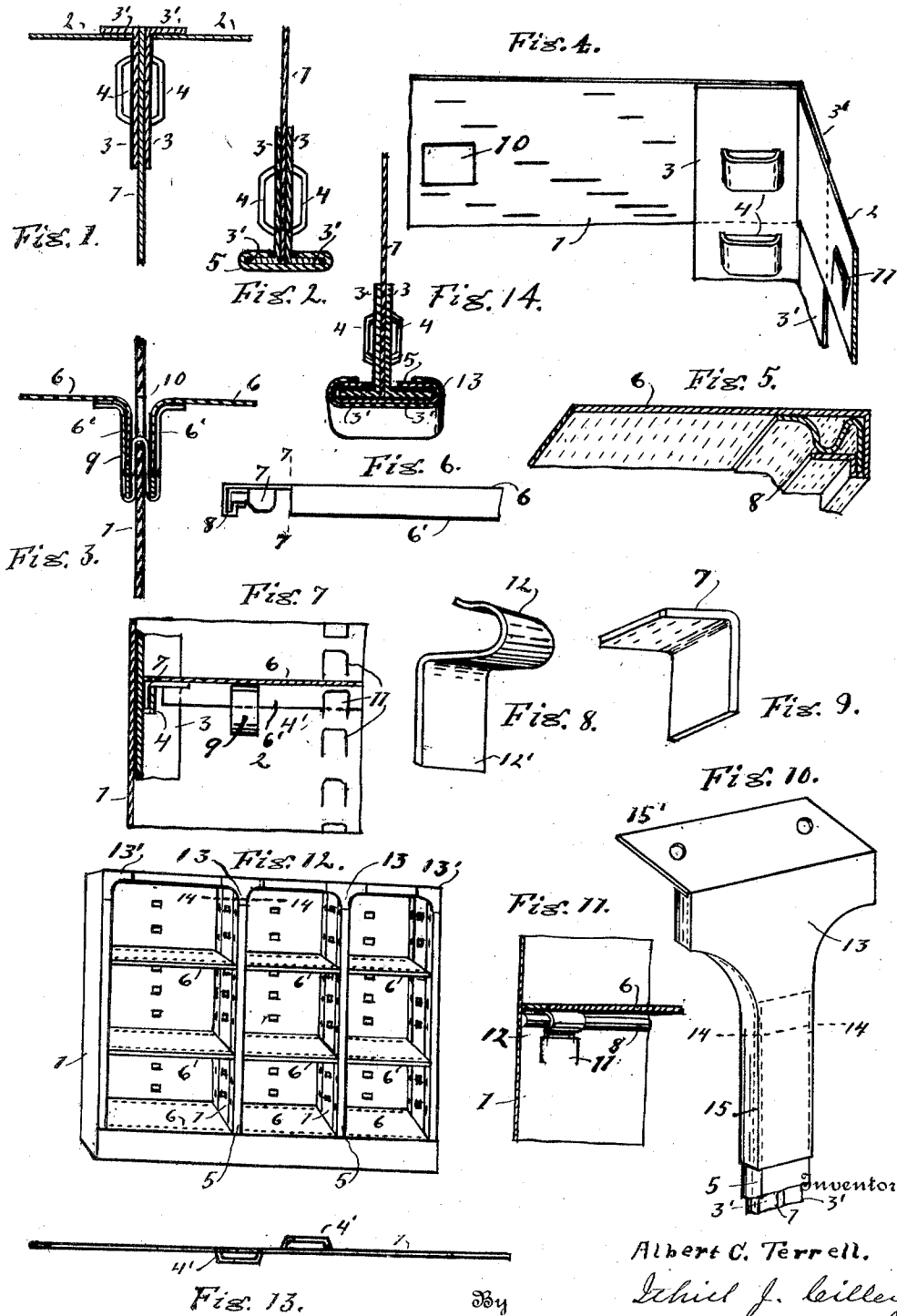


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METAL SHELVING.
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1,302,882.

Patented May 6, 1919.



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To all whom it may concern:

Be it known that I, ALBERT C. TERRELL, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Metal Shelving, of which the following is a specification.

My invention relates to improvements in the construction of metal shelving, and more particularly in the construction of metal shelving and bins, and its objects are: first, to provide a means whereby the shelving may be made in absolute "knock-down" construction, second, to provide a "knock-down" construction wherewith the use of bolts, screws, etc., is almost entirely dispensed with. Third, to provide a boltless "knock-down" construction with which shelving units may be secured together and readily taken apart without the manipulation of bolts or screws. Fourth, to provide a full metal "knock-down" construction with which the shelf supports act as the assembling elements in the shelving, and, fifth, to provide a means whereby the shelf supports on the ends and partitions in metal shelving are made integral with the ends and partitions, and with which shelves may be supported to extend from both sides of the partitions.

