

H. A. ANDERSON.
 PHOTOGRAPHIC PRINTING APPARATUS.
 APPLICATION FILED APR. 9, 1910.

1,046,367.

Patented Dec. 3, 1912.
 3 SHEETS—SHEET 1.

Fig. 1.

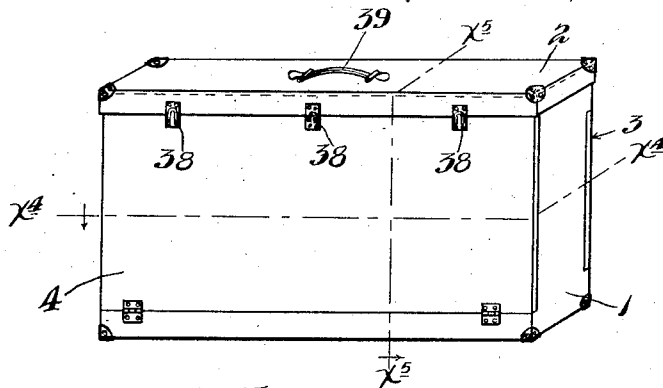


Fig. 2.

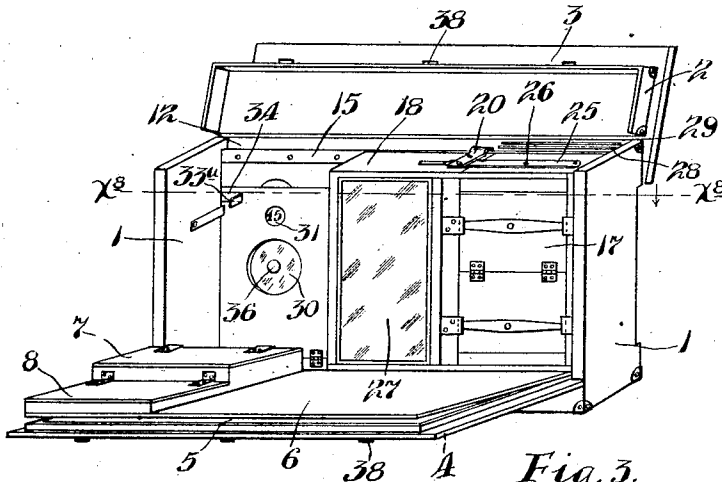
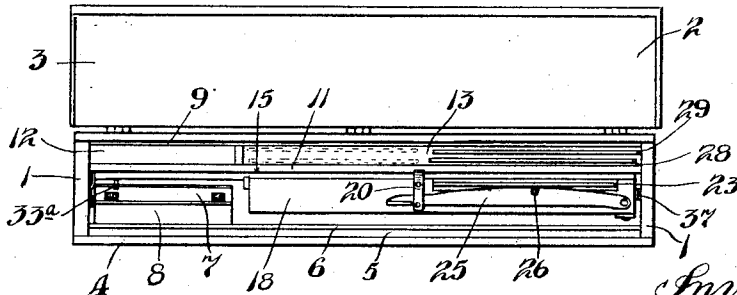


Fig. 3.



Witnesses.
 Harry Opsahl.
 H. D. Nelson

Inventor.
 Haldor A. Anderson
 By his Attorneys.
 Williamson Merchant

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Fig. 4.

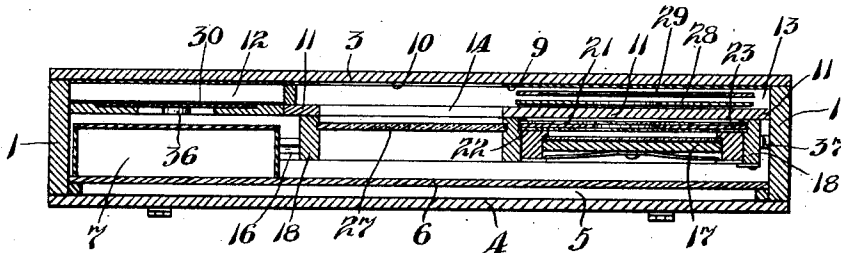


Fig. 5.

