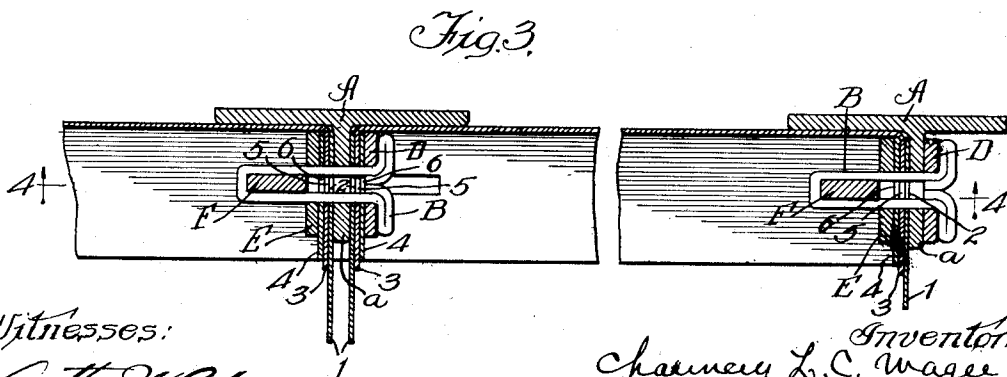
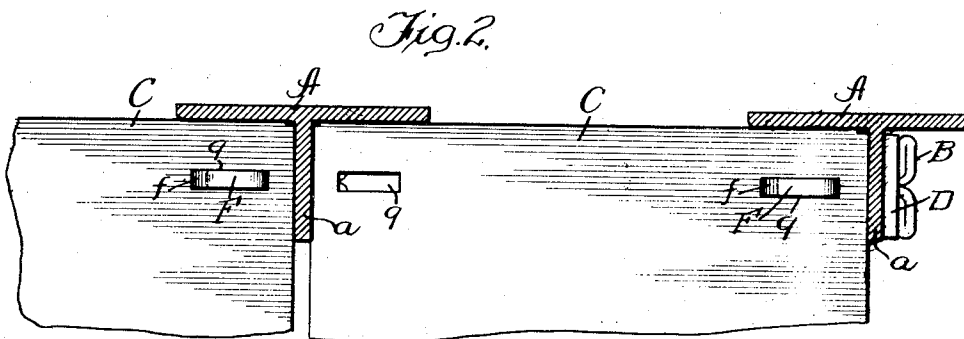
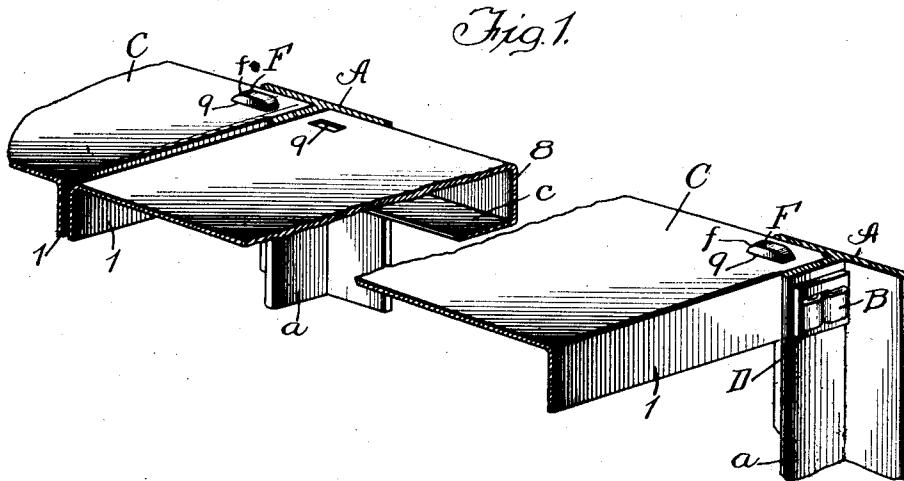


C. L. C. MAGEE.
METAL SHELVING.
APPLICATION FILED APR. 5, 1915.

1,204,174.

