

(No Model.)

W. M. POINDEXTER.
SUPPORTING SHELVING, &c.

No. 567,002.

Patented Sept. 1, 1896.

Fig 7

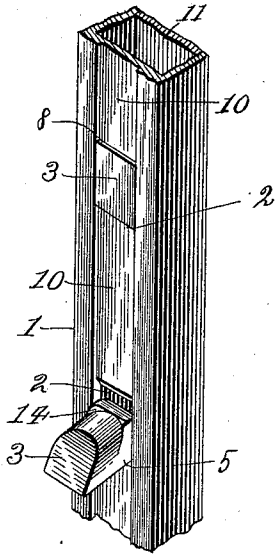


Fig 2.

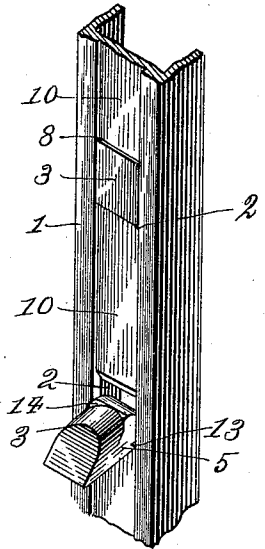


Fig 3.

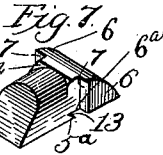
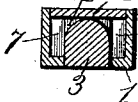


Fig 4.

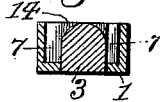


Fig 5.

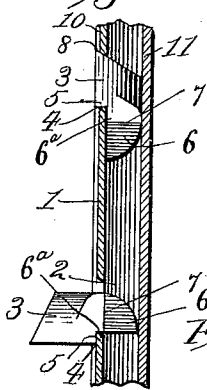


Fig 6.

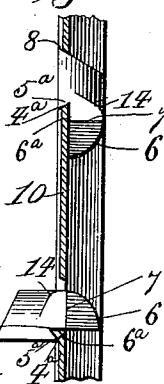


Fig 9.

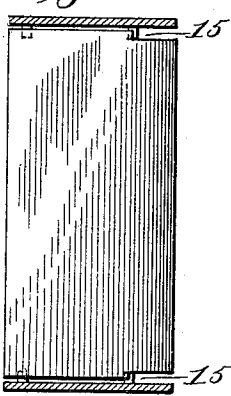
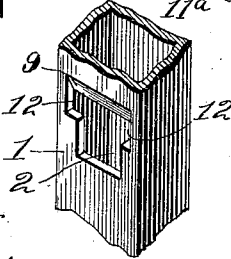


Fig 8.



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UNITED STATES PATENT OFFICE.

WILLIAM M. POINDEXTER, OF WASHINGTON, DISTRICT OF COLUMBIA.

SUPPORTING SHELVING, &c.

SPECIFICATION forming part of Letters Patent No. 567,002, dated September 1, 1896.

Application filed June 29, 1895. Serial No. 554,492. (No model.)

To all whom it may concern.

Be it known that I, WILLIAM M. POINDEXTER, a citizen of the United States, and a resident of Washington, in the District of Columbia, have invented certain new and useful Improvements in Supporting Shelving and other Objects, of which the following is a full, clear, and exact specification.

My invention relates to the same general arrangement and construction of supports as described in Letters Patent numbered 541,678, granted to me on the 25th day of June, 1895, the same being applicable to shelving of any kind or to any use where a removable support is desired.

One object of my present improvements is to form a folding support, the essential features of which are a suitable housing or support having a certain form of bearing, such, for instance, as a plate having a slot and a loosely-mounted dog swinging through the slot and fitting said bearing or slot and rendered self-supporting whether in vertical or horizontal position therein by a shoulder which engages the lower edge of the slot when in vertical position and cooperating with a cross-head on the inner or lower end of the dog engaging behind the side walls of the slot to support the dog when turned down in a horizontal position, or causing it to lie flush with the face of the mounting when turned up out of active position.

A further object is to so form the supporting-shoulder that it will, in addition to sustaining the dog vertically, limit its inward movement on its bearing or lower edge of the slot and maintain it in proper position to be drawn down at will, this being accomplished by making a bevel on the bearing edge and a corresponding undercut in the shoulder, which causes these parts to engage when the dog reaches upright position.

