

J. S. GREENE.
 PHOTOGRAPHIC PRINT HANDLING DEVICE.
 APPLICATION FILED MAY 13, 1911.

1,001,019.

Patented Aug. 22, 1911.

2 SHEETS—SHEET 1.

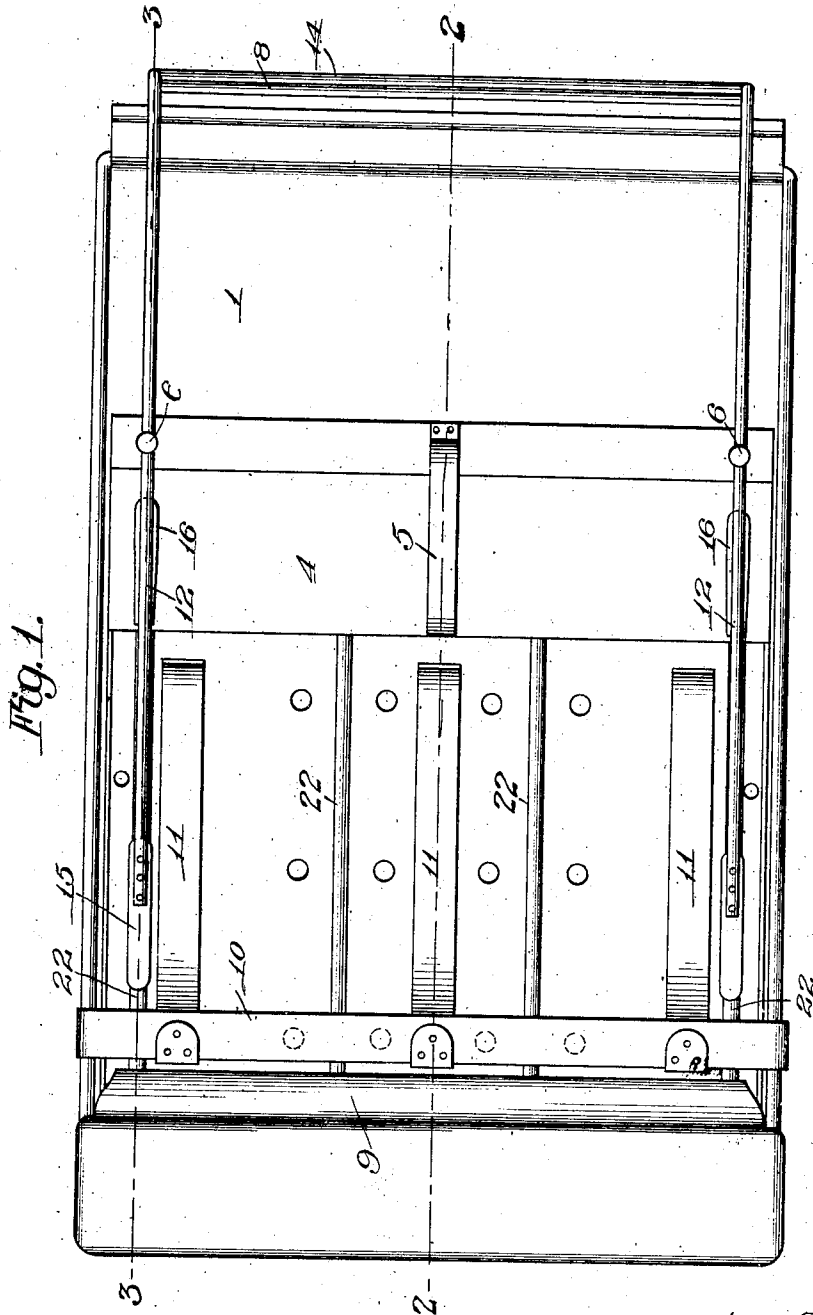


Fig. 1.

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Witnesses

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His Attorney

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2 SHEETS-SHEET 2.

