

A. T. HANSEN.
METAL SHELVING.
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994,674.

Patented June 6, 1911.

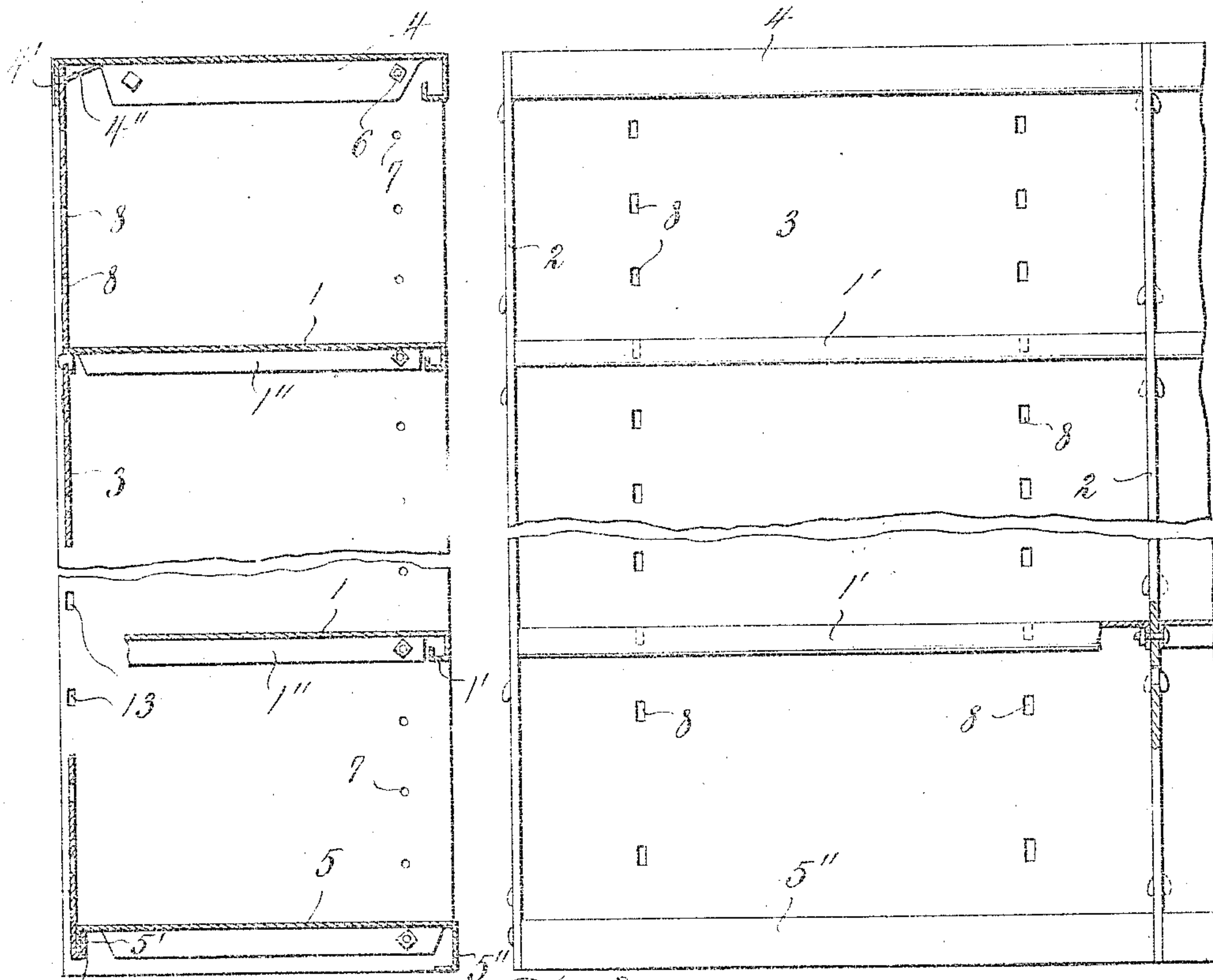


Fig. 1

Fig. 2

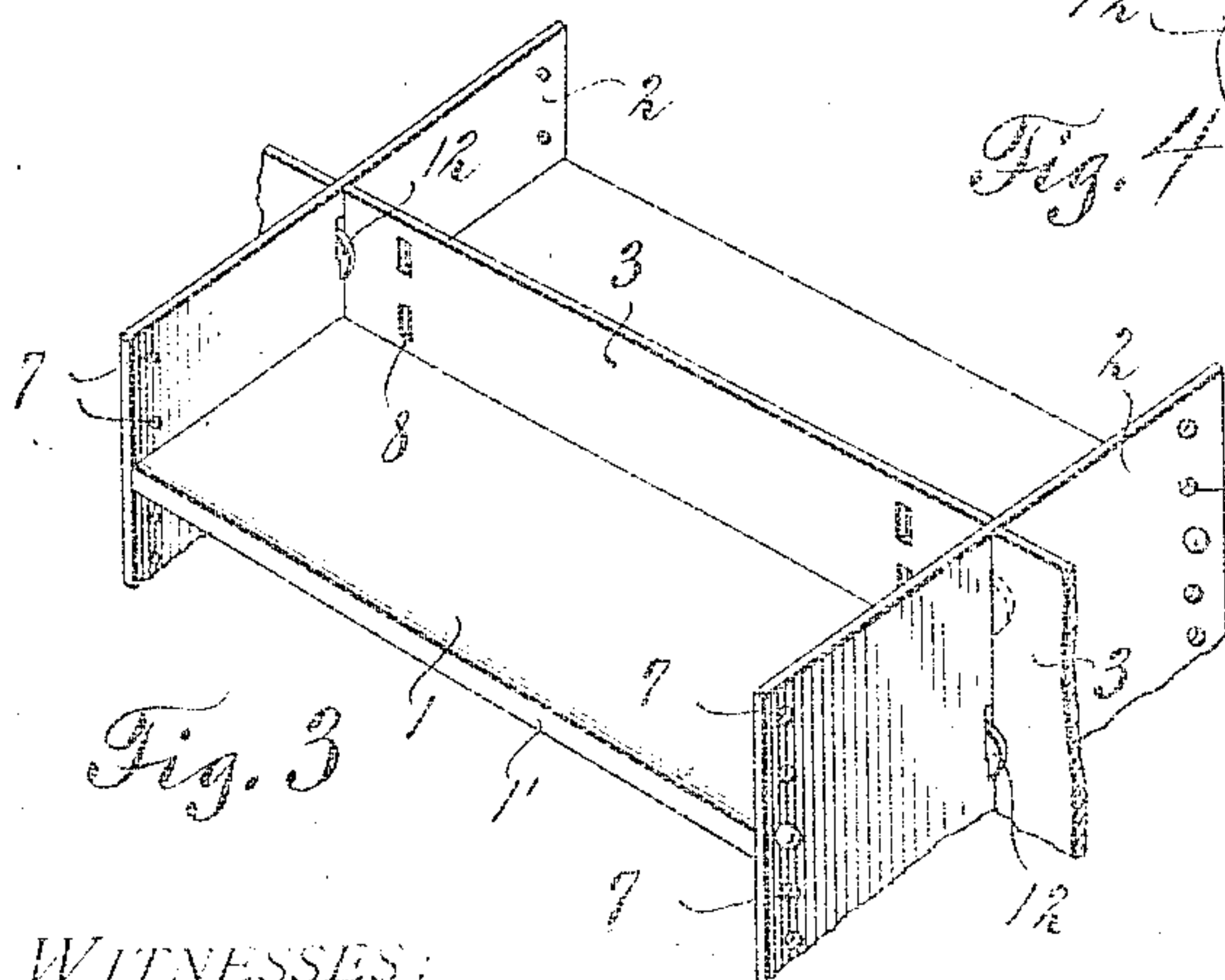


Fig. 3

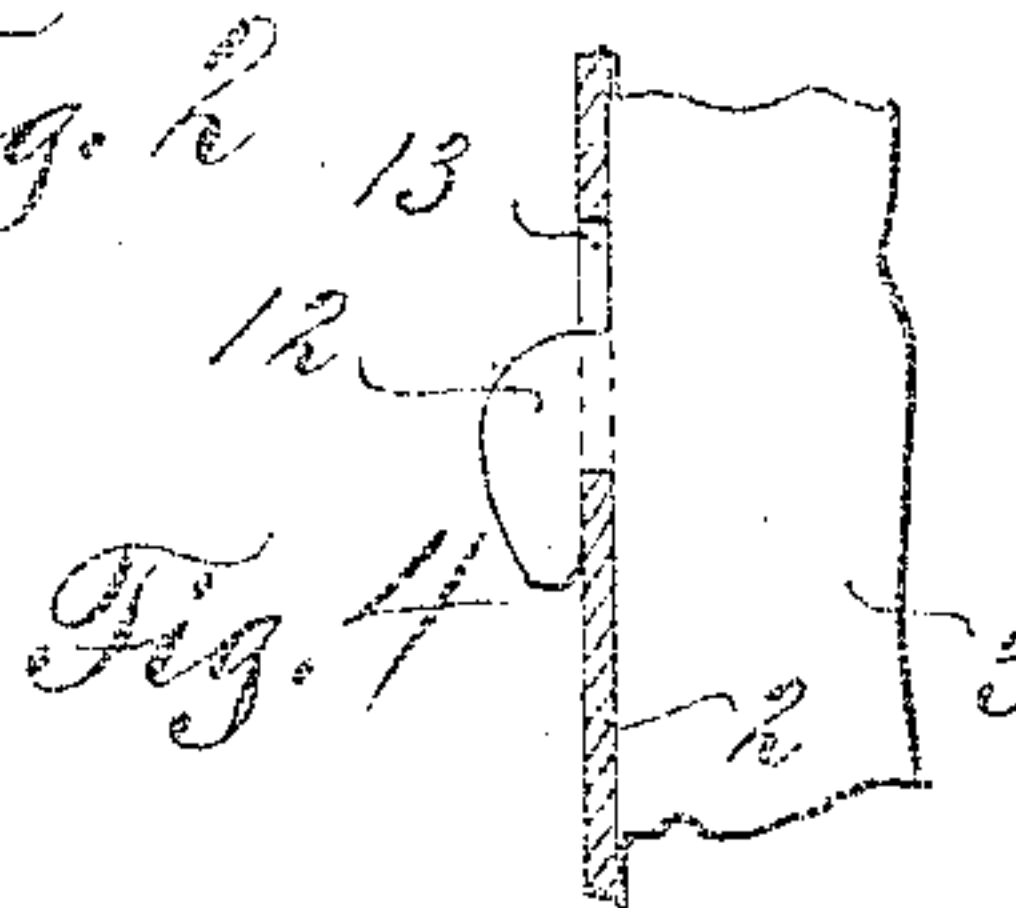


Fig. 4

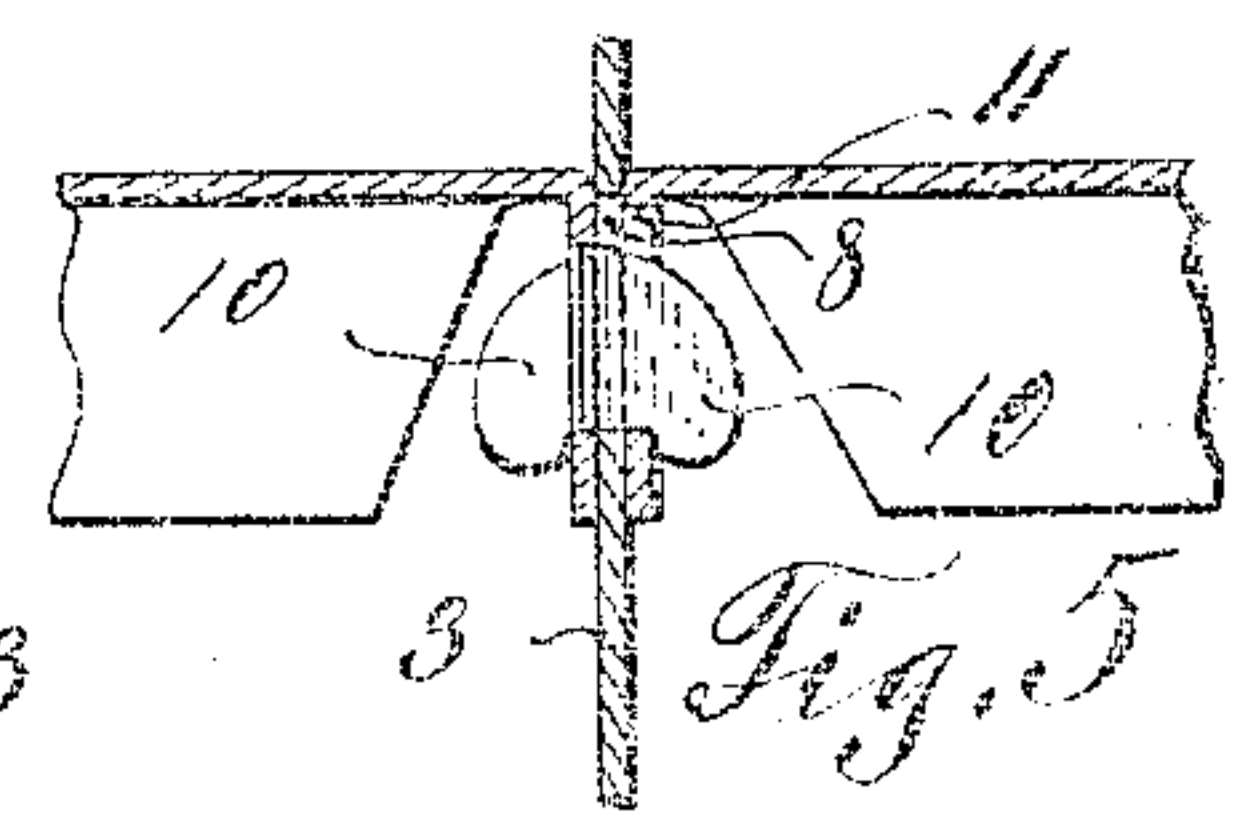


Fig. 5

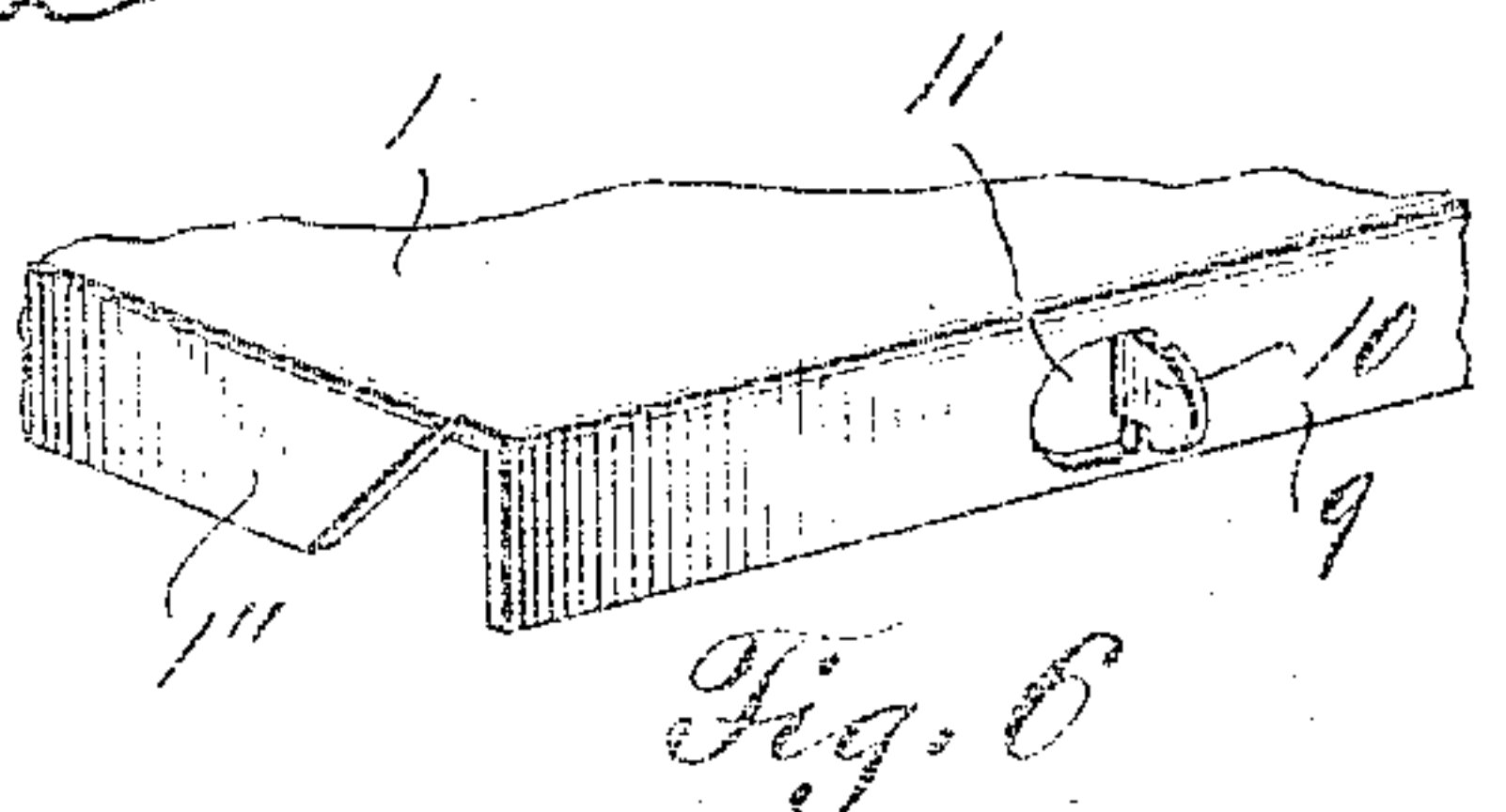


Fig. 6

WITNESSES:

E. Larsson
H. B. Leonard

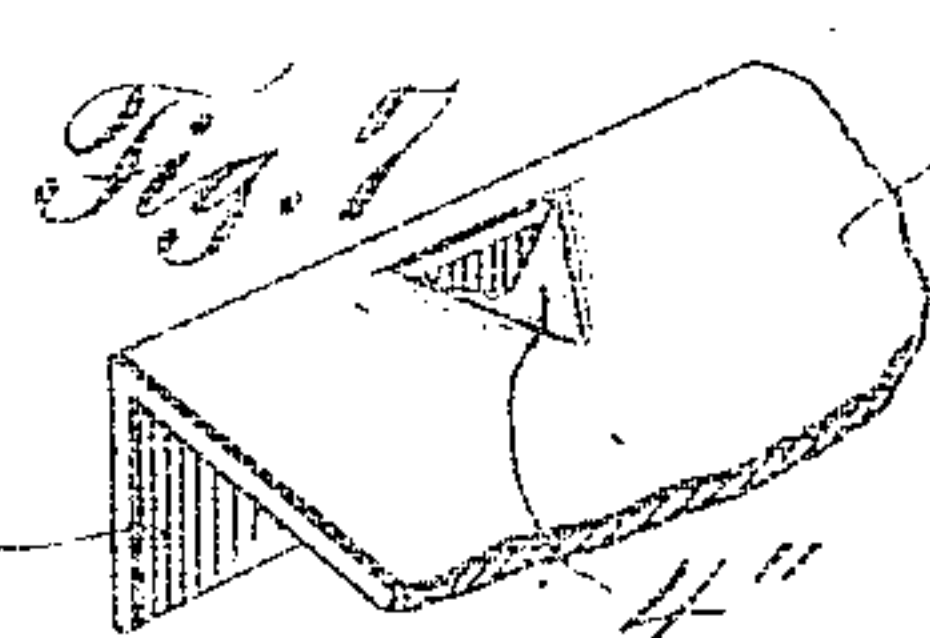


Fig. 7

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METAL SHELVING.