A further object is to so form the slotted mounting that the dogs may be readily engaged at their upper edges to be drawn down into active position, this being accomplished by either making a beveled recess in the mounting just above the slot or by uniformly channeling the face of the mounting, so as to reduce the thickness and expose the edge of each dog above the slot.

A further object is to enlarge the upper

portion of the bearing-slot to admit the cross-head on the dog, so that the latter may be inserted from the front and then dropped down into normal position and operate in the manner before referred to.

A further object is to provide slight shoulders on the upper sides of the dog that will seat the shelf and hold it firmly without touching the sides of the bookcase.

A further object is to so construct shelves that the self-leveling feature of my Letters Patent before referred to will not limit the width of shelf employed or necessitate a location of the front supports back from the front. I accomplish this object by locating the rear pins at such distances from the front as will effect the automatic leveling of the shelf and then recessing the rear corners sufficiently to permit the portion of the shelf projecting beyond the rear supports to swing between the two opposite rows of said supports.

In the accompanying drawings, Figures 1 and 2 are perspective views illustrating different forms of mounting to which the movable dogs, constructed in accordance with my present invention, are applied. Figs. 3 and 4 are horizontal sections through the upper or folded dogs shown in Figs. 1 and 2. Figs. 5 and 6 represent vertical sections taken respectively through Figs. 1 and 2, the dogs being shown in elevation. The former shows a rectangular shoulder and an inserted backing-strip to sustain the dogs, and the latter showing the self-sustaining undercut shoulder and beveled bearing. Fig. 7 is a perspective view of the preferred form of dog. Fig. 8 is a fragmentary view illustrating the enlargement of bearing-slot for introduction of dogs from the front, which permits the use of tubing of rectangular section for forming the mounting. This view also illustrates the upper bevel, which exposes the upper edge of dog for engagement. Fig. 9 is a plan view of my improved construction of shelf for use in connection with the supports shown in my patent referred to.

1 represents the mounting, having the bearing socket or opening 2, in which is fitted the movable loosely-mounted dog 3, said socket or opening being provided with the lower bearing edge 4, and the dog being formed

with a shoulder 5 or 5^a on its lower or outer face, which engages the bearing edge 4 to support the dog in vertical position, as shown in the upper ends of Figs. 5 and 6. As will be seen more clearly in Fig. 7, the dog is further provided at its inner end with a cross-head 6, which serves to retain that end within the mounting by means of the shoulders 7, formed by said cross-head at the sides of the dog, which engage behind the walls of the opening 2. This is the preferred means for preventing the inner end from passing through the opening, but other equivalent projections might be used on the inner end of the dog for the same purpose. The upper or outer end of the dog 3 is slightly beveled, as shown, and when the dog is turned up into the opening 2 its beveled end causes it to fit neatly in said opening and flush with the sides of the mounting. In order to expose the upper edge of the dog for engagement by the finger when it is to be drawn down into active position, the thickness of the mounting above each opening is reduced, so as to leave a projection of the dog at the point 8. This reduction of the thickness to expose the edge of the dog may be accomplished by using a simple bevel, as shown at 9 in Fig. 8, but I prefer to make it, for convenience in manufacturing, by channeling the mounting uniformly from end to end, as shown at 10 in Figs. 1, 2, 5, and 6.

With the forms of dogs shown in my present application and in which there is no pin-
tle as in my patent referred to it is desirable to have some means for preventing the backward displacement of the dogs after they are turned up in vertical position. When the dogs are turned down, the portion 6^a rests on the bearing edge 4 and the shoulder 5 engages in front thereof, so as to prevent inward displacement. When the dogs are turned up, they are supported vertically by shoulder 5. The dogs will be prevented from inward displacement when in use by part of the bookcase to which the mounting is fixed. To take the place of this the mounting may be provided with a backing-strip 11, Figs. 1, 3, and 5, made removable for insertion of dogs; or the mounting 1 may be made in the form of a tube of rectangular section, in which case the backing would be made integral, as shown at 11^a in Fig. 8; and to provide for introducing the enlarged inner ends of the dogs each opening 2 may be formed with lateral extensions 12 at the upper end of said opening 2, through which the cross-head 6 may be passed and then dropped down into normal position for operation in the manner described with reference to the other figures of the drawings.

