

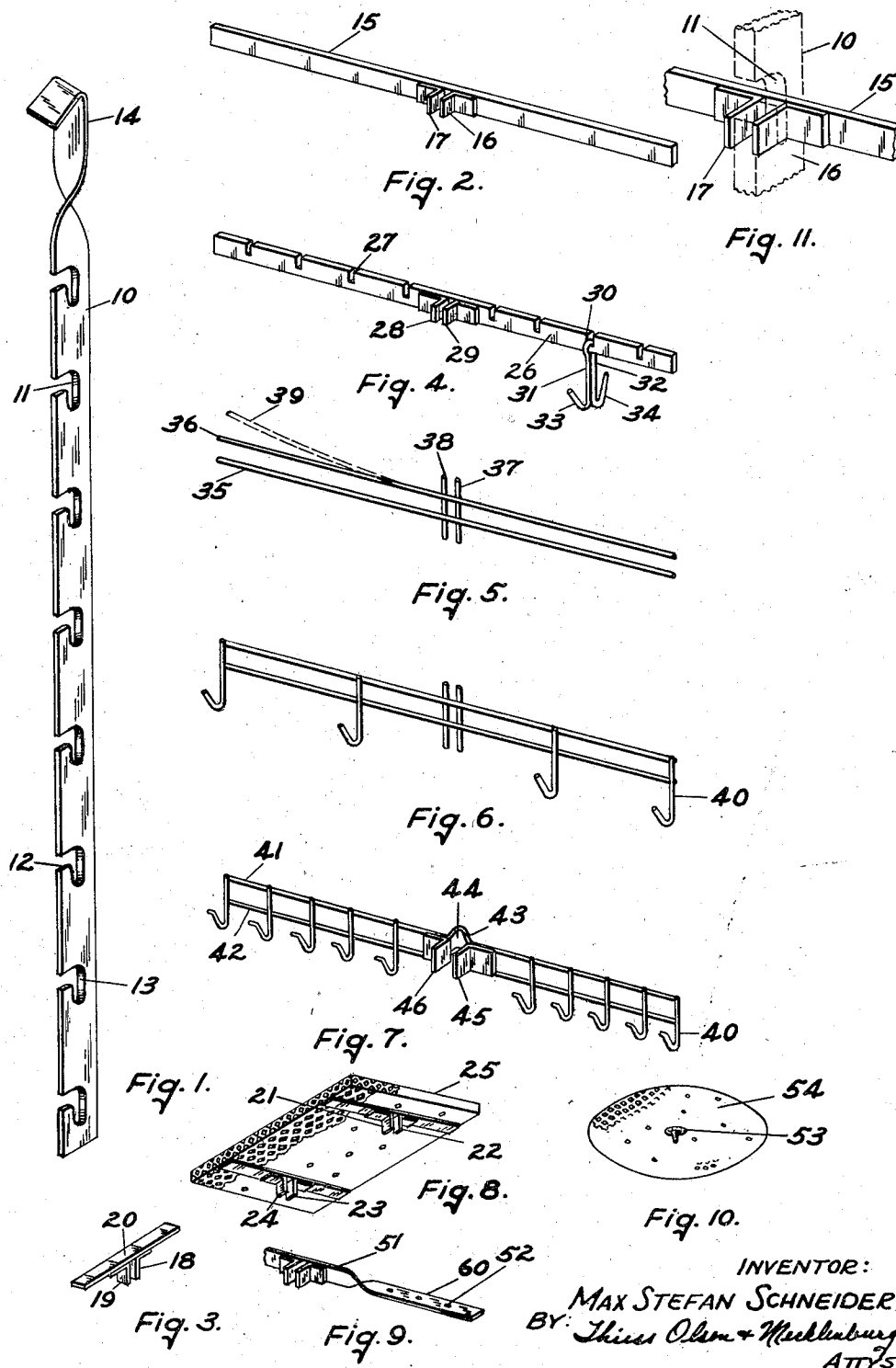
Feb. 22, 1949.

M. S. SCHNEIDER

2,462,431

ARTICLE SUPPORTING RACK

Filed July 24, 1946



INVENTOR:
MAX STEFAN SCHNEIDER
BY: *Thies Olson & Mecklenburger*
ATTYS:

UNITED STATES PATENT OFFICE

2,462,431

ARTICLE SUPPORTING RACK

Max Stefan Schneider, Chicago, Ill.

Application July 24, 1946, Serial No. 686,025

7 Claims. (Cl. 211-113)

1

This invention relates to improvements in plating racks. More particularly, the present invention is concerned with the construction of a rack which is adapted to support a multiplicity of articles in connection with electroplating, dipping, or similar processes. The ordinary racks of the prior art do not have simple and efficient means for supporting a variety of different kinds of articles on a single principal supporting member. It is common practice in the fields aforesaid to use different racks when one is plating, coating, or dipping articles which are of radically different shape or size.

