No. 771,358. PATENTED OCT. 4, 1904.

G. H. DORR.

PHOTOGRAPHIC PLATE TREATING APPARATUS.

APPLICATION FILED JUNE 23, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

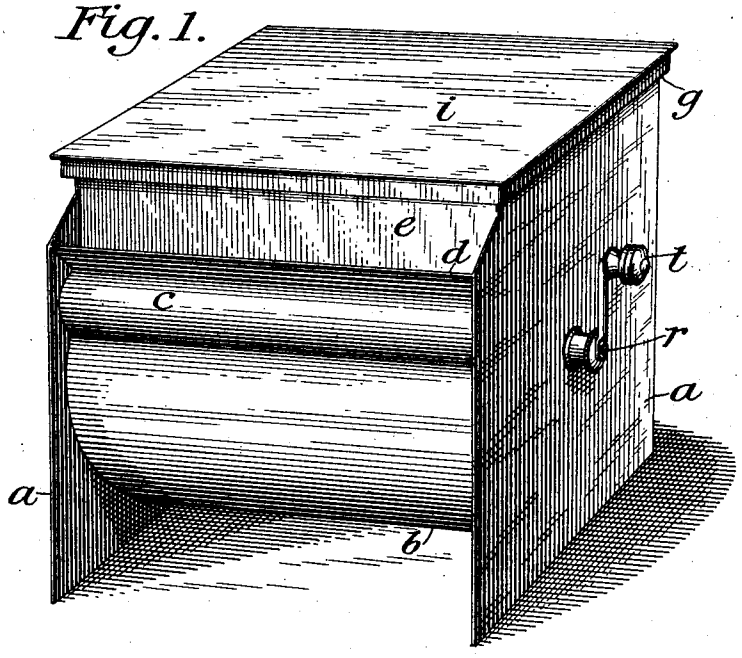
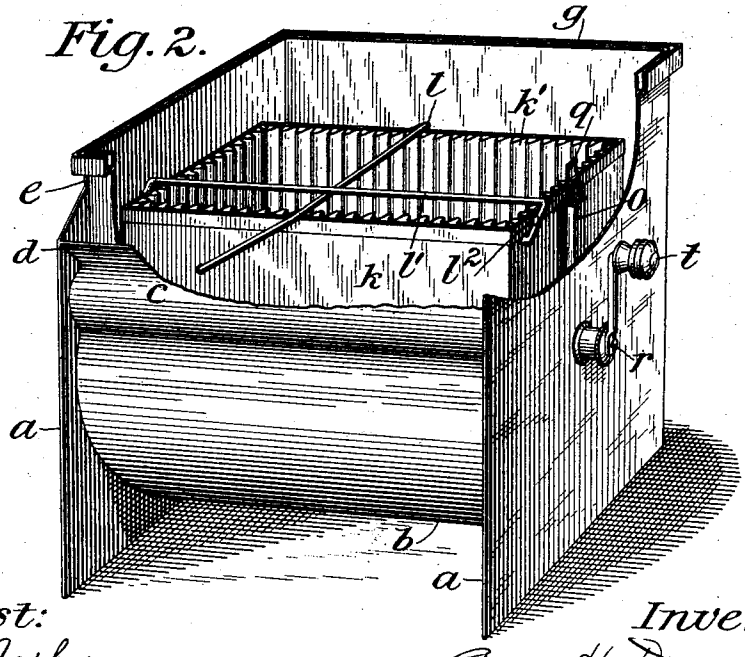


Fig. 2.



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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