A simplified construction and one which is complete in two parts, embodying only the dog and its bearing, is shown in Figs. 2, 6, and 7, wherein the rearward displacement of the dog in its socket both in horizontal and vertical position is prevented by the shoulder 5^a. To accomplish this purpose, the shoulder

has an undercut concavity or recess 13, which embraces the bearing edge 4 when the dog is in vertical position. This is preferably made in the form of an inwardly-projecting bevel, to receive which the bearing edge 4^a is also suitably beveled. This construction stops the dog at the proper vertical position, and with the engagement of the upper end of the dog at the top of the opening makes it impossible to dislodge the dog from its seat when in use.

In all the forms of dog I prefer to make on the upper bearing-face a shoulder 14 for the purpose of seating the shelf and preventing lateral play of the same without necessity of the shelf bearing against the sides of the mounting 1 or other parts of the bookcase. This allows the making of the shelf of such length as to pass freely between the ends of the bookcase during insertion and at the same time brings the shelf to a fixed position of rest.

In Fig. 9 I have shown a construction of shelf adapted for use in connection with the self-leveling arrangement of supports of my patent referred to, whereby the depth of shelf is not limited by such arrangement of supports or the position of supports determined by the depth of shelf. This feature of my invention consists of locating the supports in vertical lines determined by the vertical distance between supports in the rear series and then recessing the shelves, as at 15, so that the full length of shelf will be maintained back as far as the rear supports, and beyond this line the length of shelf is reduced just enough to permit the projection beyond the rear supports to swing vertically between the planes of the latter, the front and rear series of supports being spaced apart, so that an arc centered on the front supports may include the corresponding rear supports and exclude those above it.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. A mounting formed with an opening in combination with a loosely-mounted, non-pivoted dog constructed to swing into the opening when not in use and having shoulders for engagement downward upon the lower edge of the opening and also behind the walls of the opening as explained.

2. The combination of a mounting formed with the side walls and the lower horizontal bearing edge and the dog loosely mounted and non-pivoted, constructed to swing into the opening when not in use and having a shoulder on its face for engaging the bearing edge, and shoulders on its sides for engaging the side walls of the mounting, substantially as set forth.

3. In combination with a mounting formed with an opening, a loosely-mounted, non-pivoted dog having shoulders engaging behind the sides of the opening, and arranged to swing up into said opening, or down upon

the bottom of said opening and maintained in horizontal position to offer vertical support, as explained.

4. In combination with a mounting having an opening, a swinging loosely-mounted non-pivoted dog having shoulders engaging respectively behind the sides of the opening and upon the upper and outer faces of the lower wall of said opening and also adapted to engage by its outer end the top of the opening whereby the dog is supported in horizontal position and when turned up out of use is supported in vertical position and prevented from displacement from its support, as explained.

5. In combination with a mounting formed with an opening, the herein-described dog constructed to engage behind the walls of the opening, having a cross-bar at its inner end formed with shoulders and having a shoulder on its face formed to engage on top and in front of the bottom of the opening, whereby when the dog is in horizontal position it offers vertical support and when in vertical position its inward movement is limited and displacement prevented, as explained.

6. In combination with a mounting formed with an opening in its face, the herein-described dog inserted through said opening,

movable therein and having a shoulder on its face to engage the lower wall of the opening in the mounting and thus counterbalance the dog inward when in vertical position and formed with a cross-head at its inner end as explained.

7. In combination with the mounting having an opening, the loosely-mounted non-pivoted dog supported and movable in said opening substantially as described, and adapted to enter the opening flush with the outer face of the mounting; said mounting being recessed for exposing the upper edge of the free end of the dog to engagement by the finger, as explained.

8. The combination, with the front and rear vertical series of supports, spaced apart so that an arc centered on the front supports may include the corresponding rear supports and exclude those above it; of a shelf having an extension of reduced length between the ends of the shelf beyond the rear supports to permit the shelf to swing upward between the vertical planes of the rear supports; substantially as described.

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Witnesses:

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