

No. 775,552.

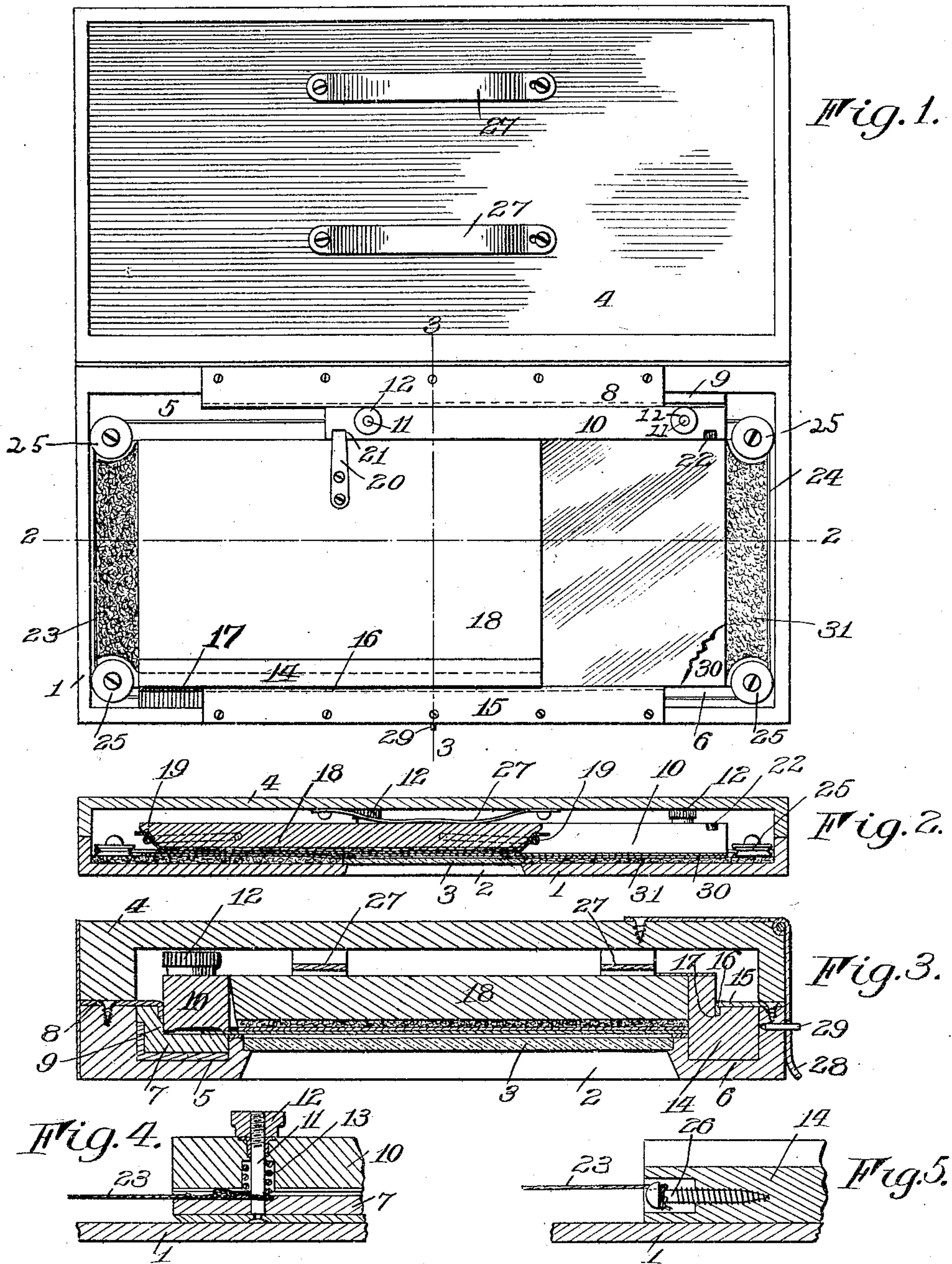
PATENTED NOV. 22, 1904.

F. A. BROWNELL.
STEREOSCOPIC PRINTING DEVICE.

APPLICATION FILED SEPT. 16, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



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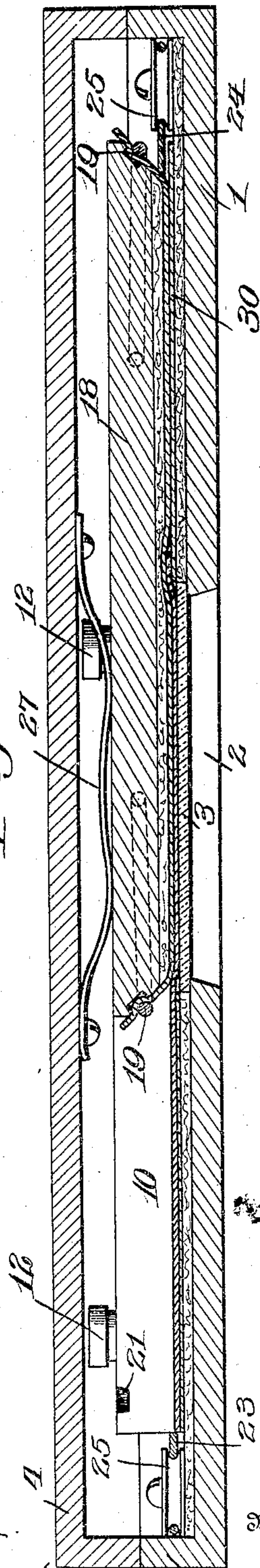
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Fig. 6.



