E. G. LEHMAN.

BAR RACK.

APPLICATION FILED SEPT. 21, 1918.

1,380,570.

Patented June 7, 1921.

3 SHEETS—SHEET 1.

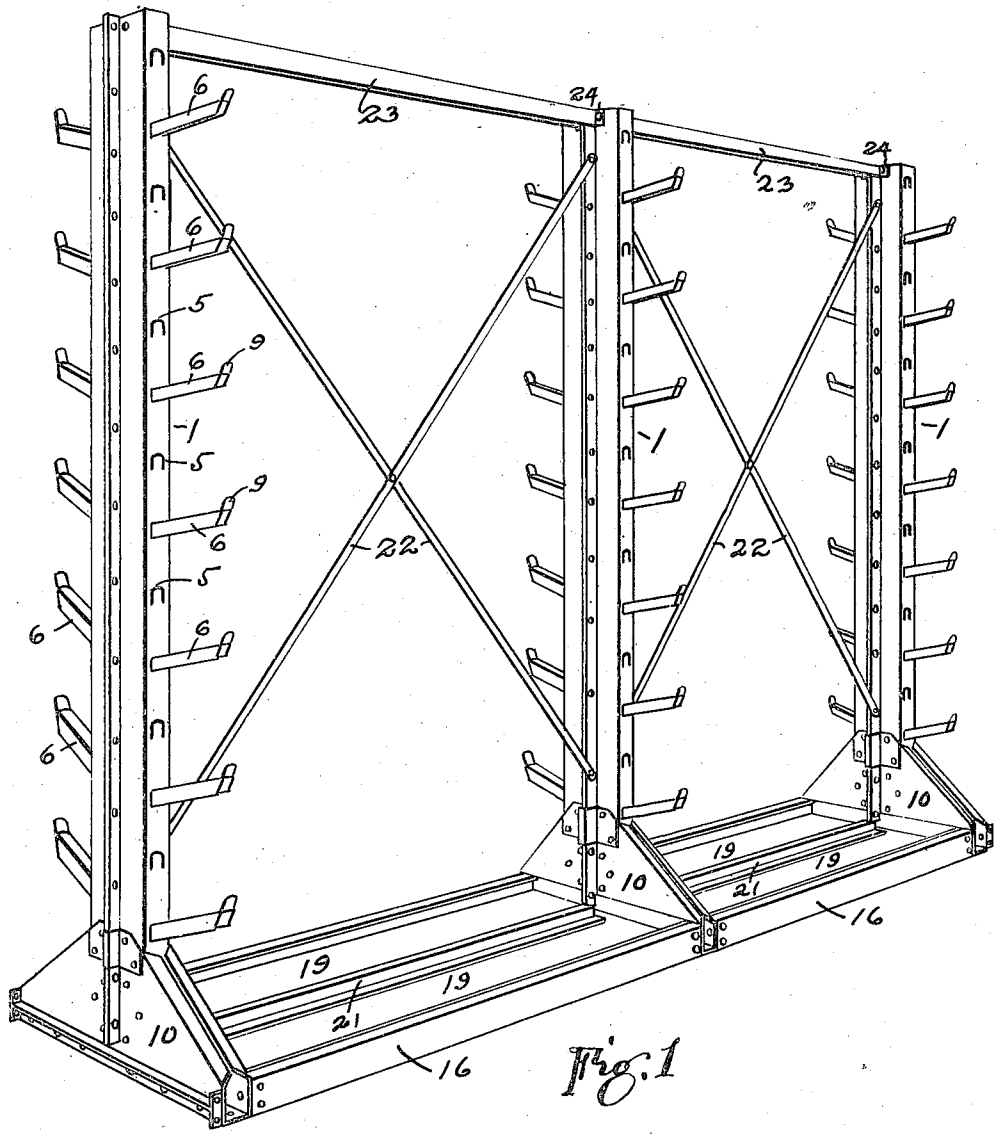


Fig. 1