One of the objects of the invention is to provide a principal supporting rack member which is adapted to receive several different forms of crossbar supports.

Another object of the invention is to provide a series of different crossbar supports which in turn are adapted to have mounted thereon sub-supports capable of carrying a multiplicity of articles, the sub-supports themselves being capable of mixed assembly on a common support.

Still another object of the invention is to provide a rack whose crossbar supports are adapted to receive rotatable support pans or discs, whereby objects supported thereon may be rendered more easily accessible by a spray gun or other coating device.

In the drawings:

Fig. 1 is a perspective view of the principal supporting member;

Figs. 2, 4, 5, 6, and 7 are perspective views of alternative types of crossbars suitable for mounting in the bayonet slots of the principal supporting member;

Figs. 3 and 8 are perspective views of sub-supports suitable for mounting on the crossbar of Fig. 2;

Fig. 9 is a perspective view of another alternative crossbar;

Fig. 10 is a perspective view of a rotatable disc mountable on the crossbar of Fig. 9; and

Fig. 11 is a perspective view showing the manner in which a crossbar is fitted into a bayonet slot of the member of Fig. 1.

The principal supporting member shown in Fig. 1 consists of an elongated flat bar 10 having a plurality of longitudinally spaced-apart bayonet slots 11 which are substantially of inverted L-form and include a transverse portion 12 and a longitudinal portion 13. An integral hook 14

2

serves to suspend the rack from the bus bar of an electroplating tank or other support.

In Fig. 2 there is shown one form of crossbar 15 to which is spot-welded or otherwise attached a pair of right-angled clips 16 and 17. This type of bar may be interengaged into a slot 11, the wider dimension of crossbar 15 entering into the portion 13 of the slot 11, and the bar 10 fitting intermediate the clips 16 and 17 to prevent the crossbar 15 from tilting. Thus the parts 10 and 15 are interlocked efficiently against unintended dislodgment. Suspendible articles may be hung on the crossbar 15 and subjected to any desired operation.

In case one desires to treat articles which are not readily suspendable and which lend themselves better to support on a flat surface, one may mount the sub-supports shown in Figs. 3 or 8 on the crossbar of Fig. 2. In Fig. 3 the right-angled clips 18 and 19 snugly engage the bar 15, and support a horizontal flat-surfaced member 20 upon which certain forms of articles may rest. In Fig. 8 there are two pairs of right-angled clips—namely, clips 21 and 22, and 23 and 24. The members of each pair of clips are spaced apart in a manner identical with that shown for Fig. 2, engagement with the crossbar 15 being by friction. Spot-welded to these two pairs of clips is a wide, flat-surfaced pan 25, which is adapted to receive a variety of articles of different sizes and shapes which are to be operated upon. The pan may be perforate or imperforate, of rectangular, circular, or any other desired outline, and with or without a peripheral upturned flange.

In Fig. 4 the crossbar 26 is provided with a plurality of notches 27. These notches may support certain types of objects, which may be wedged and hung therein. The crossbar 27 has the right-angled clips 28 and 29, which are mounted in the same manner as described for Fig. 2, and function similarly. The notches 27 are also adapted to have mounted therein hooks 30 of anchor form, upon the flukes of which objects may be hung. The two downwardly extending portions 31 and 32 of the hook are left un-united so that the hook may be sprung to disengage the same from the crossbar. After being pressed over the bar, the two flukes 33 and 34 of the hook 30 can be pressed together to prevent accidental dislodgment.

A further modified form of crossbar is shown in Fig. 5. This embodiment consists of a pair of horizontal, parallel rods 35 and 36 having two

3

short vertical, parallel rods 37 and 38 centrally spot-welded thereto. Rods 37 and 38 act in a manner similar to that of the clips 16 and 17 in Fig. 2 when the rods 35 and 36 are inserted into the portion 13 of a slot 11. The distance between the rods 35 and 36 should not be greater than the length of the portion 13 of the slots 11. The space between the rods 37 and 38 is such as to prevent tilting of the crossbar. The rods 35 and 36 are preferably of flexible material, to permit them to be deformed into a variety of shapes for supporting certain forms of objects. The dotted line 39 indicates a typical such deformation.

Fig. 6 is a modification of Fig. 5, in which vertical hooks 40 are spot-welded to the rods 35 and 36. This crossbar has an advantage over the similar member shown in Fig. 4 made from a solid flat bar, in that it contains considerably less metal.

Fig. 7 is a modification which combines some of the features of Fig. 2 with that of Fig. 5. It consists of a pair of horizontally disposed rods 41 and 42 each provided with a bight 43 and 44 respectively, and to which rods are joined the two right-angled clips 45 and 46, the latter functioning in a manner similarly to the clips 16 and 17 of Fig. 2. When the crossbars of Fig. 7 are mounted on the main bar 10, the bight 44 will rest upon the bottom of the slot portion 13.