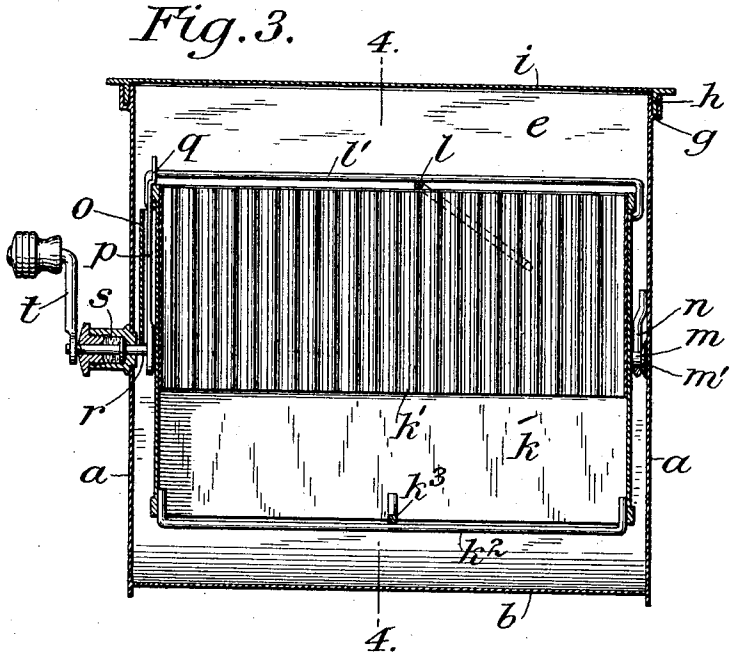
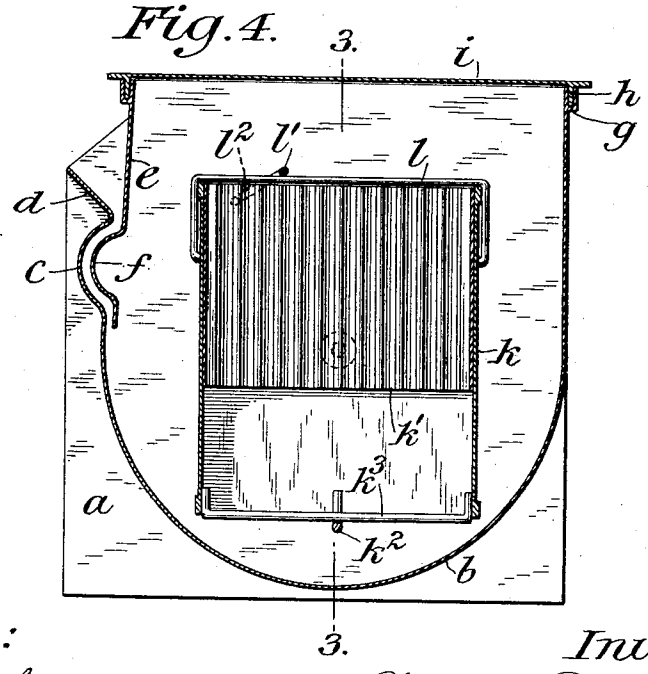


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE H. DORR, OF NEW ROCHELLE, NEW YORK.

PHOTOGRAPHIC-PLATE-TREATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 771,358, dated October 4, 1904.

Application filed June 23, 1904. Serial No. 213,761. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. DORR, a citizen of the United States, residing in New Rochelle, in the county of Westchester, in the State of New York, have invented certain new and useful Improvements in Photographic-Plate-Treating Apparatus, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof.

This invention relates to photographic-plate-treating apparatus of the general character of that shown in Letters Patent of the United States No. 750,621, granted January 26, 1904. The apparatus shown in the drawings of said Letters Patent comprised a light-tight tank and a plate-holding disk mounted to rotate therein. This apparatus is efficient and readily manipulated; but for the treatment of photographic plates of large size the proportions of the apparatus are necessarily such as to require the apparatus to be somewhat heavy and also to have such a diameter as to make it somewhat inconvenient to handle in travel.

It is therefore the object of the present invention to provide an apparatus of a generally similar character, but of different shape and proportions, which shall be somewhat more compact and convenient for transportation, shall be easy of manipulation for a large number of plates of comparatively large size, and shall not require undue weight of material, and therefore involve undue expense in manufacture even when used for comparatively large plates. Furthermore, the present apparatus is adapted without change for the treatment of plates of different sizes.

The invention will be more fully explained hereinafter with reference to the accompanying drawings, in which it is illustrated and in which—

Figure 1 is a perspective view of the present apparatus. Fig. 2 is a similar view, but with the cover removed and the walls broken out to show the interior construction. Fig. 3 is a view in longitudinal central section in the vertical plane indicated by the line 3 3 of Fig. 4. Fig. 4 is a transverse section in the vertical plane indicated by the line 4 4 of Fig. 3.

In the embodiment of the present invention, which is illustrated in the drawings, the tank in which the treatment of the plates is to be carried on is conveniently formed of substantially rectangular end plates *a*, which serve to support the entire apparatus, and the bottom *b*, which is preferably curved, as represented. The front wall of the tank may be provided with a light-baffling inlet for the introduction and removal of the liquid employed in the treatment of the plates, and for this purpose the bottom piece *b* may be given an outward curve, as at *c*, and may then be bent outwardly, as at *d*, to the edge of the plate *a* to form a funnel, while the front wall is completed by a supplemental piece *e*, which is curved outwardly, as at *f*, to conform to the curvature of the main wall at *c* to form therewith a channel for the introduction of the liquid, the passage of light being prevented by the curvature of the channel. The end and side walls are formed at their upper edges with a groove *g* for coöperation with the lip *h* of the cover *i*, which is thus easily applied and removed, while effectually excluding light from the interior of the box.

The plate-holder *k* is preferably formed as a rectangular case open at the top and bottom for the free passage of the liquid employed and for the introduction of the plates. It is provided interiorly for a portion of its height and on all four walls with a corrugated rack *k'*, which serves to hold the plates apart while they are being treated.

