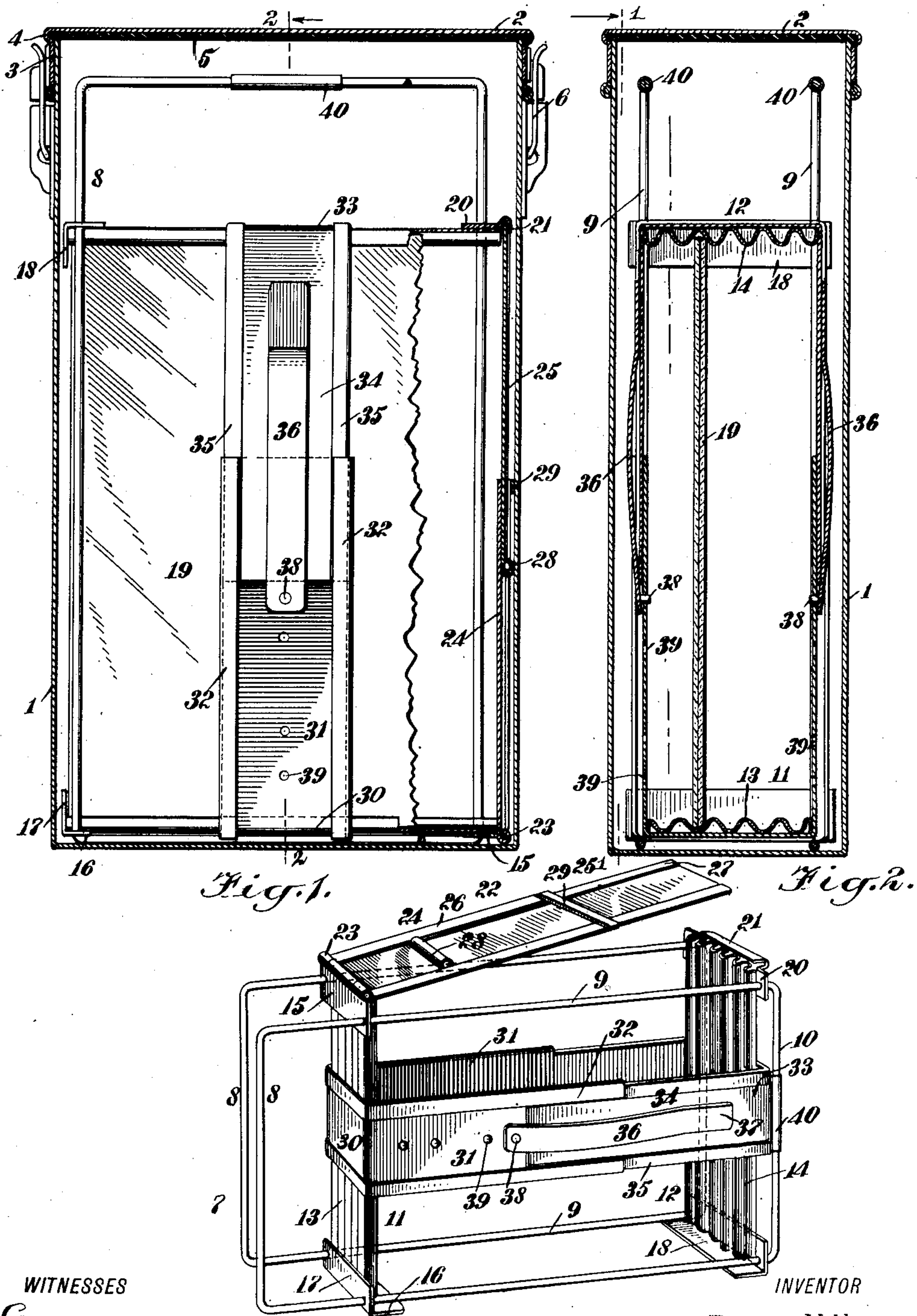


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ADJUSTABLE RACK REVERSIBLE DEVELOPING TANK.  
APPLICATION FILED JUNE 9, 1909.