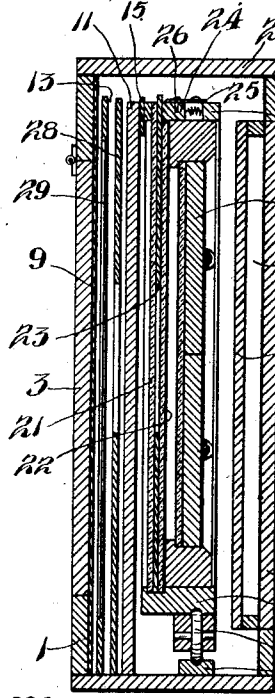


Fig. 6.

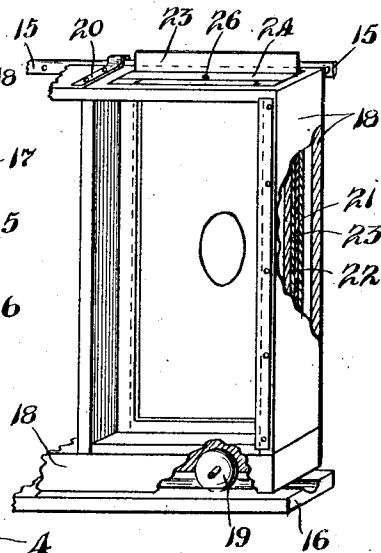
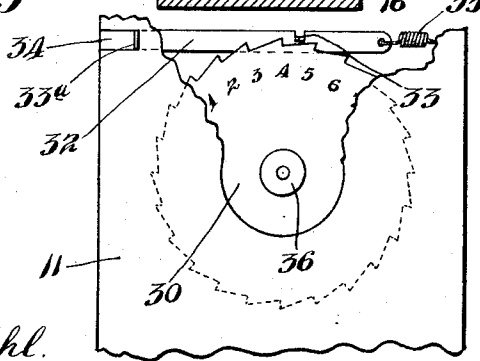


Fig. 7.



Witnesses.
 Harry Opsahl.
 H. D. Kilgore

Inventor.
 Haldor A. Anderson
 By his Attorneys.

