Aug. 13, 1935. C. H. MICHEL 2,011,250

RACK

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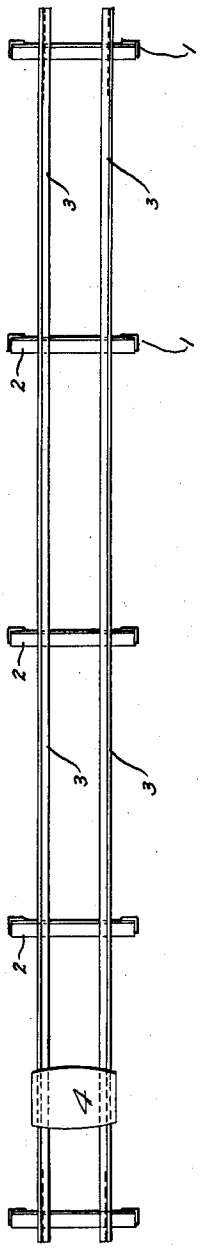


FIG. 2

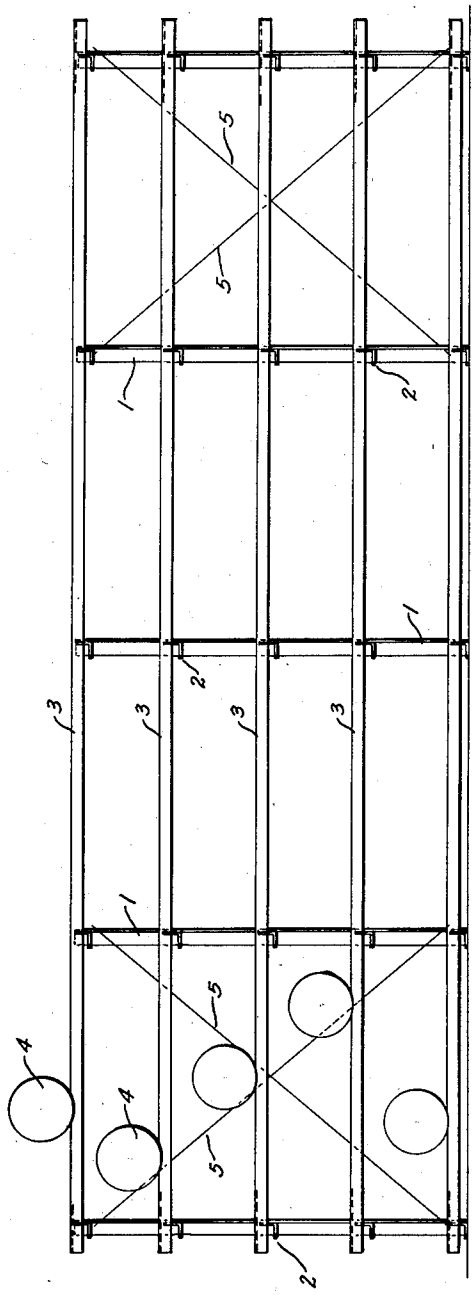


FIG. 1

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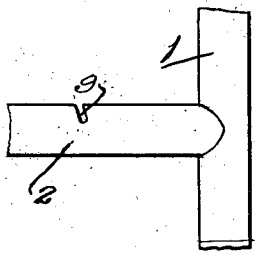


FIG. 6

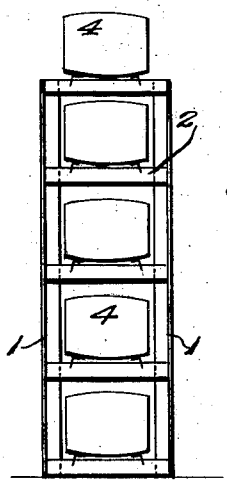


FIG. 3

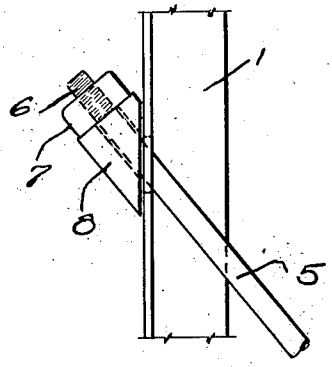


FIG. 5

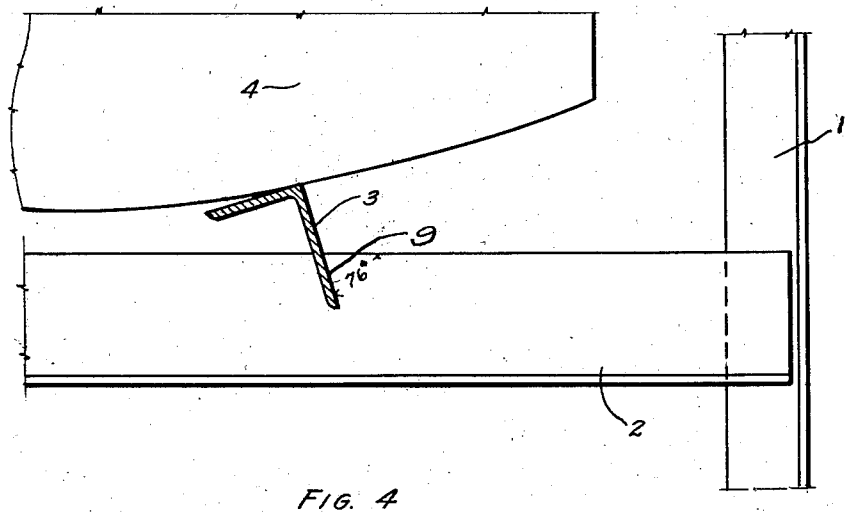


FIG. 4

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2,011,250

RACK

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Application July 31, 1934, Serial No. 737,734

4 Claims. (Cl. 211—71)

In the usual method of storing large quantities of barrel goods, such as spirituous liquors for aging, a timber structure is employed with a suitably constructed building for accommodating the contents.