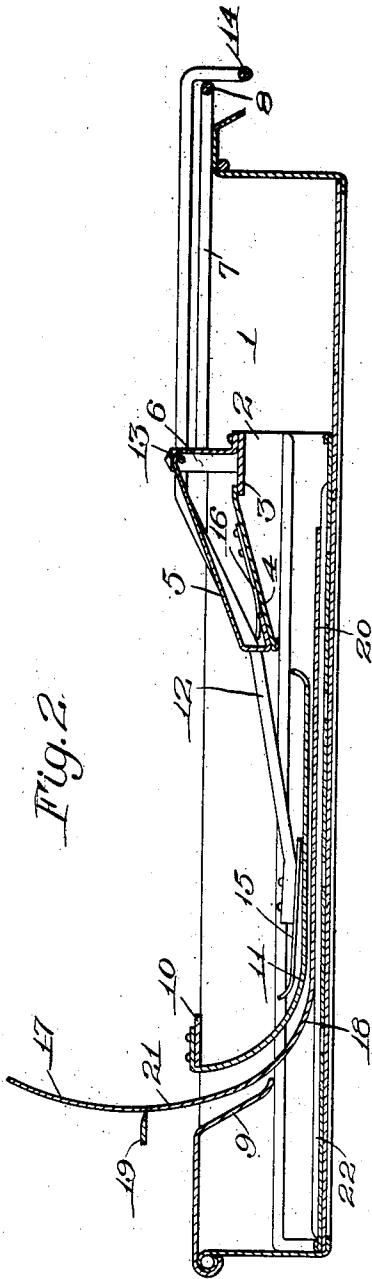


Fig. 2.

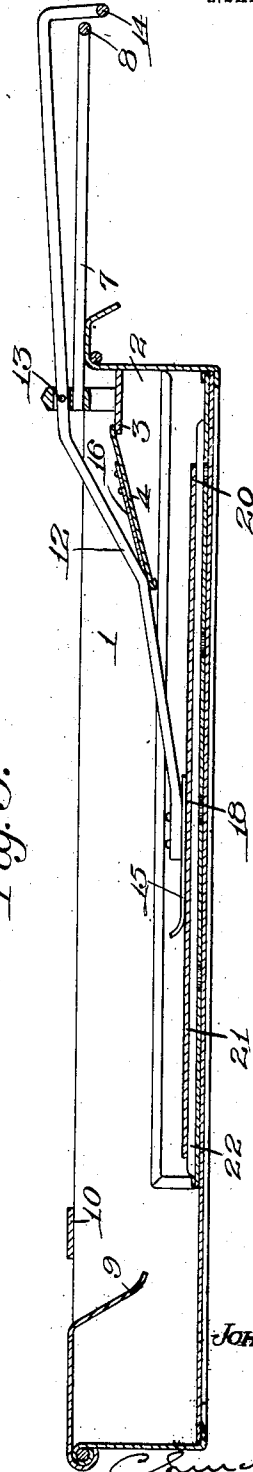


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

JOHN S. GREENE, OF ROCHESTER, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO COMMERCIAL CAMERA COMPANY, OF PROVIDENCE, RHODE ISLAND, A CORPORATION OF RHODE ISLAND.

PHOTOGRAPHIC-PRINT-HANDLING DEVICE.

1,001,019.

Specification of Letters Patent. Patented Aug. 22, 1911.

Application filed May 13, 1911. Serial No. 637,041.

To all whom it may concern:

Be it known that I, JOHN S. GREENE, of Rochester, in the county of Monroe and State of New York, have invented new and useful Improvements in Photographic-Print-Handling Devices; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention relates to photography and it has for its object to provide simple and effective means for handling photographic prints incident to the process of developing, fixing, washing or otherwise treating them in a liquid bath.

The improvements are directed in part to features by the provision of which the operator is not required to immerse his hands in the liquid, and a further object of the invention is to provide a device of this character adapted for the day light method of treating the prints, particularly when fed to the apparatus from an automatic or mechanical device such as a camera that exposes a strip of sensitized material, severs the exposed portion and delivers it for treatment.

To these and other ends the invention consists in certain improvements and combinations of parts as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings: Figure 1 is a top plan view of a print handling device constructed in accordance with and illustrating one embodiment of my invention; Fig. 2 is a longitudinal sectional view taken substantially on the line 2—2 of Fig. 1, but showing the carrier in one position, and Fig. 3 is a similar view taken, however, on the line 3—3 of Fig. 1, and showing the carrier in another position.

Similar reference numerals in the several figures indicate the same parts.

Referring more particularly to the drawings 1 indicates a suitable pan or liquid containing receptacle that is preferably of a shape permitting it to be arranged beneath an apparatus from which the prints are automatically fed to this developing device. A preferably tray-shaped carrier 2 is arranged within the pan and preferably so proportioned as to approximately make a close fit therewith transversely thereof, but the tray is shorter than the pan so that latitude is given it for a reciprocatory movement back and forth longitudinally of the container. At the right, or what may be referred to as the forward end, of the tray is provided, in the present instance, a bridge piece 3 that spans it transversely, the same being extended inwardly and downwardly over the tray in the form of a plate 4 that may be reinforced at its center by a brace piece 5 connected thereto and to the body 3 of the bridge. Mounted on the bridge piece are two posts 6 to which are connected, respectively, the ends 7 of the bail shaped handle 8 that extends forwardly beyond the edge of the tray, as shown, and provides means for reciprocating the latter within the receptacle.

