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W. N. VANCE

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BIN FRONT

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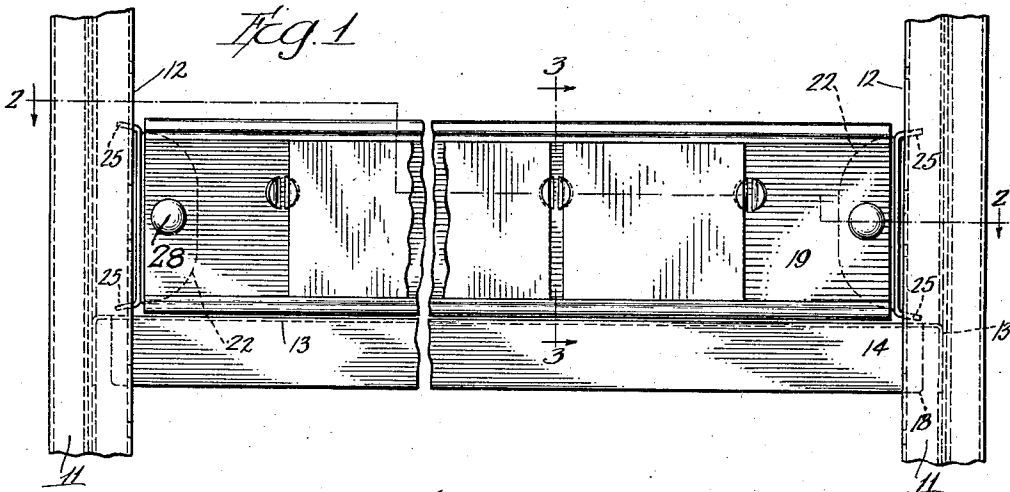


Fig. 2

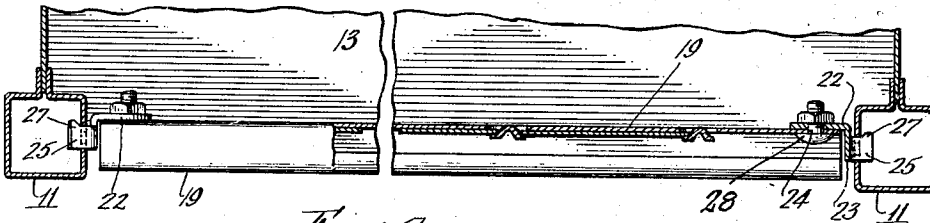
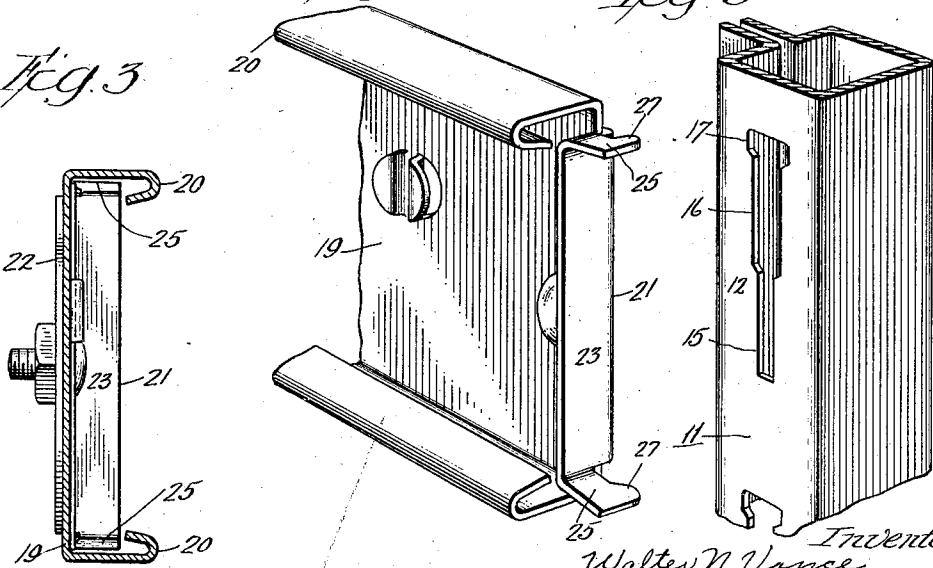


Fig. 4

Fig. 5

Fig. 3



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BIN FRONT

Application filed January 20, 1928. Serial No. 248,109.

