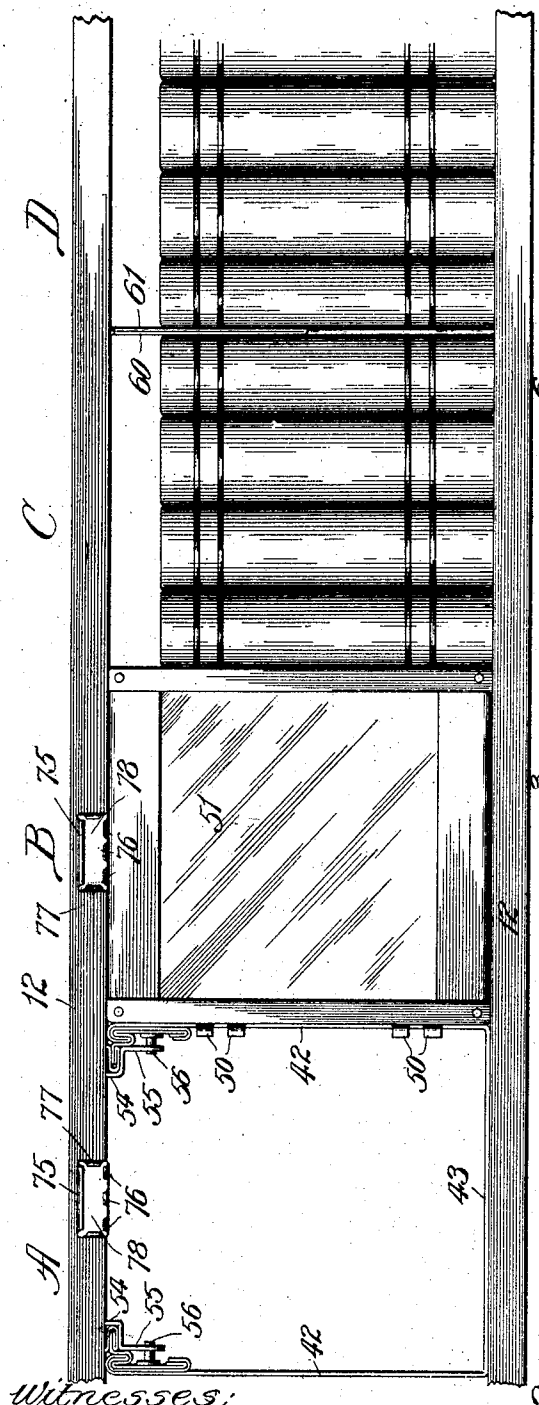


Fig. 1.