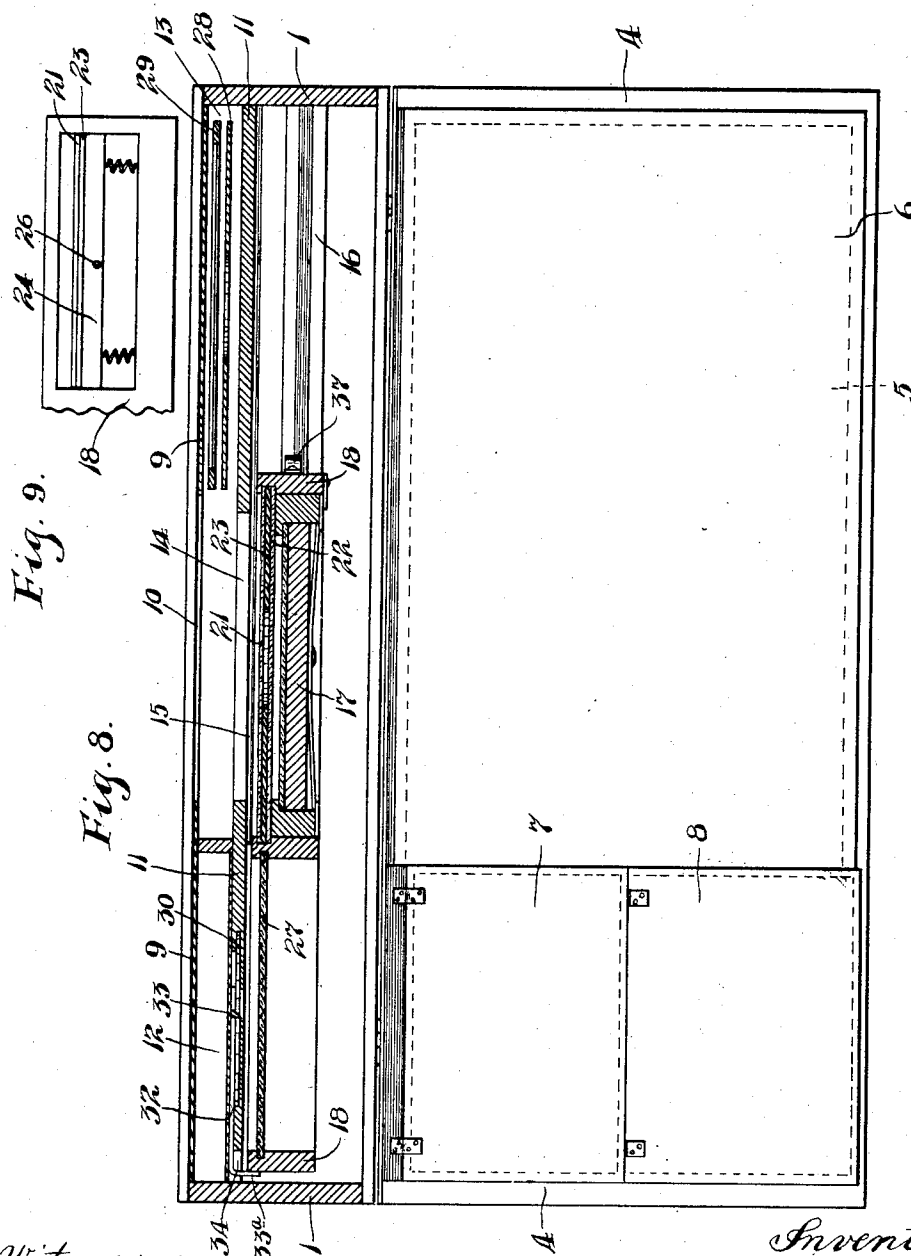
Williamson Merchant

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3 SHEETS—SHEET 3.



Witnesses.
 Harry Opsahl.
 H. W. Kilgore

Inventor.
 Haldor A. Anderson
 By his Attorneys.
 William M. Anderson

UNITED STATES PATENT OFFICE.

HALDOR A. ANDERSON, OF ORTLEY, SOUTH DAKOTA, ASSIGNOR TO INGA O. ANDERSON,
OF BIGSTONE CITY, SOUTH DAKOTA.

PHOTOGRAPHIC-PRINTING APPARATUS.

1,046,367.

Specification of Letters Patent.

Patented Dec. 3, 1912.

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To all whom it may concern:

Be it known that I, HALDOR A. ANDERSON, a citizen of the United States, residing at Ortley, in the county of Roberts and State of South Dakota, have invented certain new and useful Improvements in Photographic-Printing Apparatus; 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.

My invention has for its object to provide an improved photographic printing apparatus, and to such ends, it consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

Generally stated, the printing apparatus, which will hereinafter be described in detail, is capable of use as follows: Photographic prints may be rapidly made on post cards or on regular photographic paper. The sensitive paper is adapted to be taken from a small print box and placed in a printing frame which is carried by a so-called carriage, to and from a position in which it is exposed to the light. Vignettters and light screens are adapted to be applied to the negative and exposed therewith, so as to give various photographic effects. A register or tally will indicate the number of movements of the carriage from its normal position into position to expose the negative and, hence, the number of prints taken may be easily and accurately counted.

In the accompanying drawings which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a perspective view showing the photographic printing apparatus folded into the form of a grip or closed case; Fig. 2 is a perspective view showing the case of the apparatus opened up and the apparatus in condition for operation; Fig. 3 is a plan view of the printing apparatus with the cover thereof turned into an open position; Fig. 4 is a horizontal section taken through the apparatus approximately on the line $w^4 w^4$ of Fig. 1; Fig. 5 is a vertical section taken through the apparatus approximately on the line $w^5 w^5$ of Fig. 1; Fig. 6 is a perspective view, with parts broken away, showing the carriage which carries the printing frame

and guide rails or tracks therefor; Fig. 7 is a detail view in rear elevation, with parts broken away, showing a register or tally and actuating device therefor, which latter is adapted to be actuated by movements of the carriage; Fig. 8 is an enlarged horizontal section taken approximately on the irregular line $w^8 w^8$ of Fig. 2 and showing the carriage and printing frame moved to the extreme position toward the left; and Fig. 9 is a detail view in plan of the parts shown in Fig. 6.

The framework of the apparatus is made rectangular and in the form of a case 1, which is adapted to carry and inclose all of the parts of the apparatus and also supplies, negatives and similar devices. So far as the broad idea of my invention is concerned, this case or framework may take various forms and it may be made of various suitable metals. Usually, it will be made from thin wood or wood fiber covered with cloth, to give the same a neat appearance. It is provided with a hinged cover 2, with a front plate 3 hinged at its upper edge and with a back plate 4 hinged at its lower edge.