I attain these objects by the mechanism and line of construction shown in the accompanying drawing, in which Figure 1 is a sectional plan of the back edge, and Fig. 2 is a sectional plan of the front edge of the partition or end used in my shelving construction. Fig. 3 is a sectional elevation of a partition showing how the end flanges of the shelves are secured to the ends and partitions. Fig. 4 is a perspective of a short piece of the back and one end of a piece of metal shelving showing the shelf securing elements. Fig. 5 is a sectional perspective of one side of a shelf showing reinforcing elements. Fig. 6 is an elevation of one end of a shelf showing the securing element. Fig. 7 is a sectional view of a partition, and of a shelf on the line 7—7 of Fig. 6. Figs. 8 and 9 are perspectives of the shelf securing brackets. Fig. 10 is a perspective of the cap that secures the front edges of the partitions to the top of the case. Fig. 11 shows the manner of securing the reinforced side of the shelves to the back. Fig. 12 is a perspective of a complete case. Fig. 13

is a plan or upper edge view of a back plate as prepared for the support of shelves extending from both sides of the back. Fig. 14 is a sectional plan of the front edge of a partition plate on the line 14—14 of Figs. 10 and 12.

Similar numerals indicate similar parts throughout the several views on the drawings.

This shelving is made, exclusively, of metal and in its construction I make use of L formed cleats 3—3', one of which is placed at each side of the front and back edges of the partitions 1, as indicated in Figs. 1 and 2, and spot welded, or otherwise secured thereto. The long stems 3, of these L shaped cleats are provided with loops 4, which are struck outward from the metal, and are designed to receive the lugs or brackets 7 on the ends of the shelves as indicated in Fig. 7, the brackets 7 being securely connected, or made integral with the shelves 6 by welding, or otherwise, so that the interlocking of the lugs and the loops insures rigid connections. The shelves 6 should be wide enough so that when the case is assembled the back edge of the shelves will press against the back plates 2 and clamp them closely between the edges of the shelves and the stems 3' of the L cleats 3, so that it will be impossible for the backs to move in any direction when the case is properly assembled. It will be seen that the shelves are provided with downwardly projecting flanges 6', at both sides and ends, the front flanges being designed, first, to strengthen the shelf and prevent it from bending under its load, and, second, to impart a finished appearance to the front edges of the shelves, and the back flange is designed to engage the lip 11 that is struck inwardly from the back plates 2 and serve the double purpose, first, of supporting this edge of the shelf rigidly, and, second, to hold the back plate firmly and rigidly in place. As a proper lug or securing element for the center of the back edge of the shelves I provide a brace made practically of the form shown in Fig. 8 which is first placed with the curve 12 engaging the reinforcing elements 8 of the shelf and the straight part, 12', engaging the loop or offset 11 on the back, as in Fig. 11, which makes it readily applied or removed.

For the purpose of imparting a finished appearance to the front edges of the parti-

tions I provide a casing 5 that is passed over the short wings 3' of the T shaped cleats 3, thus serving the double purpose of forming a finished front, and of holding the cleats firmly in place when assembled. As a finish for the upper ends of these partitions I provide a crown piece, or pieces, 13, or 13' which is so constructed that the narrow part, or stem, 15 may be passed over the upper ends of the finished part 5 of the partitions, and the right angle plate 15' may be made to extend over, and be suitably secured to the top plate of the case.

When I desire to strengthen the support of the shelves on the ends 6', Fig. 6, where they are fastened to the center partitions and ends, I form openings 10', Figs. 3 and 4, through the partitions and ends and pass securing cleats through these openings as in Fig. 3, so arranged that the downwardly positioned flanges 6' of the shelves are clamped between the wings 9 and the surface of the partition and end.

When constructing shelving units placed back to back with a single back between the two units, I form loops 4', Fig. 13, on each side of the back so that with the lugs, Fig. 8, the back edges of the shelves can be secured to both sides of the back in the manner shown in Fig. 11.

What I claim as new in the art is:—

1. In combination with the back, ends, partitions and top of a metal case, an L shaped cleat placed upon each side of each edge of the partitions forming T shaped edges, and on each side of each edge of the ends, loops

formed in said cleats, offset supports formed in the back and partitions, lugs and flanges formed on the shelves to engage the loops and supports to support the shelves and tie the case and shelves firmly together.

2. In combination with the back, ends, partitions and top of a metal case, L shaped cleats secured vertically to the surfaces of the front and back edges of the partitions and the ends forming T shaped edges on the partitions and ends, loops formed laterally across one wing of each of the said cleats, offset supports formed in the back, partitions and ends, lugs and flanges formed on the shelves to engage said loops and offset supports to support the shelves and tie the case rigidly together, sheet metal finishing facings passed over the T forms at the fronts of the partitions, and on the front edges of the ends.

3. In combination with the back, partitions, ends and top of a sheet metal case, an L shaped cleat placed vertically on each side of the front and back edges of the partitions and ends, loops struck outward from the body of the cleats, lugs formed on the shelves to engage said loops, support offsets from the backs and ends, flanges and lugs formed on the shelves to engage said supports, sheet metal finishing strips formed over the front edges of the partitions and front, and caps surmounting said finishing strips and secured to the top of the case.

Signed at Grand Rapids, Michigan, August 28, 1918.

ALBERT C. TERRELL.