In Fig. 9 the crossbar 51 there shown is similar to crossbar 15 (Fig. 2) except for the twisted part 60 enabling the wider dimension of the bar to be horizontally disposed. Part 60 has holes 52 each adapted to receive a pivot pin 53 (Fig. 10) carried by a pan 54. Thus objects held in a pan may be properly exposed to a spraying or other coating operation.

From the foregoing description of the several forms of my invention it will be appreciated that I have provided an improved rack of simplified and economical construction which can be readily assembled and disassembled, and which is adapted to support a large variety of articles which differ in kind and in degree with respect to size, to shape, and to supportability, and it will also be appreciated that the rack, including its assembly of crossbar supporting members and sub-supporting members, provides a means of supporting articles with a minimum of interference or obstruction to the surface to be treated.

While I have shown particular embodiments of my invention, it will be understood, of course, that I do not wish to be limited thereto since many modifications may be made, and I therefore contemplate by the appended claims to cover any such modifications as fall within the true spirit and scope of my invention.

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

1. An article-supporting rack comprising an elongated principal support of rectangular cross section having a plurality of longitudinally spaced-apart inverted L-shaped slots, one leg of the slot being transversely disposed and opening at one edge of said support, and the other leg being disposed longitudinally of said support, and a plurality of transversely extending elongated members each adapted for engagement in a slot, each member including a pair of spaced projections extending laterally therefrom and adapted to abut opposed parallel faces of said support.

2. An article-supporting rack comprising an elongated principal support of rectangular cross section having a plurality of longitudinally

4

spaced-apart inverted L-shaped slots, one leg of the slot being transversely disposed and opening at one edge of said support, and the other leg being disposed longitudinally of said support, and a plurality of transversely extending elongated members each adapted for engagement in a slot, each member including a pair of L-shaped clips secured thereto by one leg, the other leg of each clip being respectively adapted to abut opposed parallel faces of said support.

3. An article-supporting rack comprising an elongated principal support of rectangular cross section having a plurality of longitudinally spaced-apart inverted L-shaped slots, one leg of the slot being transversely disposed and opening at one edge of said support, and the other leg being disposed longitudinally of said support, and a plurality of transversely extending elongated members each adapted for engagement in a slot, each member including a pair of spaced projections extending laterally therefrom and adapted to abut opposed parallel faces of said support, and each said member having a plurality of spaced-apart article-supporting notches therein.

4. An article-supporting rack comprising an elongated principal support of rectangular cross section having a plurality of longitudinally spaced-apart inverted L-shaped slots, one leg of the slot being transversely disposed and opening at one edge of said support, and the other leg being disposed longitudinally of said support, and a plurality of transversely extending elongated members each adapted for engagement in a slot, each member including a pair of spaced projections extending laterally therefrom and adapted to abut opposed parallel faces of said support, each said member having a plurality of spaced-apart notches therein and a hooked article support removably secured in each said notch.

5. An article-supporting rack comprising an elongated principal support of rectangular cross section having a plurality of longitudinally spaced-apart inverted L-shaped slots, one leg of the slot being transversely disposed and opening at one edge of said support, and the other leg being disposed longitudinally of said support, and a plurality of transversely disposed elongated members each including a plurality of parallelly disposed deformable wire rods, at least the lowermost of said rods having a U-shaped bight substantially centrally thereof, the rods being receivable in said longitudinally disposed leg of the slot, and the bight straddling the bottom thereof, and a pair of projections secured to said rods and abutting opposed parallel faces of said support.

6. An article-supporting rack comprising an elongated principal support of rectangular cross section having a plurality of longitudinally spaced-apart inverted L-shaped slots, one leg of the slot being transversely disposed and opening at one edge of said support, and the other leg being disposed longitudinally of said support, and a plurality of transversely extending elongated members each adapted for engagement in a slot, each member including a pair of spaced projections extending laterally therefrom and adapted to abut opposed parallel faces of said support, an article-holding unit adapted to be removably secured to a member, said unit including a table and a pair of projections attached to said table and engageable over said member.

7. An article-supporting rack comprising an

5

elongated principal support of rectangular cross section having a plurality of longitudinally spaced-apart inverted L-shaped slots, one leg of the slot being transversely disposed and opening at one edge of said support, and the other leg being disposed longitudinally of said support, and a plurality of transversely extending elongated members each adapted for engagement in a slot, each member including a pair of spaced projections extending laterally therefrom and adapted to abut opposed parallel faces of said support, each said member having an aperture, and a revoluble article-supporting table including a pivot rotatable in said aperture.

MAX STEFAN SCHNEIDER.

15

6

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