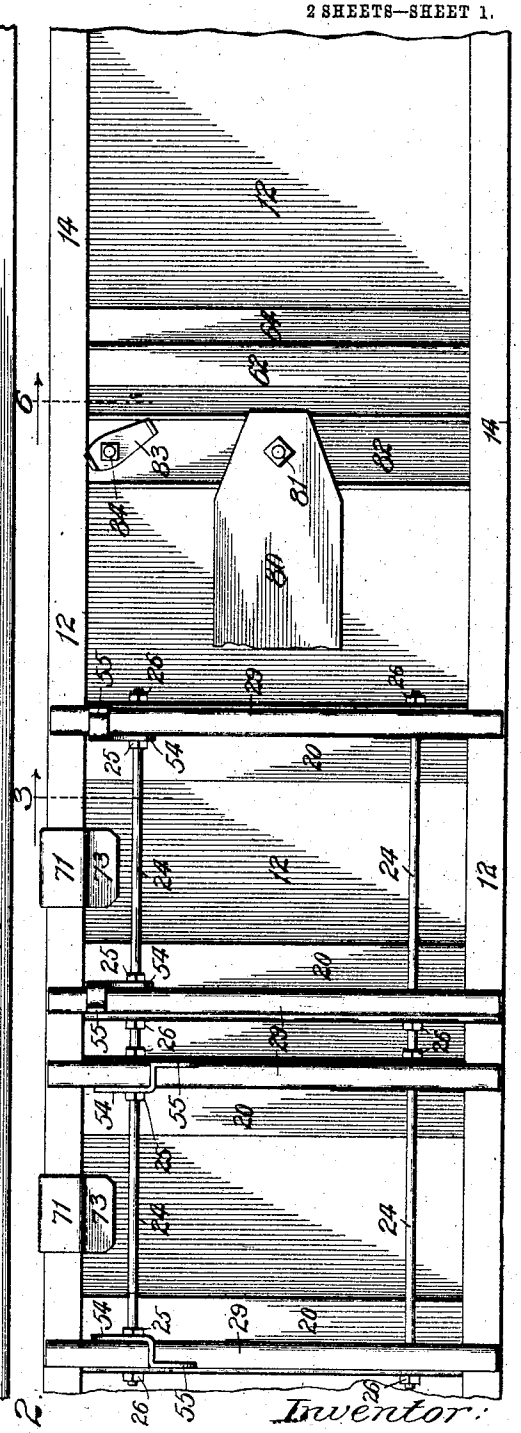


Fig. 2.

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2 SHEETS—SHEET 2.

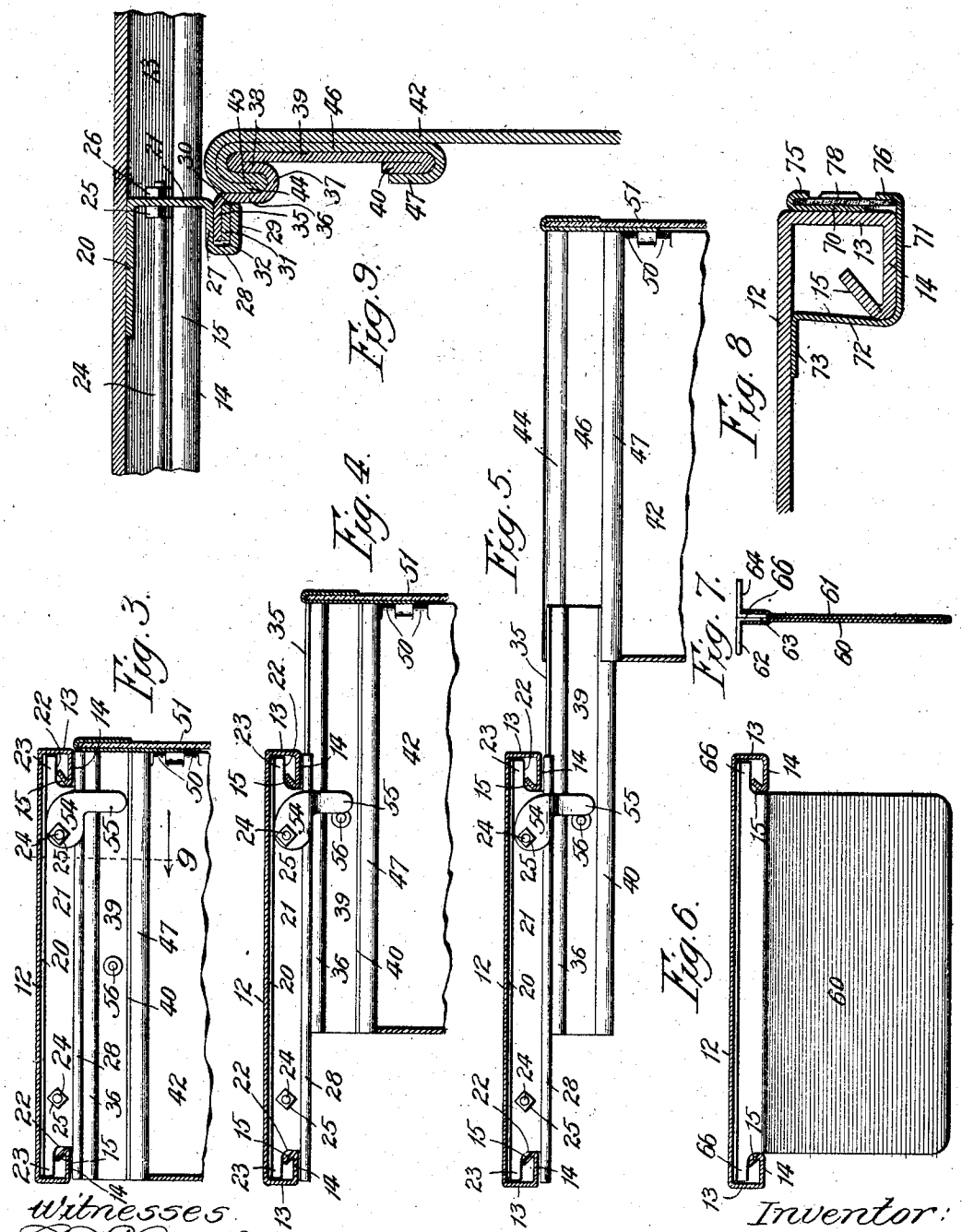


Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 7.