At the opposite end the receptacle 1 is fitted with a downwardly and forwardly extended guide plate 9 and adjacent thereto with a bridge piece 10 that spans the receptacle and is adjustably mounted to slidably engage the rim thereof, and carries a plurality of downwardly and forwardly curved guiding fingers 11.

The tray 2 constitutes a holding jaw adapted to accommodate the print in a flat condition and that acts in conjunction with a relatively movable clamping jaw also forming part of the carrier. This clamping jaw is constituted, in the present instance, by a pair of arms 12, preferably pivoted at 13 in the posts 6 and connected at their outer ends by a handle portion 14 arranged adjacent to the handle portion 8 of the holding jaw 2. The inner or free ends of the

arms 12 are provided in the present instance with shoes 15 that move toward and from the bottom of the tray 2 as the arms are vibrated, but which normally are held spaced from said bottom by the action of leaf springs 16 engaging beneath them and mounted, in the present instance, on the plate 4.

As before indicated, the present apparatus is adapted for use in connection with devices for mechanically feeding the prints thereto, (although such an association is not necessary to its use), and in Fig. 2 I have made a showing suggesting such a device wherein 17 indicates a continuous strip of sensitized material, fed in any desired manner, and the exposed portion 18 of which is severed by a knife 19 as it is delivered to the bath. In the operation of the device, the parts are so arranged that the exposed print 18 is fed down between the guiding plate 9 and the guiding fingers 11, being directed by the former beneath the latter so that its advancing edge 20 is thrust along well toward the front of the holding jaw or tray 2 of the carrier. As the print is severed, the rear end 21 thereof is left projecting upwardly, as shown in Fig. 2, and though the forward end 20 is submerged within the liquid, arrangements must be made for lowering and submerging this rear end 21 by the manipulation of which the front end was advanced. To effect this and dispose the print as a whole in a flat condition within the receptacle 1 and tray 2, the operator raises the handle 14 which causes the clamping jaws 12 to move downward against the tension of springs 16 and grip the forward end of the print 18 at its opposite edges. The handle 14 is preferably offset from the arms that it connects, as shown in Fig. 2, so that it is normally lower than the handle portion 8 and by pressing these two together the jaws are moved together. The carrier is then drawn forward to the position of Fig. 3 by means of either handle 8 or 14, or both of them, and the print 18, being gripped between the shoes 15 and the bottom of the tray or holding jaw 2, is also drawn forward and the rear end thereof drawn beneath the guiding fingers 11 and in this way submerged in the liquid bath. If this movement is not sufficient to draw the whole of the print beneath the guide, the clamping jaw 12 is released and allowed to rise from engagement therewith under the influence of the springs 16 and the whole carrier is then thrust rearwardly again to the position of Fig. 2. Because of its inertia, the print does not follow it in this movement immediately, if at all, and when the jaws are moved together again the print is gripped at a more rearward point so that upon drawing the car-

rier forward, the print is moved farther forward than before and this operation may be repeated until all of it is drawn into the bath, providing it is not too long for the receptacle. The print may also be held within the carrier and the latter moved back and forth after the print is entirely immersed and flattened out to a proper condition for the purpose of flowing the liquid over its surfaces, as is desirable in treatments of this kind.

In order to support the print in the tray or holding jaw 2 in such manner that it will not stick to the bottom thereof, I prefer to provide said bottom with a plurality of raised ribs 22 upon which the print rests with a body of liquid on both sides, and preferably the shoes 15 on the clamping jaw 12 engage the print at points in alignment with two of these ribs so that firm hold is obtained without liability of wrinkling the material.

When it is desired to remove the print, the carrier may be raised by means of the handles until its front end is above the rim of the receptacle 1 whereupon the front edge of the print becomes accessible to the operator's fingers, or any instrument he may desire to use, in order to grip it, and if he does use his fingers this is the only time at which the contents of the receptacle touches his hands. It will be noted that the carrier is operated from one end of the receptacle and the print withdrawn at the same point so that the placing of an apparatus for feeding the prints to this device above the same in a manner to wholly or partially protect the contents of the receptacle does not interfere with the operation.

Another advantage gained from the use of a device constructed in accordance with my invention is that when the receptacle 1 is utilized as a developing pan from which the prints must be transferred to the fixing solution or hypo, there is no possibility of the latter solution being mixed in with the fixing bath which deteriorates rapidly when contaminated in this way. When an operator makes the transfer by hand, as formerly, his hands become wet with fixing solution which is carried into the developing pan in the process of handling the print therein.

I claim as my invention:

1. A photographic print handling device, comprising in combination a tray shaped holding jaw adapted to receive the print in flat condition and a pivoted clamping jaw adapted to grip the print against the bottom thereof.

