A. H. SCHAFFERT.

ADJUSTABLE SECTIONAL SHELVING.

APPLICATION FILED APR. 9, 1915.

**1,161,792.**

Patented Nov. 23, 1915.

2 SHEETS—SHEET 1.

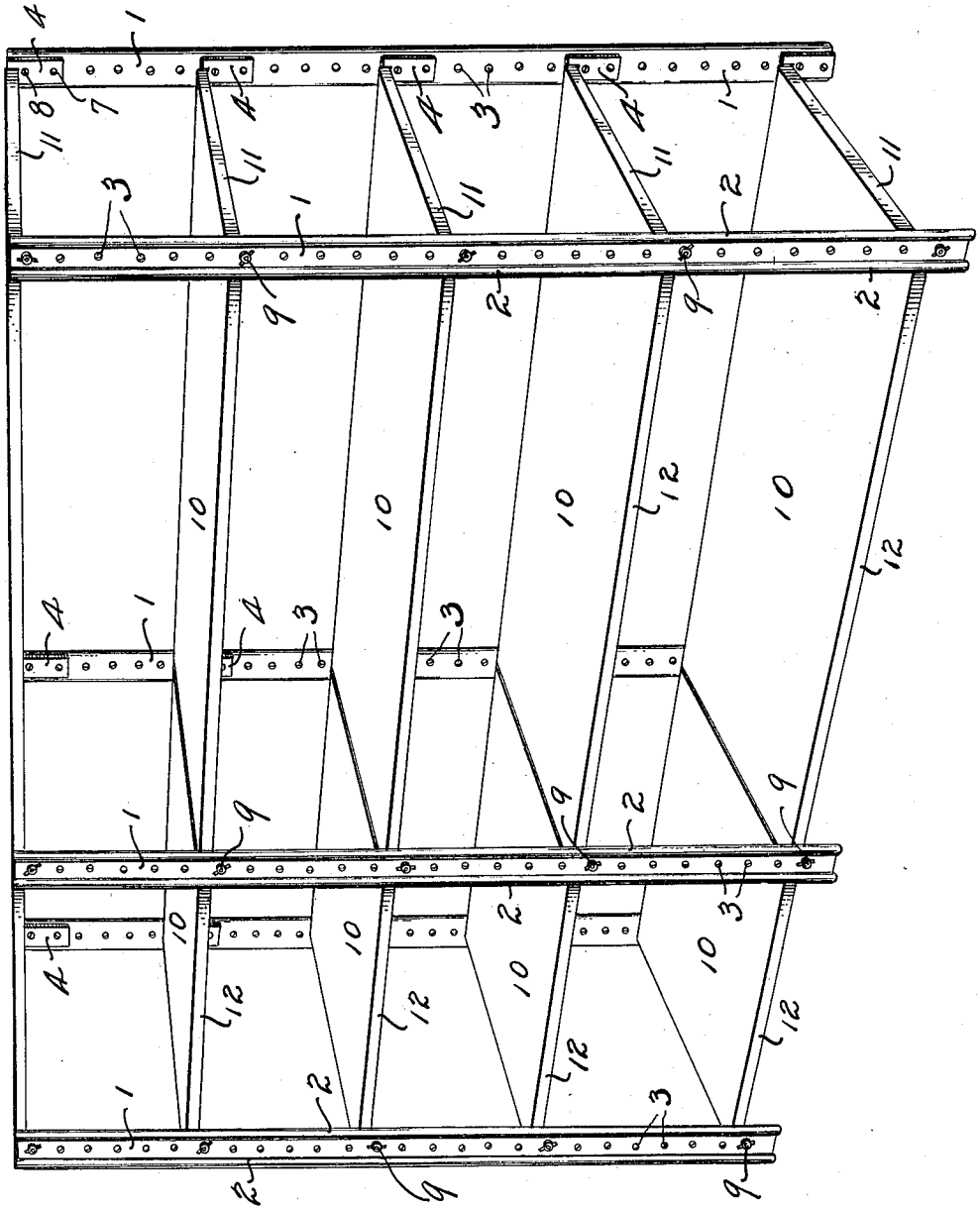


Fig. 1.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

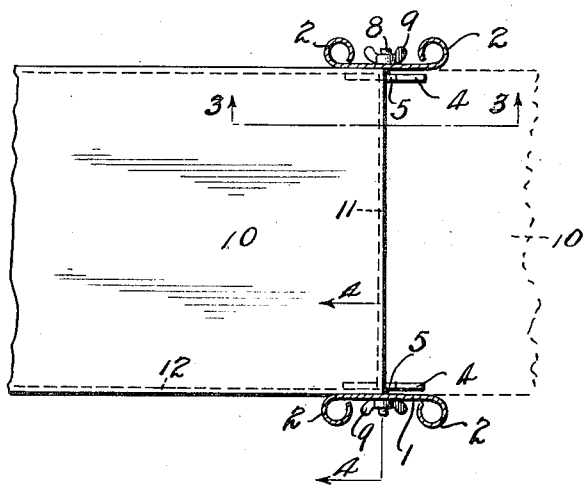



Fig. 3.