Patented Nov. 7, 1916.

2 SHEETS—SHEET 1.



Witnesses:

Arthur W. Carlson
Robert H. Weir

Inventor
Chauncy L. C. Magee
By Arthur T. Durand
Atty.

C. L. C. MAGEE.
METAL SHELVING.
APPLICATION FILED APR. 5, 1915.

1,204,174.

Patented Nov. 7, 1916.
2 SHEETS—SHEET 2.

Fig. 4.

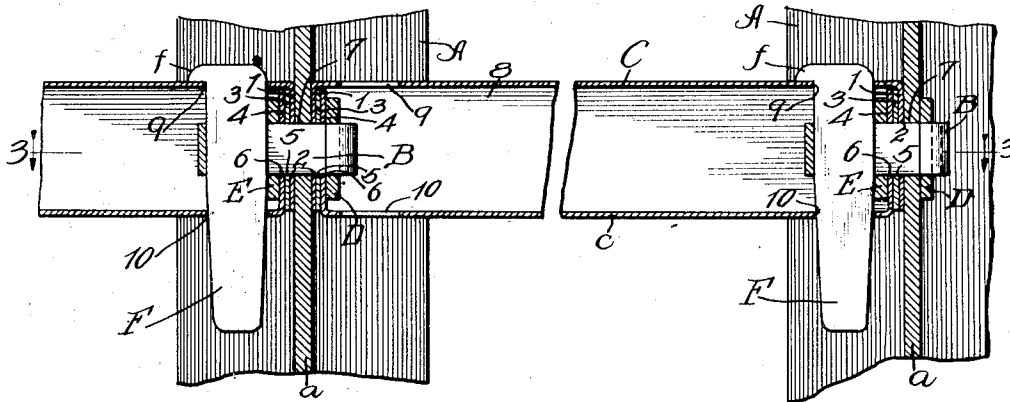


Fig. 5.

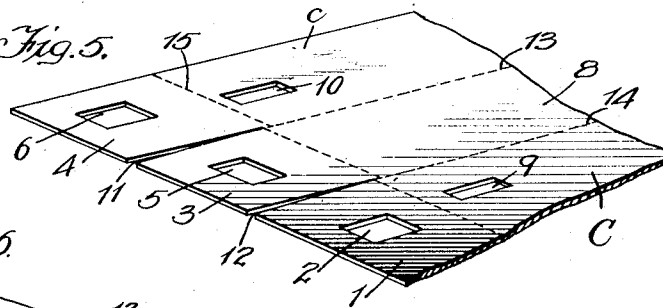


Fig. 6.

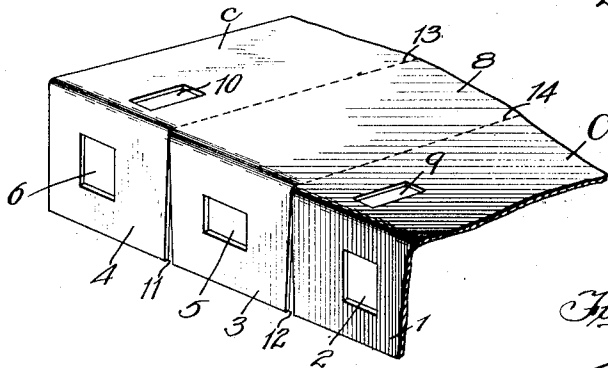
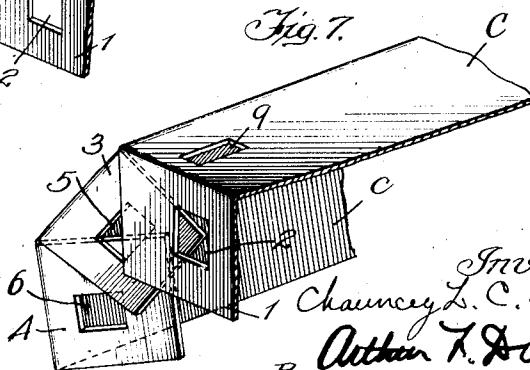


Fig. 7.



