G. J. MacDOWELL.

PHOTOGRAPHIC PLATE RACK.

APPLICATION FILED OCT. 6, 1919.

1,349,972.

Patented Aug. 17, 1920.

2 SHEETS—SHEET 1.

Fig. 1.

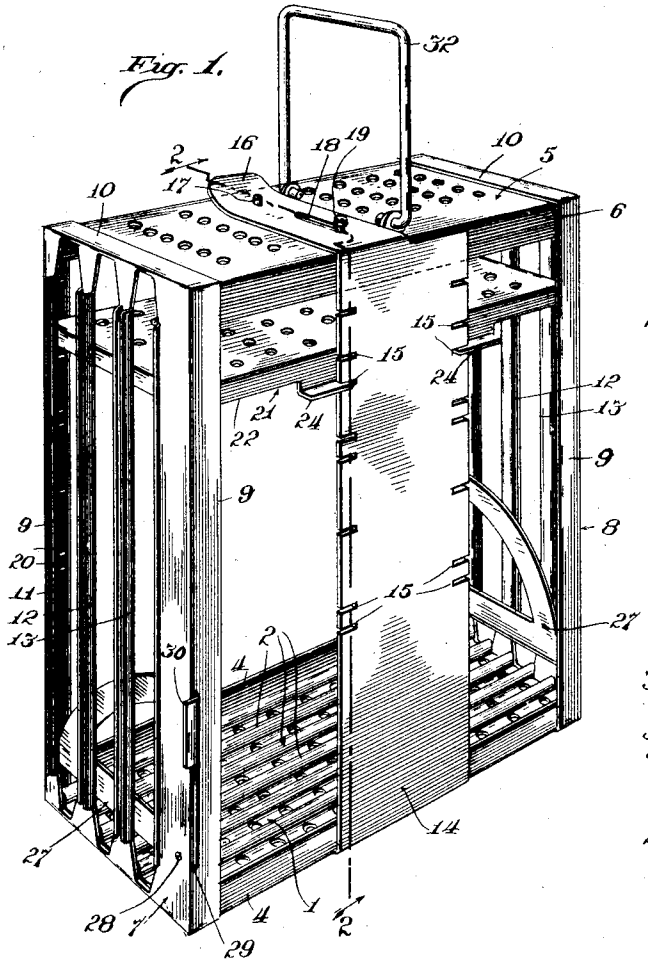


Fig. 2.

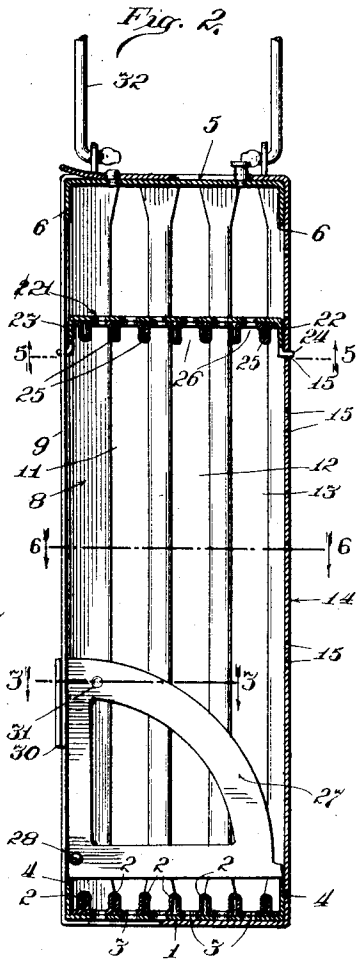
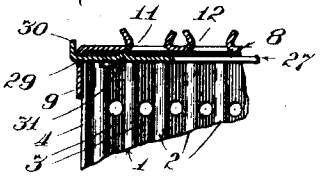