This invention relates to metal shelving, and has more particular reference to the provision of a new and improved supporting clip for vertical bin fronts or removable walls, such as are supported between vertical uprights in shelf assemblies.

The principal object of this invention is the provision of a strong, durable, supporting clip adapted to support a bin front between slotted uprights; that may easily be attached to said bin front and which will form a strong and rigid connection with the uprights when properly engaged in the slots.

Another important object is the provision of a supporting clip which will secure the bin front to the uprights and fasten the parts together so that they will not separate when loaded.

An important feature is the provision of a supporting clip which may be used in conjunction with parts already in use, which will not require reformation of other parts of the shelving, which can therefore, be incorporated with shelving already in use and which may be carried by the manufacturer as a mere supplemental part.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description considered in connection with the accompanying drawing, which illustrates a preferred embodiment thereof.

Referring to the drawings,

Figure 1 is a front elevation of a shelf construction illustrating an embodiment of my present invention;

Fig. 2 is a section taken on line 2—2 of Figure 1;

Fig. 3 is a section taken on line 3—3 of Figure 1;

Fig. 4 is an enlarged detail showing a bin front end with the retaining lug of my present invention mounted thereon; and

Fig. 5 is an enlarged perspective view of a portion of one of the uprights showing the slots therein.

Many of the structural details shown of the shelf assembly are unimportant from the standpoint of the present invention and only such description thereof will be made as is

thought necessary to an understanding of the invention.

For the purpose of illustrating my invention, I have shown on the drawing part of a metal shelf construction, comprising rectangular tubular supports 11, which it should be understood are arranged at the four corners of each shelf. The tubular uprights 11 are slotted at 12 to receive shelf supports 14 on which are arranged shelf members 13. The slots 12 in the present instance are of double T-form, that is to say, each consists of a lower narrow part 15, an intermediate part 16, wider than part 15, and a still wider part 17. The shelf supporters are interlocked in place by positioning their heads 18 through the intermediate part 16 of the slots and moving the shelf supports down into the part 15 to lock them into place. It will be understood that the shelves may be arranged in any number and at any convenient height by proper selection of the slots into which the shelf supports are engaged.

The bin front or vertical wall in the present instance comprises a metal sheet 19 of length slightly less than the distance between the adjacent front uprights 11. The horizontal edges of the wall 19 may be bent into U-form flanges as at 20, or may be finished in any desired manner. The bin front thus or otherwise constructed is provided with clips 21 at its ends to engage in appropriate slots 15 to hold the bin front in place.

Each clip comprises a part 22 provided with a hole or opening 24 and adapted to lie against the face of the body of vertical wall 19, and a second part 23 bent at right angles to the part 22 and extending therebeyond at each end to provide lugs 25, which in turn are bent outwardly as shown. The distance between the lugs 25 of a single clip is equal to the distance between adjacent slots of an upright or some multiple thereof according to the height of bin front to be positioned. The lug 25 is cut away adjacent the part 23 to provide a shoulder 27 and the dimensions of the parts are such that the lugs of a clip may be inserted through the head or upper part 17 of a slot 12 and the clip moved down to arrange the lugs through

slot part 16 with the shoulder 27 positioned back of the wall of the upright adjacent the slot. A clip is similarly positioned in a corresponding slot of the opposing upright and each clip is bolted to an end of the bin front 19 by means of bolt 28 which passes through the hole 24 in the clip and a corresponding hole properly positioned in vertical wall 19.