Witnesses:

Arthur W. Carson
Robert H. Weir

Inventor:

Chauncey L. C. Magee
Arthur T. Durand
By *Att'y.*

UNITED STATES PATENT OFFICE.

CHAUNCEY L. C. MAGEE, OF CHICAGO, ILLINOIS, ASSIGNOR TO FEDERAL STEEL
FIXTURE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

METAL SHELVING.

1,204,174.

Specification of Letters Patent.

Patented Nov. 7, 1916.

Application filed April 5, 1915. Serial No. 19,099.

To all whom it may concern:

Be it known that I, CHAUNCEY L. C. MAGEE, a citizen of the United States of America, and resident of 1442 Lunt avenue, Chicago, Cook county, Illinois, have invented a certain new and useful Improvement in Metal Shelving, of which the following is a specification.

My invention relates to metal shelving in general, but more particularly to steel shelving employed in buildings for various purposes, and especially the shelving of this kind which is of a knockdown or separable character, whereby the shelves can be readily removed and inserted in place.

Generally stated, the object of my invention is to provide an improved and novel construction whereby sheet metal may be employed in a simple and economical manner in the construction of the shelves.

A special object is to provide a novel and efficient method of converting the sheet metal into shelves having the desired construction and shape.

It is also an object to provide certain details and features of construction and combinations tending to increase the general efficiency and desirability of a steel or other metal shelving construction of this particular character.

To the foregoing and other useful ends, my invention consists in matters hereinafter set forth and claimed.

In the accompanying drawings—Figure 1 is a perspective of a portion of some steel shelving involving the principles of my invention. Fig. 2 is a plan of the construction shown in Fig. 1. Fig. 3 is a horizontal section on line 3—3 in Fig. 4. Fig. 4 is a vertical section on line 4—4 in Fig. 3. Figs. 5, 6 and 7 are perspectives of one end portion of the steel shelf showing the same in various stages of the construction or formation thereof.

As thus illustrated, my invention comprises a plurality of uprights or risers A formed of T-iron and supported at their upper or lower ends, or both, in any suitable or desired manner. The flanges *a* of said risers are provided at intervals with openings to receive the pins B by which the shelving is supported in position. Each shelf comprises a section C of sheet metal having the edges thereof turned downward to form strengthening flanges, and at the ends of the shelves

the metal is not only bent downward but is also turned inward to form a horizontal flange *c*. The flange 1 is provided at its end with an opening 2, and the portions 3 and 4, which are disposed one against the other inside of said flange, are provided with similar openings 5 and 6, which openings register with the opening 7 in the riser when the shelf is in place. This gives a three-ply thickness at the corner of the shelf, and with the formation obtained by the flanges or walls 8 and *c*, which are at right angles to each other at the end of the shelf, a very strong and rigid construction is obtained—that is to say, the construction is surprisingly strong and rigid, considering that comparatively thin sheet steel or other suitable metal may be employed in the construction of the shelving. The pins B are inserted through square washers D, then through the flanges of the T-iron risers, then through the three-ply thickness of sheet metal at the corner of the shelf, as shown in Fig. 3, then through another square washer E, and vertical keys F are then inserted to hold said pins in place. For this purpose the sheet metal shelf is provided with upper and lower slots 9 and 10, as shown in Fig. 4, and the keys F are inserted vertically and downward through these slots, and through the pins B, it being observed that the latter are formed from strap metal and bent to provide a head at one end and a slot at the other end for said key. The said keys have heads *f* which bear upon the shelf to prevent them from falling downwardly through the slots, and to keep them in position to be readily withdrawn when it is desired to knock the shelving down or take it apart.

It will be understood, of course, that various devices can be employed for holding the shelving in place, so far as the broader aspects of the invention are concerned, and that I do not limit myself to the said pins and keys shown and described and which have been found to be very suitable for this purpose.