Fig. 8

Fig. 9.

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UNITED STATES PATENT OFFICE.

ELLNATHAN ALLEN, OF CHICAGO, ILLINOIS.

ADJUSTABLE CABINET.

SPECIFICATION forming part of Letters Patent No. 790,020, dated May 16, 1905.

Application filed January 22, 1904. Serial No. 190,235.

To all whom it may concern:

Be it known that I, ELLNATHAN ALLEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Adjustable Cabinet, of which the following is a specification in its best form now known to me, reference being had to the accompanying drawings, in which similar characters indicate the same parts throughout the several views.

My invention relates to adjustable cabinets.

The object of my invention is to provide a form of shelving and attachments therefor for use, primarily, in any form of shelving, and particularly steel shelving, and, secondarily, for use on the shelving shown and described in my United States Letters Patent No. 739,804, issued September 29, 1903, whereby it is possible to so change the character of the device that it may be used as a series of boxes suitable for grocery-stores or similar places or may be used as an ordinary bookcase or may be a combination of the two.

A further object of my invention is to provide supplemental shelves for temporarily supporting objects in front of the regular shelves.

My invention consists in a novel form of mechanism capable of accomplishing the foregoing objects and other objects to be hereinafter defined in the specification, which can be easily and cheaply manufactured and installed, and which can be readily adjusted when in place, and which will not be liable to easily get out of order.

It also consists in many details of construction, which will hereinafter be described and claimed as the specification proceeds.

In the drawings, Figure 1 is a front elevation, and Fig. 2 is an inverted plan view, of shelving, illustrating my invention in its preferred form, section A being a detail view showing the construction of a box or drawer to be attached to and detached from the shelf with the door or front removed. Section B represents the same with the door in place. Sections D and C show the shelving used as an ordinary book or filing cabinet, a portion of the books or letter-files being separated by my improved divider or separator. In Fig. 2, section C, is also shown a detachable supplemental shelf adapted to be attached to the main shelving, this portion of the shelf being partially broken away. Fig. 3 is a sectional detail side view on line 3 of Fig. 2, showing the method of attaching a box or drawer to the shelf. Fig. 4 is the same view with the drawer partially withdrawn from the shelf; and Fig. 5 is the same view with the drawer fully withdrawn from under the shelf, so that its contents may be removed. Fig. 6 is a sectional detail view of line 6 of Fig. 2, showing a detachable separator-partition for supporting different sizes of books or a part of a shelf full of books. Fig. 7 is a sectional end view of this partition, the shelf being removed. Fig. 8 is a detail sectional view of a detachable label-holder for fastening the label to the shelf. Fig. 9 is a detail sectional view of the construction which enables the adjustment shown in Figs. 3, 4, and 5 to take place, the same being taken on line 9 of Fig. 3.

In my preferred form of construction I make a steel shelf 12, having its front and rear edges bent downwardly and rearwardly, preferably in the vertical lines 13, then horizontally back under the shelf in the lines 14, then upwardly inside the shelf in the lines 15, though this latter bend may be omitted without departing from the principle of my invention. I prefer to make each of these corresponding bends on opposite ends of the shelf all of equal length, and in any event I make the portions forming a ledge or track below and inside the front edges of the shelf (in the particular construction shown the part 15) so that they are level with each other and substantially parallel with the top of the shelf. The tops of the ledges or tracks, as shown, are horizontal, and should be, as shown, some little distance below the lower edge of the shelf proper. I prefer to make shelves of this construction and have them fitted to brackets and mechanism for adjusting them up and down corresponding to that shown in my Patent No. 739,804, heretofore referred to, the attachment of these shelves to the brackets of that patent being secured by turning down the end (not shown) of the shelf so as to form a vertical end correspond-