WITNESS

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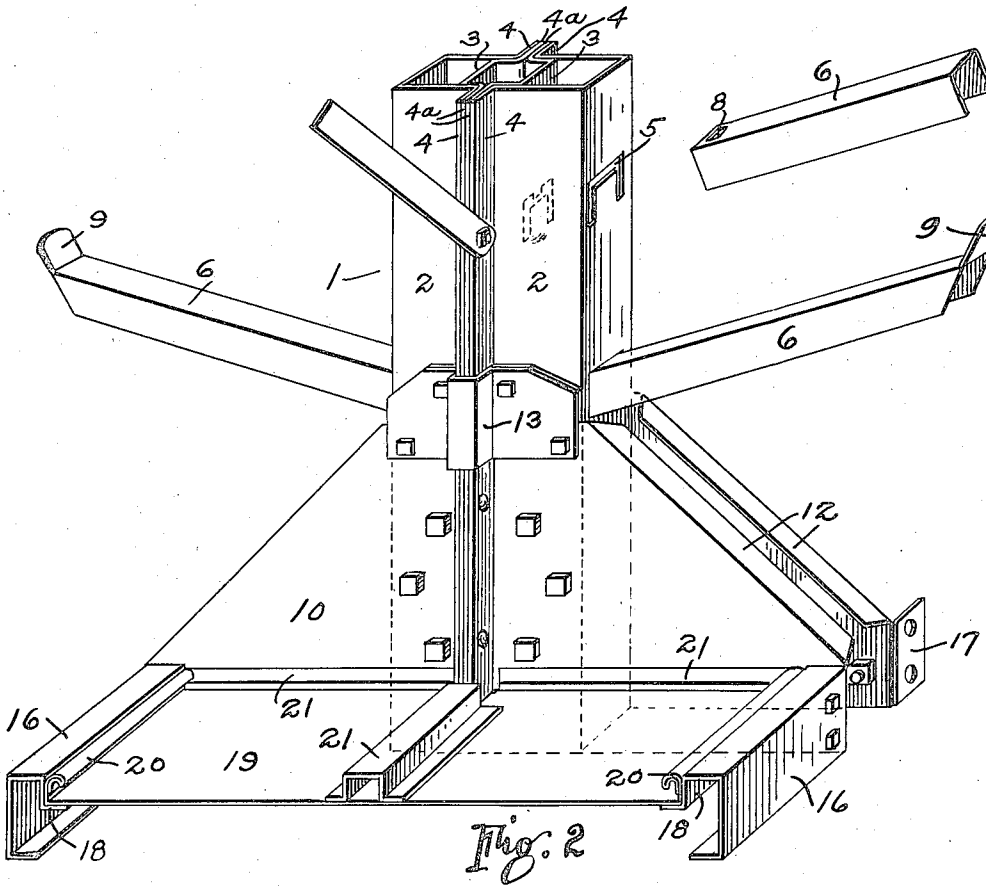
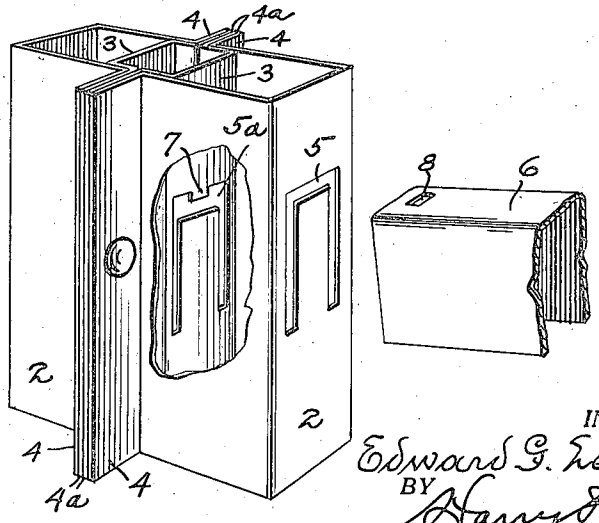


Fig. 2

Fig. 3.