As will be observed by reference to the drawings, the construction of the holder with its length greater than its width, or vice versa, permits plates of two different sizes to be treated in the same apparatus although not at the same time, larger plates being placed lengthwise in the holder and the smaller plates being placed crosswise in the holder. The plates are supported in the holder when the latter is upright by rods k^2 and k^3, which receive the weight of the plates and do not impede the circulation of the liquid. In order that the plates may be retained in the holder, whether placed longitudinally or transversely, two bails *l* and *l'* are provided, the bail *l* being pivoted in the sides of the holder in such position that the cross-bar or bail may cross the holder near the middle thereof in order to

prevent the shifting of the plates placed lengthwise of the holder, as clearly shown in Fig. 3, or may be swung over one end of the holder to permit the plates to be removed. The bail *l* may be conveniently held in position by the second bail *l'*, which is so pivoted in the ends of the holder that its cross-bar lies across the top of the holder longitudinally and also overlies the cross-bar of the bail *l*, as clearly shown in Fig. 4, thus serving to retain the plates when placed transversely in the holder and also to lock the bail *l*. The bail *l'* is so pivoted upon the holder as to permit it to be swung over the side thereof to release the bail *l* and to permit the transversely-disposed plates to be withdrawn from the holder. It may be locked in its operative position through the engagement of its arms with short lugs *l²*, which are formed upon or secured to the ends of the holder. The arms of the bail may easily be slipped over these lugs by the fingers of the operator and are retained in position by the lugs with sufficient firmness to prevent the movement of the bail by the weight of the plates when the holder is inverted in the operation of the apparatus.

In order that the plate-holder may be removed and replaced bodily and may also be rotated in the liquid for the effective treatment of the plates, the holder is provided at one end with a stud *m*, preferably having a head *m'*, to rest in and engage an open bearing *n*, secured to the inner face of one of the end walls. At the other end the holder *k* is provided with a flattened tubular guide *o*, extending from a point near the top of the holder nearly to the central line and open at both ends for engagement with an arm *p*, which is formed at its outer end with a catch *q*, to snap over the upper edge of the end wall of the holder, and at the other end is secured to a shaft *r*, which is mounted in a suitable stuffing-box *s*, secured to the end wall *a* of the tank and provided externally with a crank *t* or other suitable operating-handle.

If it is desired to remove the holder bodily, whether loaded with plates or not, the upper end of the arm *p* is pressed outward to disengage the catch *q*, and the holder is then lifted, the stud *m* being raised out of its open bearing *n* and the tubular guide *o* being drawn over the arm *p*. The holder is as easily restored to position by engaging the tubular guide with the arm and pressing the holder down until its upper edge is engaged by the catch *q*.

It will be obvious that the details of construction of the improved apparatus may be varied as the sizes of the plates and other conditions of use may require or as convenience may render desirable without departing from the spirit of the invention.

I claim as my invention—

1. A photographic-plate-treating apparatus, comprising a tank having substantially rectangular end walls supporting the apparatus and side walls and bottom in one piece secured to the end walls and curved at the bottom and a plate-holder rotatably mounted in said tank, substantially as described.

2. A photographic-plate-treating apparatus, comprising end walls, side and bottom walls, and a supplemental side wall, the upper portion of one of the main side walls being curved outwardly and bent outwardly above the curved portion while the supplemental wall is similarly curved outwardly to form with the main wall a light-baffling liquid-passage and is carried upwardly to the top of the tank, and a plate-holder rotatably mounted in said tank, substantially as described.

3. A photographic-plate-treating apparatus, comprising a tank, an open bearing on the inner face of the one wall, a stuffing-box carried by the opposite wall, a shaft mounted in said stuffing-box, and a plate-holder having at one end a stud for engagement with said open bearing and being adapted at its other end for engagement with said shaft, substantially as described.

4. A photographic-plate-treating apparatus, comprising a tank, a bearing at one end of said tank, a shaft mounted at the other end of said tank, an arm secured to said shaft within the tank, and a plate-holder adapted at one end to engage said bearing and having at the other end a guide for engagement with said arm, substantially as described.

5. A photographic-plate-treating apparatus, comprising a tank, a bearing at one end of said tank, a shaft mounted at the other end of said tank, an arm secured to said shaft and provided with a catch at its outer end and a plate-holder adapted at one end to engage said bearing and having at the other end a guide for engagement with said arm, substantially as described.

6. A photographic-plate-treating apparatus, comprising a tank, a plate-holder mounted for rotation in said tank, a plate-retaining bail mounted on said holder and means to lock said bail, substantially as described.

7. A photographic-plate-treating apparatus, comprising a tank, a plate-holder mounted to rotate in said tank, a plate-retaining bail pivoted upon said holder, a second plate-retaining bail pivoted upon said holder transversely to and overlying the first-named bail, and means to lock said last-named bail, substantially as described.

This specification signed and witnessed this 20th day of June, A. D. 1904.

GEORGE H. DORR.

In presence of—
CHARLES SCHNEIDER,
WALLACE SCHAUFELE.