ing to the vertical front face 13 and cutting a slot (not shown) therein; but the shelves may be secured in a permanent unadjustable cabinet, and they may be used in connection with other forms of adjustable cabinets without departing from the principle of my invention. When now the shelves have been installed in a suitable cabinet, I provide, first, means for attaching a box or drawer to the under side of this shelf. In order to do this, I provide two angular steel plates 20 21, having their opposite ends cut away in the notches 22, leaving the lugs 23, adapted, as shown in Figs. 3, 4, and 5, to fit slidably in the ledges or tracks 15, heretofore described. I now secure two oppositely-disposed angular plates 20 21 together and parallel to each other by means of bolts 24, having nuts 25 and 26 on opposite ends thereof, the nuts at such opposite ends of the bolt being on opposite sides of the part 21 of the angular plates 20 21. Different-sized boxes or drawers may be provided by making these bolts 24 of different sizes or lengths. For convenience I prefer to make the length of the bolts such that the box or drawer which they provide for shall be of some definite proportion of the particular shelf to which the drawers or boxes are to be attached, so that a given number of boxes or drawers will just cover the entire length of the shelf. I bend the lower end of the angular part 21, which is below the edge 14 of the shelf, into a horizontal **U**-shaped notch 32, consisting of the sides 27, 28, and 29, as shown in Fig. 9. In order to give the edge 30 of the lower side 29 of the **U** 32 a smooth finished appearance, I bend the end of the plate back inside the **U** in the line 31; but this construction is not essential to my invention. It will thus be seen that we have on the under side of the shelf, as shown in section A, Figs. 1 and 2, two oppositely-disposed angular pieces 20 21, secured together, the horizontal **U**-shaped notches 32 opening in opposite directions. I now provide two intermediate slides of steel, bent, preferably, in the lines 35, 36, 37, 38, 39, and 40, having tongues 35 adapted to fit in the **U**-notches 32, heretofore described, and having the vertical straight portions 39 of quite a little length, so as to give rigidity to the box or drawer to be attached thereto in the manner hereinafter described. Slidably mounted over these intermediate slides I place sides 42 of a drawer having a bottom 43, the upper edges of the sides 42 of the box or drawer being bent in the lines 44, 45, 46, and 47, so as to inclose corresponding parts in the intermediate slides heretofore described, as shown in Fig. 9. Manifestly the top of the sides 42 may be made with horizontal tongues corresponding to tongue 35, heretofore described, adapted to fit inside of the **U**-shaped notch 32, and the drawer may then be directly inserted in said **U**-notch 32 without the use of the intermediate slide heretofore referred to without departing from the principle of my invention. This drawer should preferably be provided with a back and front, which may be hinged on hinges 50 or which may be integral with the sides of the drawer, as shown in section B, Fig. 1. Whether made hinged or rigidly secured, the sides of the drawer may be provided with a glass 51 in its front. I pivot on the bolt 24 on the face of the angular plates 20 21 the latch 54, having a finger 55. This is of such size and proportion and so placed that, as shown in Figs. 3 and 5, it will engage a stop 56 on the intermediate slide 39. It is also so arranged and proportioned that by moving the latch 54 upward until the finger 55 is in a horizontal position it will entirely clear the stop 56 and allow the intermediate slide 38 to be entirely withdrawn from engagement with the notch 32 in the angular plates 20 21. In the operation of this portion of my invention I place one or more drawers or boxes upon the under side of the shelf, the parts being arranged as heretofore described and as shown in Fig. 3. In this position the drawer or box is closed in, the cabinet being shoved back under the shelf as far as it will go. I now take hold of the box or drawer either by a suitable handle or by touching the sides of it and draw it out until the parts assume the position shown in Fig. 4, finger 55 engaging stop 56. As seen from an inspection of Fig. 4, this leaves some space at the top of the drawer, in which a hand may be inserted within the drawer without its being fully opened. During this motion tongues 35 on the intermediate slides heretofore described are moved in notch 32, the drawer itself remaining at rest with reference to intermediate slide 39. If now it is desired to further withdraw the drawer, I pull it farther out, the drawer itself sliding upon the intermediate slide, the hook 44 sliding in the **U**-notches 37, and the portion 46 47 sliding on the portion 39 40. When this motion is completed, the parts assume the position shown in Fig. 5 and the entire top of the drawer is open. If desired, the motion may be continued until the drawer is entirely removed from the intermediate slides 39; but this would not ordinarily occur unless it is desired to entirely dismantle the device. To do this, I lift the finger 55 until it is in a horizontal position and continue to pull out the intermediate slide 39 until it is entirely removed from the shelf. Another drawer may be inserted, or nuts 25 and 26 may be removed from bolts 24 and all of the top mechanism removed from in contact with the shelf. When any stage of these proceedings is reached and it is desired to return the parts to the original position, I do so by simply reversing the operations described.