2. A photographic print handling device comprising in combination a tray shaped holding jaw adapted to receive the print in flat condition and a pivoted clamping jaw

embodying a pair of arms adapted to grip the print at opposite edges, respectively, against the bottom of the holding jaw.

3. A photographic print handling device comprising in combination, a tray shaped holding jaw adapted to receive the print in flat condition and provided with a projecting handle portion and a pivoted clamping jaw embodying a pair of arms adapted to grip the print at opposite edges, respectively, against the bottom of the holding jaw, said clamping jaw also being provided with a handle portion connecting the arms and arranged adjacent to the handle portion of the other jaw.

4. A photographic print handling device comprising in combination a tray shaped holding jaw adapted to receive the print in flat condition and provided with a bridging portion spanning one end and a clamping jaw pivoted on the bridging portion and adapted to grip the print against the bottom of the holding jaw.

5. A photographic print handling device comprising in combination a tray shaped holding jaw adapted to receive the print in a flat condition and having a longitudinally extending raised rib on its bottom on which the print rests and a pivoted clamping jaw adapted to grip the print against the bottom of the holding jaw, and to engage the same in alinement with the rib.

6. In a photographic print handling device, the combination with a liquid containing receptacle, of a tray shaped member shorter than the receptacle arranged therein to move back and forth and adapted to receive a print in flat condition and a clamping jaw movable relatively to the tray shaped member to grip a print against the latter.

7. In a photographic print handling device the combination with a liquid containing receptacle, of a carrier arranged therein to be movable longitudinally thereof and comprising relatively movable members adapted to grip the end of a print introduced between them.

8. In a photographic print handling device, the combination with a liquid containing receptacle, of a carrier arranged therein to be movable longitudinally thereof comprising relatively movable members adapted to grip the end of a print introduced between them, and means at one end of the receptacle for guiding a print between the members.

9. In a photographic print handling device, the combination with a liquid containing receptacle, of a carrier arranged therein to be movable longitudinally thereof comprising relatively movable members adapted to grip the end of a print introduced between them, and means at one end of the

receptacle for guiding a print between the members embodying a bar adjustable on the receptacle and provided with curved fingers extending downwardly toward the bottom of the latter.

10. In a photographic print handling device, the combination with a liquid containing receptacle, of a carrier shorter than the receptacle and slidable therein comprising a tray shaped holding jaw adapted to receive a print in flat condition and a clamping jaw movable relatively to the tray shaped jaw to grip the print against the latter, and a handle on the carrier projecting beyond the receptacle and accessible from the exterior thereof.

11. In a photographic print handling device, the combination with a liquid containing receptacle, of a carrier shorter than the receptacle and slidable therein comprising a tray shaped holding jaw adapted to receive a print in flat condition and a clamping jaw movable relatively to the tray shaped jaw to grip the print against the latter, and a handle on the clamping jaw extending beyond the receptacle in all the positions of the carrier.

12. In a photographic print handling device, the combination with a liquid containing receptacle, of a carrier shorter than the receptacle, and slidable therein comprising a tray shaped holding jaw adapted to receive a print in flat condition and a clamping jaw movable relatively to the tray shaped jaw to grip the print against the latter, and handles on each jaw arranged adjacent to each other and extending beyond the receptacle in all the positions of the carrier.

13. In a photographic print handling device, the combination with a liquid containing receptacle, of a carrier shorter than the receptacle and slidable therein comprising a tray shaped holding jaw adapted to receive a print in flat condition and a clamping jaw movable relatively to the tray shaped jaw to grip the print against the latter, and embodying a pair of arms arranged at opposite sides of the holding jaw to engage the print near its edges, a bridge piece spanning the tray shaped jaw at one end to and upon which the arms of the clamping jaw are pivoted, a handle portion connecting said arms and a handle portion on the holding jaw arranged adjacent thereto, both handles being arranged to extend beyond the receptacle in every position of the carrier.

14. In a photographic print handling device, the combination with a liquid containing receptacle, of a carrier shorter than the receptacle and slidable therein comprising a tray shaped holding jaw adapted to receive a print in flat condition and a clamping jaw movable relatively to the tray shaped jaw

to grip the print against the latter, and embodying a pair of arms arranged at opposite sides of the holding jaw to engage the print near its edges, a bridge piece spanning the tray shaped jaw at one end to and upon which the arms are pivoted, a handle portion connecting said arms and a handle portion on the holding jaw arranged adjacent thereto, both handles being arranged to ex-

tend beyond the receptacle at one end in every position of the carrier and means at the other end of the receptacle for guiding a print edgewise between the jaws of the carrier.

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Witnesses:

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