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To all whom it may concern:

Be it known that I, ALBERT T. HANSEN, a citizen of the United States, residing at Jamestown, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Metal Shelving, of which the following is a specification.

The present invention relates to sheet metal shelving.

The present objects to be had in view in producing a practical construction of shelving of the above class are simplicity in the form of metal parts of the product and the formation of said parts peculiarly to facilitate the setting up of the shelving preliminary to use.

The shelving embodying the present invention has been devised with the above points of advantage in mind and for a full understanding of the invention, including its details of construction, its operation, and advantages, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a transverse sectional view of a single tier of shelving embodying the essential features of the invention; Fig. 2 is a front elevation; Fig. 3 is a fragmentary perspective view showing the assembled shelving such as employed for setting up the same in a double tier; Fig. 4 is a fragmentary view showing more clearly the manner of interlocking the back plate for the shelves with the upright side plates; Fig. 5 is a fragmentary sectional view bringing out clearly the peculiar interlock between adjacent shelves and the intermediate supporting upright side plate; Fig. 6 is a fragmentary perspective view showing the rear flange of one of the shelves with the interlocking hook carried thereby; and Fig. 7 is a fragmentary perspective view showing the manner of formation of the bracing lug of the top of the shelving.

In carrying out the invention, a feature of primary importance thereof is a special form of interlock employed for connecting the shelves with the supporting back plates, whereby the rigidity of the shelving is subserved, space economized, and a special form of supporting hook affording maximum strength employed, the last mentioned feature being desirable having in view that the

weight supported by the individual shelves 55 will often be considerable when heavy books or the like are placed thereon.