In order to separate different classes or sizes of books on the shelf or to hold together books

which fill only part of the shelf, I provide one or more separators. (Shown in detail in Figs. 6 and 7.) These separators are made of a single piece of metal 60 61, bent on itself, as shown, preferably reinforced by a T-shaped piece 62 63 64, secured thereto; but manifestly the ends of the metal 60 61 might be bent in angular wings without the addition of any reinforcing-piece, or a rolled T-shaped piece may be used without departing from the principle of my invention. On the ends of these separators are lugs or wings 66, adapted to fit inside of the shelf and slide backward and forward on tracks 15, heretofore described. When now it is desired to hold together some books on the shelf, I take one of these separators and attach it to the under side of the shelf, as shown in Fig. 6, then, holding it perfectly upright, slide it along into contact with the books which it is desired to hold in place. The angular construction of these separators gives sufficient leverage against the shelf, so that it binds at all times except when a force is exerted parallel to the plane of the shelf, which parallel force will not usually be exerted upon it except by hand manipulation. From this it will be seen that the separator stays where it is placed and keeps the books from falling down except when carefully moved by hand, in which case it is perfectly adjustable and removable.

In order to provide for detachably securing labels to the shelves, I provide clips consisting of a piece of metal bent in a U shape 70 71, adapted to fit over the under side of the edge of the shelf, the top of the edge of the U-shaped piece 72 being bent in the horizontal angular portion 73, adapted to bear against the under side of the shelf, the edges of the front 70 of the U-shaped clip being bent over in the lips 75, 76, and 77, so that a label 78 may be slipped inside of them. In the operation of this portion of the invention the card label 78 is changed as often as desired by sliding it inside the lips 75, 76, and 77, and the clip is then attached to the shelf by slipping the U-shaped parts 70, 71, and 72 upon the edge of the shelf, as shown in Fig. 8. The L part 73 is quite important, as it bears against the under side of the shelf and makes the attachment of the clip much firmer. This device holds the label firmly upon the shelf without danger of being knocked off or removed by withdrawing books or other articles when placed upon the shelf.

In order to provide for temporarily supporting a book in front of the main shelves 12, heretofore described, I provide a supplemental shelf 80, which is pivoted at 81 to a block 82. This block 82 is of such a size and shape that, as shown in Fig. 2, it will fit in between the ledges or tracks 15 and the main shelf in the same way that the drawer-holding device and the book-separators do. This block 82 is provided with a locking-clamp 83, pivoted at 84, adapted to bear against the edge of the main shelf, and thus hold the block 82 of the supplemental shelf 80 in position. In the operation of this portion of the device the supplemental shelf 80 remains in position shown in Fig. 2 under the main shelf when not in use, and when it is desired to use the supplemental shelf it is simply turned upon the pivot 81 until its end extends out from under the main shelf 12, in which case books or other articles can be temporarily rested upon it. When such use is finished, the shelf is turned back to the position shown. If it is desired to remove the supplemental shelf entirely, the clamp 83 is turned upon the pivot 84, and the block 82, with the supplemental shelf 80 upon it, is removed from the main shelf.

I do not wish to be limited to the exact details of construction or material, which may be varied within reasonable limits without departing from my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In mechanism of the class described, a metallic shelf having its front and rear edges bent downwardly and rearwardly toward the center of the shelf, mechanism supporting a drawer adapted to be secured below said shelf in said downwardly-bent edges, and a drawer adapted to slide backward and forward across the shelf on said supporting mechanism.

2. In mechanism of the class described, a metallic shelf, a drawer-supporting device adapted to be detachably secured to said shelf, an intermediate slide adapted to slide backward and forward in said supporting device, and a drawer or box adapted to slide backward and forward in said intermediate slide.

3. In mechanism of the class described, the combination of an unperforated metallic shelf, mechanism adapted to be detachably secured to said shelf and a supplemental shelf pivotally mounted on said mechanism, said supplemental shelf being adapted to be moved out and in under said main shelf, substantially as described.

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