It has been found desirable to construct racks in existing buildings, and to that end this invention is adapted.

The object of my invention is the construction of a portable rack easily assembled and of a sectional character, easily adapted to any space available for storage.

A further object of my invention is the construction of a rack involving the minimum amount of manufacturing with reference to raw material used in order to keep down the cost.

A further object of my invention is the utilization of commercial material adapted for installation as racks in any desired length required.

With the foregoing and other objects in view, my invention consists of the novel construction, combination and arrangement of parts as hereinafter specifically described and illustrated in the accompanying drawings, wherein is shown the preferred embodiment of my invention, but it is understood that changes, variations and modifications may be resorted to which come within the scope of the claims hereunto appended.

In the drawings of the herein-described embodiment of my invention, I have shown in Figure 1 a side view in elevation of a rack adapted to hold barrels of whiskey in a storage warehouse, Fig. 2 being a plan view of the rack shown in Fig. 1; Fig. 3 is an end view in elevation of the rack shown in Figs. 1 and 2; Fig. 4 is an enlarged view in elevation of a portion of the cross angle-iron into which is fitted the runway angle-iron more particularly to show the construction thereof, the position of the two angle-irons, the means for securing and the location of a barrel in storage thereon; Fig. 5 is an enlarged view showing the construction of the attachment of construction braces 5 to post 1, and Fig. 6 shows a modified view where pipe construction is used in my rack.

Similar numerals refer to similar parts throughout the several views.

1 are the angle-irons posts. 2 are cross-angle irons. 3 is the runway angle-iron. 4 are barrels supported on runway angle-iron 3. 5 are construction braces secured to two or more of the angle-iron posts 1, particularly as shown in Fig. 1, to maintain the rack in position when loaded and unloaded, or in construction. These construction braces are preferably round rods threaded at each end 6 with a nut 7 at each end and bevelled washer 8 resting against the angle-iron, as shown particularly in Fig. 5. In practice it has been found that these construction braces are sufficient to be in tension only.

In this specification and claims, when I use the term "angle-iron", I use the same as a broad term, descriptive of neither shape nor material, as piping may be used as shown in Fig. 6.

I have found that structural steel of rather low carbon content and comparatively high tensile strength, is desirable in order to lower the weight and obtain accuracy of fit.

The shape involved is such as may be joined together with a minimum of labor. I have found that angle-irons for the runway should be of rather uniform gauge and strength to insure a proper fit into the die-cut slots in the cross angle-iron. These angle-irons may be of any desired length, and are practically without any machining or other work except the ordinary straightening. In practice I have found runway angles for one-half barrel size to be 2" in the vertical entering the slot by 1½" x ⅛", the cross-angles 2 being spaced not over 72" apart.

The cross angle-iron brackets may consist of pipes as shown in Fig. 6, or other suitable design; I have found preferable material similar to that used in the runway angle-irons.

In the construction of my rack I may use various shapes, such as Z-bars, square, angle, piping, or the like, and do not wish to limit myself to the shape of the materials used.

I will now describe slot 9. This slot is cut into the cross-angles 2 at an angle of preferably 76 degrees, which experience has taught me is a proper angle for the pinching of the runway angle-irons therein. This slot is cut not more than one-half way down the angle-iron, and I have found die-cutting to be preferable to sawing as a means for obtaining a more true and accurate job in mass production. These slots 9 are punched slightly narrower than the gauge of the angle-iron to fit therein so that a driving fit is had in erection. This adds to the rigidity of the structure and insures the proper locking of the joint when the runway angle-irons are loaded. In this connection, I might explain that the loading of the runway angles tends to twist runway angle-iron 3 in slot 9, thereby securely fastening the same therein.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A rack comprising a plurality of spaced cross angle irons each of said cross angle irons being provided with a plurality of inclined slots

adapted to be arranged in alignment, a plurality of stringers comprising angle irons so adapted as to be arranged with one leg of each disposed in said aligned slots of said cross angle irons.

2. A rack comprising a plurality of spaced cross angle irons each of said cross angle irons being provided with a plurality of inclined slots adapted to be arranged in alignment, a plurality of stringers comprising angle irons so adapted as to be arranged with one leg of each disposed in said aligned slots of said cross angle irons, and uprights rising from each opposed end of said cross angle irons for supporting a plurality of vertically spaced cross angle irons, cross angle irons supported by each upright said latter cross angle irons being provided with a plurality of inclined slots adapted to be arranged in horizontal alignment, a plurality of stringers comprising angle irons so adapted as to be arranged with one leg of each disposed in said aligned slots of said latter mentioned cross angle irons.

3. A rack comprising a plurality of spaced cross angle irons each of said cross angle irons being provided with a plurality of slots adapted to be arranged in alignment, a plurality of stringers comprising angle irons so adapted as to be arranged with one leg of each disposed in said aligned slots of said cross angle irons, said slots being such that a load on the stringers inserted in said slots causes the stringers to deflect and lock themselves securely to said cross angle irons.

4. A rack comprising a plurality of pairs of uprights, the members of each pair being in spaced relation, and corresponding uprights of each pair being arranged in alignment, cross angle irons spaced vertically and extending between the members of each pair, each cross angle iron of any one pair being arranged to lie in the same horizontal plane as the corresponding cross angle irons of each of the other pairs, said cross angle irons being provided with slots registering in a horizontal plane, and a plurality of stringers comprising angle irons so adapted as to be arranged with one leg of each disposed in said aligned slots of said cross angle irons.

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