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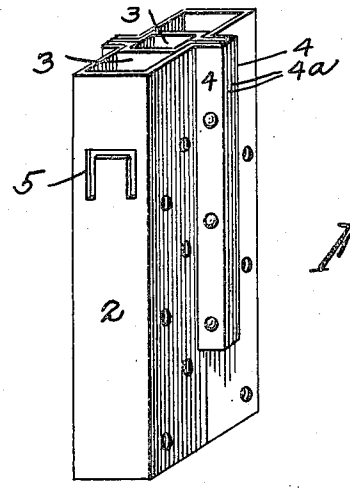


Fig. 4

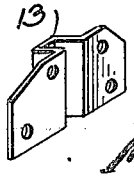


Fig. 7

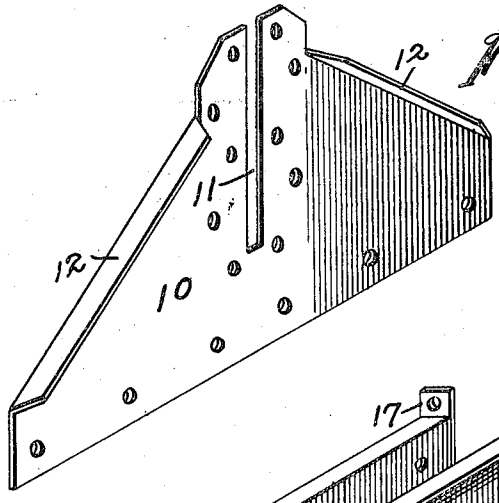


Fig. 5

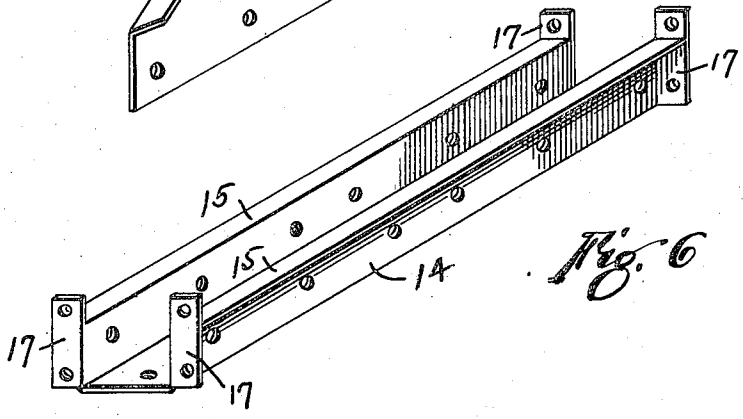


Fig. 6

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UNITED STATES PATENT OFFICE.

EDWARD G. LEHMAN, OF CANTON, OHIO, ASSIGNOR TO THE BERGER MANUFACTURING COMPANY, OF CANTON, OHIO, A CORPORATION.

BAR-RACK.

1,380,570. Specification of Letters Patent. Patented June 7, 1921.

Application filed September 21, 1918. Serial No. 255,085.

To all whom it may concern:

Be it known that I, EDWARD G. LEHMAN, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Bar-Racks, of which the following is a specification.

The invention relates to a rack for carrying metal bars, pipes and other long and narrow pieces; and the object of the invention is to make a self-contained and self-supporting rack out of sheet metal parts, which can be arranged in any number of units for varying lengths of material and in which the supporting arms can be adjusted at varying heights, and to provide a base or tray for holding short pieces and cuttings.