The method of converting the sheet metal into a shelf having the foregoing shape and construction may be of any suitable character, but as a matter of further and special improvement is preferably as follows: The sheet metal is first cut in the manner shown in Fig. 5, by punching the openings and slots previously mentioned, and by forming

narrow and inwardly tapering slits 11 and 12, these slits extending in continuation of the fold lines 13 and 14, and terminating at the fold line 15 which extends at right angles to said other fold lines. The next step consists in folding the sheet metal along the line 15, as shown in Fig. 6, the portion 3 being displaced a little inside of the flange 1, and the portion 4 being similarly located at this time a little inside of the portion 3, this relative disalignment of the three thicknesses of sheet metal being in each case about the same as the thickness of the metal. The next step consists in folding the sheet metal, or rolling it up, so to speak, by creasing it along the lines 13 and 14, as shown in Fig. 7, whereby the portions 3 and 4 are brought inside of the flange 1, in the manner previously described, and whereby the flange 1 is brought to a horizontal position below the top of the shelf. This method is very simple and serves very quickly and economically to convert the sheet metal into shelving having the foregoing shape and construction.

When the shelves are so large that each shelf must comprise a plurality of sections, it will be seen that in many cases one pin B may serve to hold two shelves in place at opposite sides of the T-iron, as shown at the left in Fig. 4, and whereby the parallel sections of the shelf are held close together to provide practically an unbroken top or upper surface for the shelf.

With further respect to the method of folding the sheet metal, the portion 4 can fold either between the portions 1 and 3 or with the portion 3 between said portion 4 and the portion 1, as may be desired. If the latter method is followed, as previously described, then the line 15 is preferably composed of short lengths which are out of line with each other, whereby the folding of the metal necessarily brings the portion 3 a little inside of the portion 1, and the portion 4 a little inside of the portion 3, as shown in Fig. 6, thus facilitating the folding operation shown in Fig. 7. Obviously, however, and in so far as the broader aspects of my invention are concerned, the flaps 1, 3 and 4 may be folded in any suitable manner.

What I claim as my invention is:—

1. Metal shelving comprising risers, sheet metal shelves having interiorly reinforced integral corner portions, each said portion including the end section of a vertical flange and one or more integral layers applied to the inner surface of said flange, and means for detachably securing said corner portions to said risers, said shelves having lower hor-

izontal flanges which are integral with certain of said layers.

2. Metal shelving comprising risers, sheet metal shelves having reinforced corner portions, and means for detachably securing said corner portions to said risers, said portions being each composed of three vertical thicknesses of sheet metal, and said means including a pin inserted through said three-ply thickness, said pin having provisions to prevent its displacement from the shelf and riser.

3. Metal shelving comprising risers, sheet metal shelves having reinforced corner portions, and means for detachably securing said corner portions to said risers, said portions being each composed of three thicknesses of sheet metal, and the shelf being provided with a vertical wall depending therefrom, the lower portion of said wall being turned inward to form a horizontal flange, one said thickness being integral with the top of the shelf, another said thickness being integral with said vertical wall, and the third layer of metal being integral with said flange.

4. Metal shelving comprising risers, sheet metal shelves having reinforced corner portions, and means for detachably securing said corner portions to said risers, said portions being each composed of a plurality of flaps which are folded one upon the other in vertical planes, and one said flap being integral with and upturned from one end of a horizontal stiffening flange extending along one edge of the shelf.

5. A riser, a sheet-metal shelf having a horizontal flange below the top thereof, a horizontal element for removably supporting said shelf on said riser, and means inserted downward through the top of said shelf and through said flange to hold said element in place, the ends of said flange being turned up to form reinforcing and supporting portions for the corners of the shelf.

6. A riser, a sheet-metal shelf having a horizontal flange below the top thereof and having a vertical corner wall, a pin inserted through said wall and riser, and a key removably inserted downward through the top of said shelf and through said flange to engage and hold said pin in place, the ends of said flange being turned up to form reinforcing and supporting portions for the corners of the shelf.

Signed by me at Chicago, Illinois, this 18th day of March, 1915.

CHAUNCEY L. C. MAGEE.

Witnesses:

RACHEL J. RICHARDSON,
ROSE E. SEHNEM.