It is apparent that the structure herein disclosed, in which a vertical wall or a bin front is fastened between two adjacent uprights, offers a protection against deflection of the uprights under load by providing a clip of such construction that the uprights cannot move outwardly relative to the bin front, because the uprights are held together by the protuberances on the clip lugs, nor can the uprights deflect inwardly because the uprights are held apart by the surface 23 of the bin front clips.

There is a tendency also for the bin front itself to buckle outwardly when the bin behind it is filled with heavy material. Such buckling shortens the distance between bin front ends and tends to withdraw them from engagement with the uprights. The clip structure herein disclosed prevents such lateral displacement of bin front ends relative to the uprights and so reduces bin front buckling.

It should be understood that only portions 16 and 17 of the slots are used to engage lugs 25 of the clips 21. Tang 25 is too wide to allow of its engagement with part 15 of the slot. This feature allows the positioning of bin fronts when shelf 13 and shelf-support 14 are absent.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts, without departing from the spirit and scope of the invention or sacrificing any of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. A metal shelf assembly, comprising spaced uprights, shelves arranged therebetween, vertical walls, and bin fronts arranged between front uprights and having interlocking engagement therewith to prevent variation in both directions relatively to the shelves of the distance between said uprights under the load on said shelf, said interlocking arrangement including a lug, a slot companioned thereto, and a member extending laterally of the lug for engaging an upright.

2. A metal shelf assembly, comprising spaced uprights provided with slots in adjacent faces, shelves arranged between said uprights, a vertical wall positioned between said uprights and upon a shelf and having wall extensions entering into the slots of said

uprights to restrain said uprights against movement varying in both directions relatively to the shelves the distance between said uprights, a section extending laterally of the extensions for engaging said uprights.

3. A metal shelf assembly, comprising spaced uprights having spaced slots, shelf supports mounted in said slots, a shelf carried by said shelf supports, and a vertical wall adapted for arrangement between said uprights above said shelf, said wall having detachable clips secured to its ends adjacent said uprights, each of said clips comprising a portion attachable to said vertical wall and integral lugs adapted to pass through said slots and engage the inner surfaces of the uprights.

4. A metal shelf assembly, spaced uprights having slots, said slots having an enlarged part, a vertical wall adapted to be positioned between said uprights and provided at each end with detachable clips, said clips comprising a part adapted for attachment with the ends of the vertical wall, and lugs adapted for engagement in the slots of said uprights, means for preventing lateral displacement of the lugs through the slot when in engaged position in the slot.

5. A metal shelf assembly, spaced uprights having slots, each of said slots having an enlarged part, a vertical wall adapted to be positioned between said uprights and provided at each end with detachable clips, said clips comprising a part adapted for attachment with the ends of said vertical wall, and integral lugs adapted for engagement in slots of said uprights, each lug comprising a protuberant portion which can engage said slot only through the enlarged part, and which will prevent lateral displacement of said lug through said slot when said lug is arranged through a slot part below said enlarged slot part.

6. A metal shelving assembly comprising spaced uprights, shelves arranged therebetween, a vertical wall positioned between said uprights, and a detachable clip secured at each extremity of said wall, said clip having spaced lugs adapted to interlock with slots provided in said uprights and a vertical section connecting said lugs which is adapted to engage the inner surface of said uprights.

7. The combination of a shelving assembly comprising spaced uprights having slots therein, supports engaging said uprights, a shelf mounted on said supports, a front arranged between said uprights and above said shelf, a clip detachably fastened to the front and having horizontal lugs extending beyond the end of said front for engagement with said slots.

8. The combination of a shelving assembly having spaced uprights provided with slots, each of said slots having more than one width, shelf supports between said uprights and en-

gaging one width of said slots, a shelf on said support, a front above said shelf and between said uprights, and means on said front and engageable with another width of said slots.

- 5 9. A detachable clip for fastening a front on a shelf assembly comprising a plate engageable with the front and fastened thereto, a portion bent at right angles to said plate and extending over the end of said front, and
10 lugs bent from said right angled portion and substantially perpendicular thereto.

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