The hinged back plate 4 is preferably formed with a compartment 5 adapted to contain paper or similar supplies, and this compartment is adapted to be closed by a supplemental cover 6 which, at its lower edge, is hinged to the main back plate 4. Secured to the inner surface of the left hand portion of the supplemental cover 6 is a two-compartment box 7—8 adapted, one compartment to contain the sensitive paper and the other the exposed paper. The two compartments of this box are preferably provided with hinged covers.

The hinged front plate 3 of the case normally closes against a fixed front plate 9 which, at its central portion, is cut away to afford a light passage 10. Secured within the frame of the case 1 and extending parallel to the fixed front plate 9 is an inner plate or partition 11 which is spaced from the plate 9 to afford a small storage compartment 12 at the left and a storage compartment 13 at the right of the light passage 10. Said partition 11 is provided with a light passage 14 that is alined with the said light passage 10. On its upper edge, the partition 11 is provided with a metal guide rail 15 for a purpose which will here-

inafter appear, and a grooved guide rail 16 is secured to the bottom of the case 1 just back of the partition 11.

The negative *a* and the sensitive paper *b* are adapted to be held in the printing frame 17, which is or may be of the usual or substantially ordinary construction but is supported and carried by a traveling carriage, the movements of which serve to carry the printing frame with the negative and sensitive paper to and from a position in front of the light passages 10 and 14. This carriage is preferably in the form of a rectangular frame 18 provided, at its lower portion with small wheels 19 that run in the groove of the lower rail 16, and provided on its top with a guide strap 20, the end of which is bent so as to engage over the upper edge of the upper rail 15.

The carriage frame 18, just in front of the printing frame 17, is provided with vertical grooves or seats which seat and hold two glass plates 21 and 22. A vignetter 23 is placed between the glass plates 21 and 22 and is adapted to be frictionally held in various adjustments between the said plates. This adjustable holding of the vignetter is preferably accomplished by means of a small forwardly spring-pressed bar 24 mounted in the top of the carriage frame 18 and engageable with the upper portion of said vignetter. The presser bar 24 is adapted to be retracted or forced rearward into an inoperative position, so that the vignetter may be adjusted, applied or removed, by means of a lever 25, which, as shown, is pivoted at its right hand end to the top of the right hand portion of the carriage frame 18, and at its intermediate portion is provided with a depending pin 26 that engages a seat in the intermediate portion of the said presser bar.

At the left of the seat provided in the carriage frame 18, for the reception of the printing frame 17, the said carriage frame is provided with a rectangular opening in which is secured a ruby or orange colored glass plate 27. When the carriage 18 is in its normal position toward the right, as shown in Fig. 4, this orange or ruby glass 27 is brought in front of the light passages 10 and 14 and through the same must pass all of the light which enters the darkened room. It may be here further stated that the case 1 is preferably made of such size that it will fit in an open window. When it is applied in an open window and the window shade is drawn downward into the space between the upturned cover 2 and front plate 3, all light will be cut off from the darkened room except that which passes through the ruby or orange glass 27.

28 and 29 indicate light diffusing screens, the former of which is preferably provided with a single sheet of tissue paper while the

latter is preferably provided with two sheets of tissue paper. These screens 28 and 29 are adapted to be slid in the compartment 13 from inoperative positions toward the right into operative positions in line with the light passages 10 and 14. Suitable latches may be provided for holding the hinged plates or doors 3 and 4 normally closed.

The indicator or tally, as preferably constructed, comprises a ratchet wheel 30 which is journaled in a suitable seat formed in the partition plate 11 and is marked on its rear face with numerals, best shown in Fig. 7, which are adapted to be presented to view in succession in front of a sight opening 31 formed in the said plate 11. For action on the teeth of this ratchet toothed indicator wheel 30, I provide a ratchet bar 32 having a laterally projecting tooth or pawl 33 which engages the said teeth. At its left-hand end, the ratchet bar 32 is provided with a rearwardly projecting finger 33^a that works in a groove 34 of the plate 11 and is adapted to be engaged by the lefthand end of the carriage frame 18. A light coiled spring 35 yieldingly holds the ratchet bar 32 toward the right. Each time the carriage 18 is moved from its inoperative position toward the right into its operative position toward the left, the ratchet bar 32 will be moved toward the left and caused to impart one step of movement to the indicator wheel 30, thus registering the number of prints taken by a series of printing operations. Normally, the pawl 33 stands out of the path of movement of the teeth of the indicator wheel 30 and the said indicator wheel is provided with an operating knob or finger piece 36, by means of which the said wheel may, when desired, be returned to its zero position.