A preferred embodiment of the invention is illustrated in the accompanying drawings forming part hereof, in which—

Figure 1 is a perspective view of a complete rack composed of two sections;

Fig. 2, a fragmentary isometric perspective view of the parts making up the base of a column;

Fig. 3, a fragmentary perspective view showing the method of securing a supporting arm to a column;

Fig. 4, a fragmentary perspective view of the base portion of a column;

Fig. 5, a detached perspective view of one gusset plate;

Fig. 6, a similar view of one channel base; and

Fig. 7, a similar view of a clip for the gusset plate.

Similar numerals refer to similar parts throughout the drawings.

Each column 1 is made of two sets of upright flanged rectangular channels 2 and 3, the channel 3 of each set being slightly narrower and somewhat shallower than the channel 2, and is telescoped in the other with the side plates in abutment and the web plates spaced a substantial distance apart. All the flanges 4 and 4^a are turned outward and are abutted and secured together as by bolts, rivets or spot-welding; and the rectangular tube formed by the inner channels divides the rectangular tube formed by the outer channels into three rectangular compartments.

A series of inverted U-shaped slots 5 and 5^a are provided in the web plates of each channel, and are formed to neatly receive the webs and flanges of the channel supporting arms 6 when entered endwise into the slots, excepting that the connecting portion of each inner slot 5^a is vertically enlarged and is provided with the pendent lip 7 for engaging with the aperture 8 provided in the end of the channel arm 6.

Each arm is secured to the column by inserting it endwise through the outer slot 5 and the inner slot 5^a below the lip 7 until the aperture 8 registers therewith, whereupon the inner end of the arm is swung upward on the bearing fulcrum formed by the lower edges of the outer slot 5 for engaging the lip with the aperture, which engagement serves to lock the supporting arm in place for use, while permitting it to be detached and removed for adjustment, repair or replacement.

The lower edge of the slot in the outer wall of the column forms a fulcrum for staying and supporting the side walls as well as the web of the channel arm; and the outer end of each arm is preferably provided with the upturned flange 9 for increasing the carrying capacity of the arm.

The inverted V-shaped gusset plates 10 are secured to the sides of the lower end of each column by bolts or rivets, and the slots 11 being provided therein to receive the flanges 4 and 4^a on the sides of the column. The exposed upper edges of the gusset plates are provided with the inturned flanges 12 to finish and strengthen the same, and the upper ends of the gusset plates may be reinforced by the flanged channel clips 13 which embrace the lower ends of the column flanges and are secured to the column sides by bolts or rivets passing through the gusset plates.

The lower ends of the column, with the gusset plates thereon, are then inserted between the side walls of the transverse flanged channel 14, to which the gusset plates are secured by bolts or rivets, while the lower edges of the gusset plates rest upon the web of the transverse channel; it being understood that the lower end of the flanges on the sides of the column are cut away to clear the outturned flanges 15 of the transverse channel, and that the slot 11 in the gusset plate likewise terminates above the same flanges.

The bases of the columns, thus completed,

are connected together by the longitudinal channels 16 having the ends of their webs bolted or riveted to the outturned flanges 17 formed on each end of the sides of the transverse channel; and the upper sides of the longitudinal channels 16 are provided with the pendent L-flanges 18 for supporting the sides of the shelf or tray formed by a bottom plate 19 having its edges flanged upward, folded and beaded to form the rims 20.

The ends of the tray thus formed are supported by the flanges 15 of the transverse channels, and the inverted flanged channel 21 may be secured to the bottom 19 of the tray in the median line thereof for strengthening the same and also for dividing the tray into two lateral compartments. Furthermore, the tray may be turned upside down and supported by its rims on the channel flanges to form a flat shelf.

The columns are braced by the diagonal strips 22 bolted together at their intersection, and to the column flanges at their ends; and the columns are connected together at the top by the channel bar 23, secured by the flanges 24 to the upright channels at the sides of the flanges thereof.

By spacing a plurality of slots 5 and 5ª along the edge walls of the columns, rack arms can be secured at varying intervals along the same to meet the requirements of different bars, pipes and other pieces carried by the rack; each column of which is given an extended lateral support by the base formed by the gusset plates and transverse channels, and the rack as a whole is stiffened and stayed longitudinally by the base plates formed by the longitudinal channels, the diagonal braces and the channel bars between the upper ends of the columns.