Referring to the drawings and specifically setting forth the detail features of the invention, 1 denotes the shelves, 2 upright side plates supporting the shelves at their front ends, and 3 a back plate designed to support the shelves at their rear end portions. The top shelf 4 and bottom shelf 5 are constructed slightly different from the shelves 1, as will be more fully described hereinafter. Each of the shelves 1 is of exactly the same construction for purposes of convenience in reference to interchanging the same and setting up the shelving without the necessity of placing any certain one of the shelves 1 in a particular position with reference to adjacent or others of the shelves 1. The front edge portion of each shelf 1 is folded to form a finishing and reinforcing flange 1', while the side or end edges of each shelf 1 are bent downwardly to form supporting flanges 1'', the outer end portions of which are apertured to receive a fastening bolt 6, the latter adapted to pass through any one of a series of openings 7 provided at intervals in vertical alignment in the side plates 2 near the front edges of the latter. The provision of the openings 7 permits of adjustment of the shelves 1 vertically to allow of variation of the size of the space between the shelves to accommodate articles of different sizes, such as books. Associated with the openings 7 of the side plates 2, are openings or slots 8 in the back plate 3, the latter being provided in series so that certain slots are arranged in the same horizontal plane as certain apertures or openings 7. At their rear edges, the shelves 1 are formed with downwardly projecting flanges 9 and punched out from said flanges are the short hooks 10. The operation of forming the hooks 10 by punching the material of the shelf outwardly provides in the flange 9 adjacent to each hook 10 an opening 11 performing a peculiar function. When the shelves 1 are set up in double tiers in the manner shown in Figs. 3 and 5, the hooks 10 on the flange 9 of one shelf pass through certain slots 8 on the back plate 3 and enter the openings 11 of the shelf on the opposite side of the plate 3. In like manner, the hooks of the last

mentioned shelf are positioned identically the same with reference to the openings 11 of the first mentioned shelf. A peculiar interlock between the shelves is obtained by the above arrangement and formation of the hooks 10 and since the hooks of two shelves 1 arranged in horizontal alinement are capable of interlocking with the back plate 3 as well as interlocking the flanges 9 of the two shelves together, the structure of the shelving is rendered rigid and furthermore, the hooks 10 are so arranged as not to prevent the flanges 9 of the shelves 1 from direct contact with the back plate 3.

When the shelving above described is set up in double tiers, such as illustrated in Fig. 3, single side plates 2 are used for the opposite shelves, and the side plates are designed to sustain the weight of the shelves and contents when in actual use. The back plates 3 under the above conditions are separate for each vertical tier of shelves and are interlocked with the side plates 2 by means of hooks 12 with a plurality of which each back plate is provided. The hooks 12 pass through slots or openings 13 in the side plates 2.

The top shelf 4 is preferably provided with a downwardly extending flange 4' at its rear edge to engage over the back plate 3 and likewise provided at intervals with lugs 4'' pressed downwardly therefrom with their rear ends slightly spaced from the flange 4'. The lugs 4'' engage the side of the back plate 3 opposite that engaged by the flange 4'. The back plate 3 is also formed at its lower end with an upwardly bent flange 14 and the lowermost shelf 5 has its rear edge bent downwardly to provide a flange 5' interlocking with the flange 14. The outer edge of the lowermost shelf 5 has a downwardly extending flange 5'' virtually constituting a closure at the front

portion of the space between the shelf 5 and the floor or support.

Having thus fully described my invention, what is claimed as new is:

1. Metal shelving comprising, in combination a plurality of shelves, side plates for said shelves, a back plate interposed between said shelves, fastenings supporting the front portions of the shelves on the side plates, the back plate being provided with openings therethrough, and hooks projecting from the rear inner edges of the shelves, the hooks of horizontally alined shelves passing through the openings in the back plate, and the hooks of each shelf being interlocked with the shelf on the opposite side of the back plate.

2. A double tier of metal shelving comprising a plurality of shelves adapted to be placed in horizontal alinement, a back plate interposed between said shelves, side plates, and fastenings supporting the front portions of the shelves on the side plates, the back plate having a plurality of openings therethrough, each shelf being formed at its rear edge with a flange, the material of the flange being punched out to provide a projecting hook and an opening at one side of the hook, the hooks on horizontally alined shelves passing through the openings in the back plate, the hooks of each shelf entering the openings in the flange on the shelf on the opposite side of the back plate, whereby each shelf is interlocked with the back plate and with the horizontally alined shelf on the opposite side of said back plate.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT T. HANSEN.

Witnesses:

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