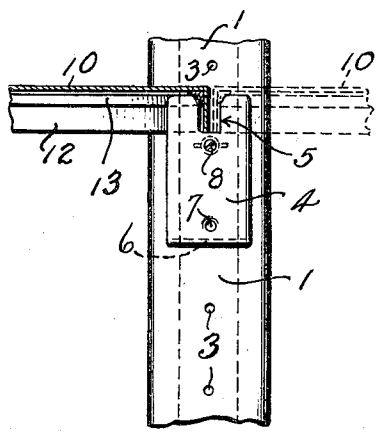



Fig. 4.

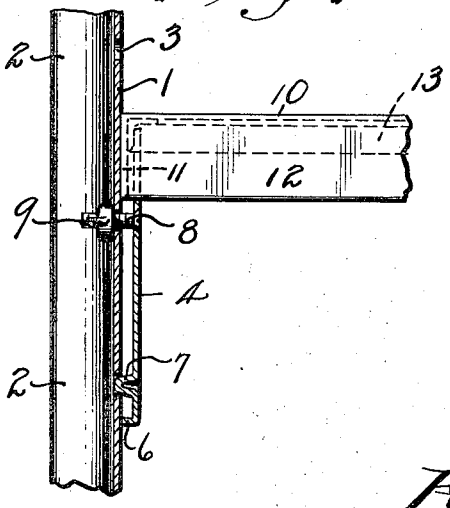



Fig. 5.

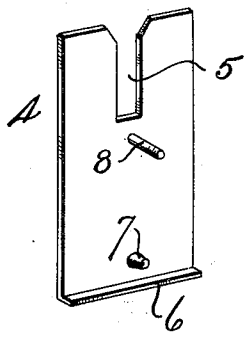
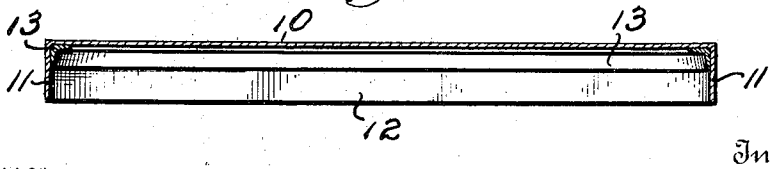



Fig. 6.




Witnesses

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# UNITED STATES PATENT OFFICE.

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## ADJUSTABLE SECTIONAL SHELVING.

1,161,792. Specification of Letters Patent. Patented Nov. 23, 1915.

Application filed April 9, 1915. Serial No. 20,287.

*To all whom it may concern:*

Be it known that I, ADOLF H. SCHAFFERT, citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Adjustable Sectional Shelving, of which the following is a specification.

This invention relates to a novel and practical construction of sectional metal shelving for offices and other locations requiring an economical and fireproof shelving occupying a minimum space, and having a maximum shelf-capacity and strength.

The primary object of the invention is to provide an all-metal shelving which is light in construction, easily and cheaply manufactured, readily assembled or taken apart, as well as being extensible and adjustable.

A further object of the invention is to reduce to a minimum the number of parts in the shelving by eliminating all unnecessary and superfluous elements, and utilizing the shelf members themselves as a tie for rigidly connecting the framing parts of the structure, also, in addition to providing a light, strong and cheap structure, the invention provides means whereby the system of shelving may be quickly and easily extended indefinitely, lengthwise or vertically, and any required spacing between the shelves arranged for.

Other objects will be apparent to those familiar with this class of structures, and though the improvement is susceptible of structural modification without departing from the general plan and purpose of the invention, a preferred and practical embodiment thereof is shown in the accompanying drawings in which—

Figure 1 is a perspective view showing two sections of shelving built up in accordance with the present invention, the shelf members of one section being shown as longer than the adjoining shelf members of the other section. Fig. 2 is a horizontal sectional view through a pair of opposite uprights, illustrating a pair of adjoining shelf members interlocked with and supported on the hanger clips carried by said uprights. Fig. 3 is an enlarged vertical sectional view on the line 3—3 of Fig. 2 illustrating more plainly the mounting of one of the hanger clips and the engagement of adjacent shelf plates therewith. Fig. 4 is a detail vertical sectional view on the line 4—4 of Fig. 2 illustrating the clamping engagement of a hanger clip with the side flange portion of a shelf plate engaged therewith. Fig. 5 is a detail in perspective of one of the hanger clips. Fig. 6 is an enlarged detail cross-sectional view of one of the shelf members or plates showing the flanged formation thereof, and also illustrating the interior angle reinforcement.

Similar reference characters designate corresponding parts throughout the several figures of the drawings.

The improved sectional shelving is of duplicate construction throughout, it being simply necessary to multiply the various parts or units of shelving, both longitudinally and vertically of the structure, to meet any particular requirements.

The shelving includes in its organization a plurality of pairs of transversely opposite framing uprights 1 which constitute a light skeleton framework, and each unit of shelving requires two pairs of the uprights 1, or a set of four of such uprights, a shelf member or plate, and a hanger element on each upright.