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

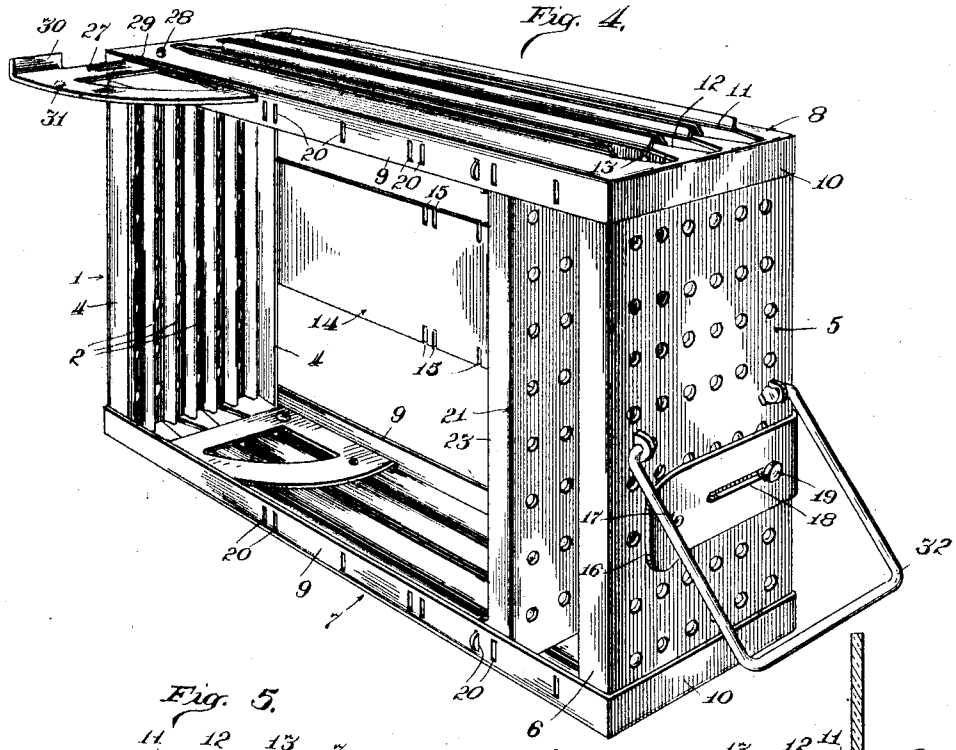
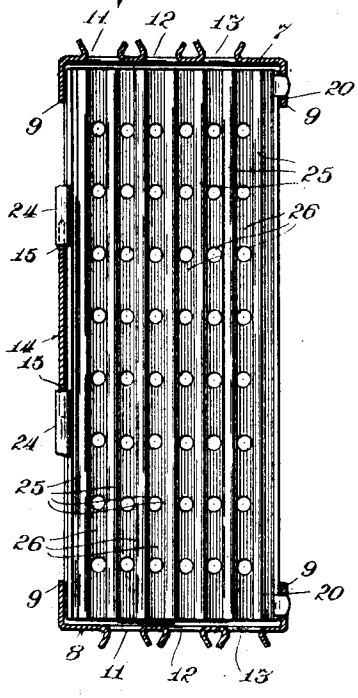


Fig. 5.



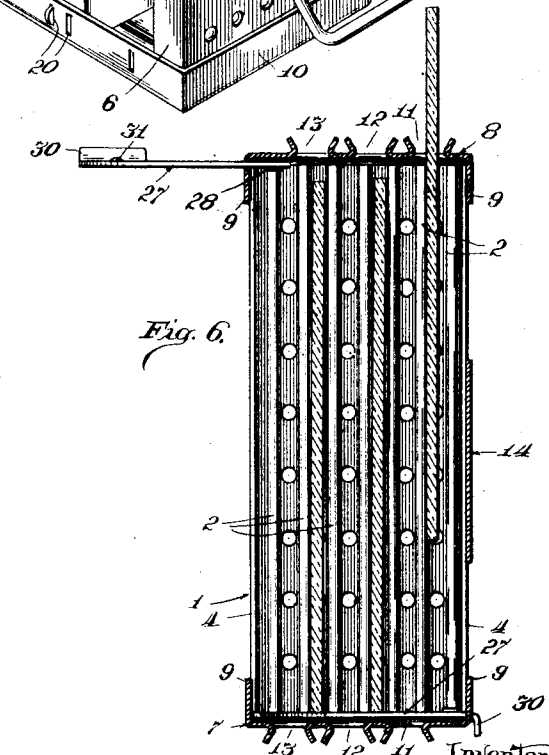


Fig. 6.

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UNITED STATES PATENT OFFICE.

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PHOTOGRAPHIC-PLATE RACK.

1,349,972. Specification of Letters Patent. Patented Aug. 17, 1920.

Application filed October 6, 1919. Serial No. 328,897.

To all whom it may concern:

Be it known that I, GLENN J. MacDOWELL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Photographic-Plate Racks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in plate racks for photographic plates and has for its object to provide a rack which is adapted to contain plates for immersion in developing tanks and which is adjustable to receive plates of various sizes.

The particular object of the present invention is to provide a rack of this character which, when loaded, confines the plates therein against movement relatively thereto to any appreciable extent and against escape therefrom.

A further object of the invention is to provide a plate rack of the character defined which is incapable of immersion into a tank adapted and intended therefor before the plates are locked against removal therefrom.