I claim:

1. A column for racks and the like comprising two opposing pairs of flanged rectangular channels, one channel of each pair being nested in the other channel with the side walls and flanges thereof in abutment, and the presented flanges of opposing pairs being in abutment, with means for securing all the flanges on each side together and arms supported by the column.

2. A column for racks and the like including two spaced upright walls, series of slots in the walls, and rack arms respectively engaged in a slot in one wall and bearing in a slot in the other wall.

3. A column for racks and the like including two spaced upright walls, series of inverted U-slots in the walls, and channel arms fitting in the legs of the slots, said arms being respectively engaged in a slot in one wall and bearing in a slot in the other wall.

4. A column for racks and the like including two spaced walls throughout its length, series of slots in the walls, and rack arms engaged in the slots, the slots in one wall being lower than in the other for inclining the arms upward therefrom.

5. A column for racks and the like including two spaced walls throughout its length, series of slots in the walls, and rack arms engaged in the slots, one of the slots being widened and having a pendent lip and the arm having an aperture for engaging the lip.

6. A column for racks and the like comprising two rectangular tubes, one inside the other dividing the outer tube into three separate compartments, series of slots in the spaced walls of the compartments and rack arms respectively engaged in a slot in one inner wall and bearing in a slot in the adjacent outer wall.

7. A column for racks and the like having longitudinal flanges on the sides, arms supported by the column, and a base for the column including inverted V-gusset plates secured to the sides of the column and having slots for the flanges.

8. A column for racks and the like having longitudinal flanges on the sides, arms supported by the column, and a base for the column including inverted V-gusset plates secured to the sides of the column and having slots for the flanges, there being flanges on the inclined edges of the gusset plates.

9. A column for racks and the like having longitudinal flanges on the sides, arms supported by the column and a base for the column including inverted V-gusset plates secured to the sides of the column and having slots for the flanges with flanged channel clips embracing the column flanges bolted to the column sides through the gusset plates.

10. A column for racks and the like having longitudinal flanges on the sides, arms supported by the column and a base for the column including inverted V-gusset plates secured to the sides of the column and having slots for the flanges, and a transverse channel secured to the lower edge of the gussets.

11. A column for racks and the like having longitudinal flanges on the sides, arms supported by the column, and a base for the column including inverted V-gusset plates secured to the sides of the column having slots for the flanges with a transverse channel secured to the lower edge of the gussets, the column flanges being cut to clear the lower portion of the gusset and the sides of the channel.

12. A rack for bars and the like including a plurality of columns having supporting arms thereon, bases for the columns including inverted V-gusset plates and transverse channels, and longitudinal channels connecting the ends of the bases.

13. A rack for bars and the like including

a plurality of columns having supporting arms thereon, bases for the columns including inverted V-gusset plates and transverse channels, and longitudinal channels connecting the ends of the bases and the tops of the columns.

14. A rack for bars and the like including a plurality of columns having supporting arms thereon, bases for the columns including inverted V-gusset plates and transverse channels, and longitudinal channels connecting the ends of the bases, L-flanges on the longitudinal channels, and a shelf resting on the flanges.

15. A rack for bars and the like including a plurality of columns having supporting arms thereon, bases for the columns including inverted V-gusset plates and transverse channels, and longitudinal channels connecting the ends of the bases, flanges on the transverse channels, and a shelf resting on the flanges.

16. A rack for bars and the like including a plurality of columns having supporting arms thereon, bases for the columns including inverted V-gusset plates and transverse channels, and longitudinal channels connecting the ends of the bases, flanges on the transverse and longitudinal channels and a shelf resting on the flanges, there being a longitudinal channel secured on the shelf.

EDWARD G. LEHMAN.