958,500.

Patented May 17, 1910.



WITNESSES  
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Fig. 3.

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# UNITED STATES PATENT OFFICE.

PERCY YOUNG HOWE, OF YONKERS, NEW YORK.

ADJUSTABLE-RACK REVERSIBLE DEVELOPING-TANK.

958,500.

Specification of Letters Patent.

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Application filed June 9, 1909. Serial No. 501,015.

*To all whom it may concern:*

Be it known that I, PERCY Y. HOWE, a subject of the King of Great Britain, and a resident of Yonkers, in the county of Westchester and State of New York, have invented a new and Improved Adjustable-Rack Reversible Developing-Tank, of which the following is a full, clear, and exact description.

10 This invention relates to developing tanks such as used by photographers for developing photographic plates.

The object of the invention is to produce an adjustable rack for holding the plates within the reversible tank, and to provide a construction for the rack which will enable plates of different sizes to be securely held. The rack involves a construction which permits the plates to descend to the bottom of the tank whether it is held in its upright or in its reverse position.

20 The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

30 Figure 1 is a vertical section through the tank showing the rack partly in elevation and partly in section, in this view the photographic plate is shown partly broken away; this view is substantially a section on the line 1—1 of Fig. 2; Fig. 2 is a vertical section taken through the device on the line 2—2 of Fig. 1; and Fig. 3 is a perspective showing the rack removed from the tank and representing the same with its door open as though plates were about to be placed in the rack.

Referring more particularly to the parts, 1 represents the tank which is of rectangular form, the upper end of the tank being closed by a removable cover 2. This cover 2 has its flange 3 offset outwardly near its point of connection with the body of the cover so as

to form a groove 4 which receives the edge of a gasket 5 of rubber, or similar material. 50 The side of the tank and the sides of the flange 3 are provided with fastening devices 6 which draw the cover firmly down on the edge of the tank so that the cover will be watertight. Within the tank I provide a rack 7, the construction of which is most clearly shown in Fig. 1. This rack comprises two rectangular side frames 8, which present parallel longitudinal bars 9, and parallel end bars 10. On the longitudinal bars 9, cross heads 11 and 12 are mounted to slide, the bodies of the said cross heads being formed of corrugated plates 13 and 14. The ends of the plate 13 are attached to shoes 15 and 16. The shoe 16 is formed of an angle clip, the flange 17 whereof has openings through which the bars 9 on the adjacent side of the rack pass, as indicated, and has a web which lies on the outer sides of the bars so as to operate as a guide. A similar angular shoe 18 is attached to the corresponding end of the plate 14. The corrugations of the plates 13 and 14 are disposed opposite to each other so as to enable them to hold photographic plates 19 therebetween, as indicated in Fig. 2. Two plates may be held in each channel, the film sides of the plates being disposed outwardly.

At the upper end of the plate 14, as indicated in Fig. 3, a shoe 20 is attached, consisting of a plate having openings through which the bars pass, as shown. The upper edge of this plate is bent over so as to form a flange or keeper 21 projecting toward the middle portion of the rack. On the shoe 15 opposite to the keeper 21, a door 22 is attached by a hinge connection 23. This door is formed of a body section 24 and a sliding section or gate 25. The section 24 is formed of a plate having its edges turned up to form guide cleats 26. The edges of the gate 25 are bent over so as to form reinforcing cleats 27 which run under the cleats 26. On the end of the gate 25 which is disposed toward the body section 26, a transverse roll or handle 28 is



formed which facilitates the sliding of the gate, as will be readily understood. At its free end the body section 26 is formed with a cross bar 29 which acts as an additional guide for the gate.