A still further object of the invention is to provide simple and efficient means for adjusting the rack to receive plates of various sizes.

The invention consists in the features of construction and combinations of parts hereinafter fully described and particularly claimed.

In the accompanying drawings illustrating a suitable embodiment of the invention:

Figure 1 is a perspective view of a plate rack constructed in accordance with the invention.

Fig. 2 is a vertical transverse section of the same on the line 2—2 of Fig. 1.

Fig. 3 is a fragmentary detail horizontal section of the same on the line 3—3 of Fig. 2.

Fig. 4 is a perspective view of the rack showing one of the gates thereof in its open position.

Figs. 5 and 6 are respectively plan sections on the lines 5—5 and 6—6 of Fig. 2, Fig. 5 showing one of the gates in its open position.

The device comprises a perforated bottom plate or wall 1 which is provided with a plurality of parallel upwardly extending ribs 2 between which guideways or grooves 3 are formed in which the edges of pairs of opposed plates are adapted to be received. There are six of said grooves each of a width sufficient to receive a pair of said plates and additional spaces are provided between the outer ribs and the side flanges 4 of the bottom plate which merely tends to separate or space the plates from the extreme side edges or walls of the rack and of the tank in which the same is adapted to be immersed to provide free passage for liquids.

The top wall 5 consists of a perforated plate 5 having side flanges 6 to stiffen the same. Secured to the ends of the top and bottom walls are the end walls 7 and 8, each of which consists of a rectangular plate having side flanges 9 and end flanges 10, the latter overlapping the outer faces of the top and bottom walls and the former overlapping the side flanges thereof. Said end walls may be soldered or otherwise suitably secured to the top and bottom walls as will be obvious. The said end walls at opposite sides of the device are exactly alike except as hereinafter noted and each thereof is provided with three parallel slots 11, 12 and 13, the latter being spaced from one of the side flanges 9 a distance substantially equal to the width of said slot and the width of the wall separating the same from the slot 12 which in turn is equal in width to the wall separating the slot 12 from the slot 11 and separating the slot 11 from the opposite side flange 9 of said end wall. Each of said slots 11, 12 and 13 is substantially equal in width to one of the guide grooves 3 in the bottom wall or plate and said slots register with alternate grooves 3 whereas the walls separating the slots 11 and 12 and 12 and 13 register with the intervening grooves 3. As the said end walls become opposed to each other at opposite ends of the top and bottom walls, the slots 11, 12 and 13 in one of said end walls become disposed in staggered relation to the similar slots in the other thereof, thereby permitting three pairs of photographic plates to be inserted into the rack through the slots 11, 12 and 13 in one of said end walls and the other three pairs thereof through similar slots in the other of said

walls, and each pair of plates thus inserted will be prevented from passing through the device by reason of the fact that the walls separating the slots 11 and 12 and 12 and 13 from each other and the solid portion between the slot 13 and the flange 9 will oppose the open slots in the other end wall and oppose the grooves 3 accessible therefrom.

Secured to the bottom wall 1 and extending upwardly therefrom is a plate 14 provided in its side edges at various elevations with notches or recesses 15. At its upper end said plate 14 is provided with a flexible tongue 16 having a perforation therein adapted to receive a latch button 17 mounted on the top wall. Said tongue is further provided with a longitudinal slot 18 through which a pin 19 on said top wall projects and which is adapted to limit the outward swing of said plate 14 when the tongue 16 is released from engagement with the latch button 17. In the side flange 9 of the end walls opposite to those shown in Fig. 1 but which are shown in Fig. 4 and are disposed on the opposite side of the rack from that on which the plate 14 is mounted, are provided with pairs of slots 20 corresponding in elevation with those of the notches or recess 15 in the plate 14. Mounted between the end walls 7 and 8 and between the side flanges 9 thereof is a perforated plate 21 which is provided with side flanges 22 and 23, the latter being equipped with projections adapted to engage in the slots 20 and the former being provided with outwardly extending projections 24 adapted to engage in the notches or recess 15 to support said plate 21 at any desired elevation. The face of the plate 21 opposite the bottom plate is provided with parallel ribs 25 similar to the ribs 2 and which border guide grooves 26 opposing the guide grooves 3 and receiving the upper edges of the plates inserted into the rack.