The numeral 37 indicates a small cushioning spring shown as applied to the right-hand end of the carriage frame 18 and engageable with the lefthand end of the case 1. Suitable catches 38 are shown as provided for locking the cover 2 to the case 1, and the said cover is shown as provided with a hand piece 39, so that the entire device, when closed, may be carried as a suit case and will have the appearance of a suit case.

By the use of the printing apparatus described, photographic prints may be very rapidly made and, when the device is folded, it will occupy a comparatively small space and may be very easily carried, not being much larger than an ordinary suit case.

What I claim is:—

1. In a photographic printing apparatus, the combination with a case having a light passage, of a carriage provided with a printing frame and a colored glass plate, the said carriage mounted to move in said case and to carry said printing frame and said colored

glass plate alternately to and from said light passage.

2. In a photographic printing apparatus, the combination with a case having a light passage, of a carriage provided with a printing frame and with a colored glass plate located at one side of said printing frame, the said carriage being movable to aline said colored plate with said light passage in one position, and to aline said printing frame with said light passage in its other position.

3. In a photographic printing apparatus, the combination with a case having a light passage, of a carriage provided with a printing frame and a colored glass plate, the said carriage mounted to move in said case and to carry said printing frame and said colored glass plate alternately to and from said light passage, and a vignetter applied in front of said printing frame and carried by said carriage.

4. In a photographic printing apparatus, the combination with a case having a light passage, of a carriage provided with a printing frame and a colored glass plate, the said carriage mounted to move in said case and to carry said printing frame and said colored glass plate alternately to and from said light passage, a vignetter applied in front of said printing frame and carried by said carriage, and means applied to said carriage for adjustably holding said vignetter.

5. In a photographic printing apparatus, the combination with a case having a light passage, of a carriage provided with a printing frame and mounted to move in said case and to carry said printing frame to and from said light passage, a pair of glass plates applied to said carriage in front of said printing frame, a vignetter applied between said glass plates, and means for adjustably holding said vignetter between said glass plates.

6. In a photographic printing apparatus, the combination with a case having a light passage, of a carriage provided with a printing frame and with a colored glass plate located at one side of said printing frame, the said carriage being movable to aline said colored plate with said light passage in one position, and to aline said printing frame

with said light passage in its other position, a pair of glass plates applied to said carriage in front of said printing frame, a vignetter applied between said glass plates, and frictional means for adjustably holding said vignetter between said glass plates.

7. In a photographic printing apparatus, the combination with a case having hinged front and rear doors and a partition with a light passage in the latter, a pair of parallel rails, one secured to the bottom of said case and the other to the top of said partition, a carriage frame having wheels arranged to run on the lower rail and having guides slidably engageable with said upper rail, a printing frame, and a colored glass plate applied to said carriage frame and movable alternately to alinement with said light passage.

8. In a photographic printing apparatus, the combination with a case having a light passage, of a carriage provided with a printing frame and a colored plate offset therefrom, the said carriage being movable to alternately aline said printing frame and colored plate with said light passage, a pair of glass plates applied to said carriage in front of said printing frame, a vignetter applied between said glass plates, and a spring pressed bar operative to adjustably hold said vignetter between said glass plates.

9. In a photographic printing apparatus, the combination with a case having a light passage, of a carriage provided with a printing frame and a colored plate offset therefrom, the said carriage being movable to alternately aline said printing frame and colored plate with said light passage, a pair of glass plates applied to said carriage in front of said printing frame, a vignetter applied between said glass plates, a spring pressed bar operative to adjustably hold said vignetter between said glass plates, and a lever pivoted to said carriage and operative on said spring pressed bar to release the same.

HALDOR A. ANDERSON.

Witnesses:

CHARLES J. WHITEFOOT,
JOHN J. POPP.