About the middle point of the plate 13, and on the outside thereof, a strap 30 of metal is attached. This strap passes transversely across the plate and has integral arms 31 which project toward the opposite cross head 12. The upper and lower edges of the arms 31 are bent over to form guide cleats 32, as indicated. On the outer side of the plate 12, a similar strap 33 is attached, and this strap has integral arms 34 which project toward the arms 31 and slide upon the outer face thereof, the upper and lower edges of the arms being received under the guide cleats 32. The upper and lower edges of the arms 34 are bent over so as to form reinforcing cleats 35, as shown. On the outer sides of the arms 34, resilient tongues 36 are attached rigidly at 37. The ends of these tongues tend to hold themselves pressed against the arms 31 and each tongue is provided with inwardly projecting pins or spurs 38. These spurs are adapted to engage in openings 39 formed in the arms. These openings 39 are placed in such positions that they will hold the plates 13 and 14 a proper distance apart to hold plates of different standard sizes, such as 4x5, 5x7.

When the plates are to be placed in the rack, the door is swung open and when the rack has been filled with the plates arranged in the manner suggested in Fig. 2, the door should be swung closed. The extension gate 25 of the door is then slid out so that its free end engages under the keeper 21. The rack is then placed in the tank, as indicated in Fig. 1, and the tank having been filled with developer, the cover 2 is placed in position and secured. The tank is then reversed repeatedly and with each reversal the plates with the cross heads and their connected parts, descend to the bottom of the tank. In this way the developer is agitated and at the same time the photographer can be assured that the photographic plates will be completely immersed.

Attention is called to the fact that whatever be the size of the plates held in the rack, the extension gate can be extended to engage the keeper 21. When it is desired to change the adjustment of the rack, the pin 38 can be readily disengaged from the openings 39 by pulling the ends of the tongues 36 outwardly. The bars 10 at one end of the frame are provided near their middle points with enlargements or handles

40 which indicate the position in which the rack should be inserted in the tank.

It should appear clearly from the above disclosure that when the cross heads 11 and 12 are connected rigidly through the medium of the pins 38 and the tongues 36, they form, together with the door 22, a sliding frame for holding the plates.

It will be noted that the corrugations in the plates 13 and 14 extend at right angles to the plane of the door when it is closed. When the photographic plates are inserted in the channels of the cross heads, the lower edges of the plates will rest upon the webs of the shoes 16 and 18. These webs retain the plates on the side edges thereof opposite to the door.

Having thus described my invention, I claim as new and desire to secure by Letters Patent,—

1. A rack adapted to be used for holding photographic plates, comprising a frame, a pair of cross heads mounted on said frame and adapted to approach or recede from each other, said cross heads having means for retaining the edges of the photographic plates, and an extensible cover forming a retaining wall for the plates and adapted to connect said cross heads.

2. A rack adapted to be used in reversible developing tanks, comprising a frame, a sliding frame mounted on said first frame having a pair of oppositely disposed cross heads to engage the edges of the photographic plates, means for rigidly securing said cross heads to each other in different positions, and an extensible door connecting said cross heads and adapted to be opened to permit the insertion of the photographic plates.

3. A photographic developing rack adapted to be used in reversible developing tanks, comprising a frame, cross heads mounted to slide on said frame and having arms projecting toward each other and sliding one upon the other, means for fixing said arms against sliding, and an extensible door connecting said cross heads and adapted to be opened to permit the photographic plates to be placed between said cross heads.

4. A photographic developing rack adapted to be used in a reversible developing tank, comprising a pair of substantially rectangular frames, cross heads sliding on said frames and having means for engaging the edges of the photographic plates, said cross heads having arms projecting toward each other and sliding one upon the other, means for locking said arms together to maintain said cross heads at a fixed distance from each other, and a door hinged to one of said cross heads and having a sliding gate adapt-



ed to be extended toward the opposite cross head, said opposite cross head having a keeper for engaging the end of said gate.

5 5. A developing rack adapted to be used with a reversible developing tank, comprising a frame, cross heads adapted to engage the edges of the photographic plates and having shoes sliding on said frame, an extensible door mounted between said cross  
10 heads and adapted to retain the photographic plates on one side, said shoes being

adapted to engage the edges of the plates opposite said door, and means for fixing said cross heads with respect to each other in any one of a plurality of different positions. 15

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PERCY YOUNG HOWE.

Witnesses:

GEORGE AUSTIN HARTLEY,  
ALBERT W. BORN.