In order to prevent plates inserted into the rack from accidentally slipping out of the same, each end of the rack is provided with a segmental gate 27 consisting substantially of a quadrant which is preferably secured substantially at its axis 28 to the solid portion of the end wall of each of the end plates 7 and 8 and which is adapted to turn on said axis through a longitudinal slot 29 in the side flanges 9 in respectively opposite sides of said end walls. A small flange 30 on one of the radial edges of each of said quadrants may be digitally engaged to turn the same and in order to firmly hold said quadrants yieldingly locked against accidental turning, the same are provided with small indentations 31 or struck up portions, shown in Figs. 2 and 3, which engage in an opposed depression in the solid portion of each of the end plates or walls in a well known manner, being sprung into and out of same as said quadrant is digitally turned.

By reference to Figs. 4 and 5 it will be noted that when the quadrants or either of them is turned to permit plates to be inserted into the rack, it will project outwardly so as to serve to prevent the rack from being inserted into a tank which it is adapted to fit more or less snugly so that until both said quadrants have been turned to the inner limits of their movements to prevent the plates from accidentally leaving the rack, the latter cannot be immersed in the liquid in a tank particularly adapted and constructed to receive the same, which is not illustrated herein as being well known and understood in the art.

The top plate is preferably provided with a pivoted bail 32 by means of which it may be suspended from one end and conveniently inserted into and removed from a tank.

When it is desired to vary the elevation of the plate 21-the tongue 16 will be released from the latch-button 17 and the plate 14 sprung outwardly to release the flanges 24 for engagement in the notches or recess 15 thereof. By then canting the plate 21, the projection 19 will be released from engagement in the slots 20 and thereupon said plate may be raised and lowered to the desired position whereupon the projections 19 will be again inserted in the slots 20 and said plate leveled so that the flanges 24 will engage in corresponding notches 15 in the plate 14 when the latter is returned to its normal position as shown in Fig. 1.

While I have illustrated and described the preferred embodiment of the invention it will be understood, of course, that changes and variations in details of construction may be made without departing from the invention as defined in the appended claims.

I claim as my invention:

1. A photographic plate rack adapted for immersion in a developing tank or the like comprising two opposed members equipped with guides to receive and engage opposite edges of plates and transversely disposed walls operatively engaged with said members and having slots through which plates are adapted to be inserted into said guide grooves, the said slots in opposed walls being disposed in staggered relation to each other and registering with alternate pairs of opposed guide grooves.

2. A photographic plate rack adapted for immersion in a developing tank or the like comprising two opposed members equipped with guides to receive and engage opposite edges of plates and transversely disposed walls operatively engaged with said members and having slots through which plates are adapted to be inserted into said guide

grooves, the said slots in opposed walls being disposed in staggered relation to each other and registering with alternate pairs of opposed guide grooves, and a gate associated with each of said transverse plates for obstructing the slots to prevent passage of plates therethrough.

3. A photographic plate rack adapted for immersion in a developing tank or the like comprising a rectangular structure having a bottom wall and an opposed member provided with opposed pairs of guide grooves for engaging opposite edges of plates, a pair of opposed end walls rigidly secured to the ends of the bottom wall and provided with slots through which plates are adapted to be inserted into said guide grooves, the slots in one of said end walls being disposed in staggered relation to the slots in the other and registering with alternate guide grooves.

4. A photographic plate rack adapted for immersion in a developing tank or the like comprising a rectangular structure having a bottom wall and an opposed member provided with opposed pairs of guide grooves for engaging opposite edges of plates, a pair of opposed end walls rigidly secured to the ends of the bottom wall and provided with slots through which plates are adapted to be inserted into said guide grooves, the slots in one of said end walls being disposed in staggered relation to the slots in the other and registering with alternate guide grooves and a gate associated with each of said end walls for obstructing the slots therein.

5. A photographic plate rack adapted for immersion in a developing tank or the like comprising a rectangular structure having a bottom wall and an opposed member provided with opposed pairs of guide grooves for engaging opposite edges of plates, a pair of opposed end walls rigidly secured to the ends of the bottom wall and provided with slots through which plates are adapted to be inserted into said guide grooves, the slots in one of said end walls being disposed in staggered relation to the slots in the other and registering with alternate guide grooves and means associated with the end walls and said bottom wall and the opposed member for varying the separation thereof from the bottom wall for accommodating plates of different sizes.

6. A photographic plate rack adapted for immersion in a developing tank or the like comprising a rectangular structure having a bottom wall and an opposed member provided with opposed pairs of guide grooves for engaging opposite end walls of plates, said bottom wall and opposed member adjustable relatively to each other to vary their separation to accommodate plates of different sizes, a pair of opposed end walls rigidly secured to the ends of the bottom wall and provided with slots through which plates are adapted to be inserted into said guide grooves, the slots in one of said end walls being disposed in staggered relation to the slots in the other and registering with alternate guide grooves.

GLENN J. MacDOWELL.