Referring first to the framing uprights, each of the same preferably consists of a sheet metal strip or bar presenting flat inner and outer sides, and formed at its lateral edges with outturned beads or flanges 2 which reinforce and stiffen the same. Also, each upright 1 is provided with a vertical series of regularly spaced adjustment holes 3, with which coöperate elements of a vertically adjustable hanger clip 4 mounted at the inner side of the upright. This hanger clip simply consists of a single stamping or plate, preferably of a rectangular form and provided in the top edge thereof with a longitudinally disposed keeper notch 5. The lower edge of the clip plate or body may be formed with a laterally projecting fulcrum or bearing flange 6 adapted to bear against the inner side of the upright on which the clip is mounted, and adjacent its lower edge

the clip plate or body is provided in any suitable manner with a laterally offset or holding lug 7 adapted to engage in any one of the adjustment holes 3 of the upright. To provide for detachably and adjustably locking this hanger clip in place, the same is fitted with a locking device 8 located at the same distance from the lug 7 as the distance between the holes 3 or any multiple of that distance. This locking device may conveniently be, and preferably is, in the form of a short screw bolt adapted to extend through one of the holes 3 and fitted upon its outer threaded extremity with a clamping nut 9 which binds upon the outer side of the upright.

The shelf members 10 may be constructed in varying lengths, as illustrated in Fig. 1 of the drawings, and in fact may be constructed in varying widths. Regardless, however, of the dimension of the shelf members, each of the same preferably consists of a rectangular plate made from a single piece of sheet metal provided at its marginal edges with the side and end downturned stiffening flanges 11 and 12 respectively, and these stiffening flanges are preferably reinforced by inside reinforcing angle plates 13 fitted within the inside corners of the shelf plate. The reinforced flanges 11 and 12 project to one side of the body of the plate, thereby leaving a perfectly flat and unobstructed top surface while at the same time permitting the flange portions at the corners of the plate to be utilized as holding elements for engaging the keeper notches 5 of the four holder clips with which the plate is associated.

It will be observed that each shelf member or plate 10 is adapted to be suspended in place between four framing uprights, and upon four holder clips which have an interlocking and clamping engagement with the corner portions of the plate. That is to say, at each of its corners, a shelf member or plate 10 hooks over the notched or slotted end of one of the holder clips so that the end flange portion of the plate engages in and interlocks in the keeper notch 5, while the adjacent side flange portion of the plate is disposed between the upper end portion of the clip and the inner side of the framing upright so that when the locking device or screw 8 is tightened up, the shelf plate will be clamped directly against the inner side of the said upright. This is repeated at all four corners of the shelf plate thus securely locking the plate to the four uprights with which it is associated. In turn, the plate itself constitutes a rigid connecting tie between the said several framing uprights. This makes a rigid and strong structure capable of sustaining, without strain or distortion, a maximum shelf load or weight.

The flanged lower edges 6 of the hanger clips 4 facilitate loosely positioning the holder clips with their upper ends spaced from the uprights so that the side flanges of the shelf plates may be easily placed behind them, and also when the locking devices 8 are tightened up, the flanges 6 act as fulcrums so that the holder clips will effectively function as binding clamps. It will be further observed that the keeper notches 5 in the top edges of the holding clips are sufficiently wide to receive the end flanges of two adjoining shelf members in the same horizontal plane so that each pair of transversely opposite hanger clips 4 is a part of each adjacent unit of shelving and provide means for making neat and substantially flush joints for the shelving throughout.

By reason of the adjustable mounting of the hanger clips 4, it will be observed that the same may be placed to occupy any desired position along the uprights throughout the height thereof thus enabling the shelf members to be spaced at any desired distance apart, as well as permitting any number of shelves to be hung within and between framing uprights of any specified height.

From the foregoing, it is thought that the features and advantages of the improved construction of shelving will be readily apparent without further description, and that changes in the form, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

I claim:

1. Sectional shelf construction including, in combination, a plurality of framing uprights, vertically adjustable clips fitted to the uprights, and a shelf member having flanges projecting to one side thereof, the end flanges of said member interlocking with the upper ends of the clips and the side flanges of said member clamped against the uprights by the clips.

2. Sectional shelf construction including, in combination, a plurality of framing uprights, combined hanger and clamp clips adjustably fitted to the uprights and provided with notched upper ends, and a flanged shelf member having its corner portions interlocking with the notches of the clips and clampingly held thereby against the uprights.

3. Sectional shelf construction including, in combination, a plurality of framing uprights provided with a series of adjustment holes, vertically adjustable clips each having a holding projection and a locking device respectively engaging separate holes of the upright, and a flanged shelf member engaging the notched ends of the clips.

4. Sectional shelf construction including, in combination, a plurality of framing uprights provided with a series of adjustment

holes, vertically adjustable clips provided with notched upper ends, and each having a holding projection and a locking device respectively engaging separate holes of the upright, and a flanged shell member having its flanged corner portions hooked over the notched ends of the clips.

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

ADOLF H. SCHAFFERT.

Witnesses:
A. J. WATSON,
O. D. KAISER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."