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STEREOSCOPIC PRINTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 775,552, dated November 22, 1904.

Application filed September 16, 1904. Serial No. 224,646. (No model.)

To all whom it may concern:

Be it known that I, FRANK A. BROWNELL, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Stereoscopic Printing 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 improvements in photographic-printing devices, and more particularly to that class of such devices which are especially adapted for use in obtaining prints for stereoscopic purposes; and the object of my invention is to provide a device of this character which is capable of arranging and positioning the negative and the sensitized medium during the printing operation with the greatest facility, so that the prints obtained will be properly arranged and positioned without requiring the special attention of the operator.

To these and other ends my invention consists in certain improvements and combinations and arrangements of parts that will be hereinafter more fully explained, the novel features being pointed out particularly in the claims hereunto annexed.

In the drawings, Figure 1 is a plan view of a device for printing stereoscopic pictures which embodies my invention, the cover of the case being in an opened position. Fig. 2 is a longitudinal sectional view through the device along the line 2 2 of Fig. 1. Fig. 3 is a transverse sectional view through the case on the line 3 3 of Fig. 1. Fig. 4 is a detail view in section, showing the securing device for the negative-holder. Fig. 5 is a detail view of the securing and tensioning device for the operating-cords; and Fig. 6 is a view similar to Fig. 2, showing the parts reversed.

In the several views the same numerals of reference designate similar parts.

My present invention embodies generally a photographic-printing device which is capable of producing accurate prints in their

proper relative arrangement from negatives which have been previously exposed in a double camera for stereoscopic views; and in its present embodiment it comprises generally a suitable casing 1, which may be constructed in the various dimensions required and is provided in one of its faces with an opening 2, which may be suitably covered by a sheet of glass or other transparent material 3, and the opposite side of the casing is provided with a lid or cover 4, which is hinged or otherwise secured to the body of the casing in a manner that will render the interior of the casing accessible.

Extending longitudinally within the casing are a pair of ways 5 and 6, which are located upon opposite sides of the opening 2 of the casing, and in the way 5 is slidingly mounted the movable carrier 7, which in the present instance is retained in position by the overhanging ledge or projection 8, which is secured to the casing. In this carrier is formed a rabbet or cut-away portion 9, into which is fitted the clamping member 10, the latter being secured to the carrier by means of the bolts or other securing devices 11, which are fastened at their lower ends to the body of the carrier and are provided at their upper ends with the threaded nuts 12 12, which are arranged to bear upon the clamping member 10, and thereby clamp the latter firmly against the body of the carrier through the manipulation of the said nuts, springs 13 13 being preferably interposed between the said clamping member and the carrier for the purpose of automatically separating these parts when the said nuts are loosened. Such a construction enables a photographic negative to be readily and firmly secured between the clamping member 10 and the body of the carrier when the edge thereof is properly inserted and the nuts are tightened, the negative being immediately released when the nuts are loosened through the operation of the interposed spring.

In the way 6 is slidingly mounted the block or support 14, which is held in position by means of the retaining-plate 15, which is suit-

ably secured to the casing and provided with the flange or projecting edge 16, which is formed to enter the longitudinally-arranged channel or groove 17 of the relatively movable block 14, in which to insure motion of the latter in its proper course and to secure it firmly in position. Upon this relatively movable block 14 is pivotally or otherwise movably secured the support or holder 18 for receiving the sensitized medium to be printed upon, a suitable backing of felt or other yielding material being preferably provided upon the face of this holder and the gripping-wires 19 at each end thereof in order to enable the sensitized medium to be readily attached to and detached from the said support or holder. The support 18, upon which the sensitized medium is secured, is so arranged as to readily swing into position between the relatively movable members 10 and 14 without interfering with their relative motion, a catch or projection 20 being provided, if desirable, for the purpose of retaining the negative-carrier and the holder for the sensitized medium in their respective positions at opposite ends of the casing, and this may be accomplished by forming the notches 21 and 22 in the adjacent portion 10 of the negative-carrier to cooperate with the said projection.

In the operation of a photographic-printing device of this character it is necessary to reverse the arrangement of the pictures in printing from the negative to the sensitized medium, and this is accomplished in the present embodiment of my invention by means of the operating-cords 23 and 24, which are connected to the opposite ends of the longitudinally-movable members 7 and 14 in such a manner that when one of the said members is moved toward one end of the casing the other will move in an opposite direction, pulleys or similar devices 25 25 being provided, over which the said operating-cords pass. These cords may be conveniently attached to the clamping-bolts of the negative-carrier and to the securing-screws 26, which latter are adjustable longitudinally of the block 14, such an arrangement enabling the tension of the said cords to be adjusted to the desired degree through the manipulation of the screws 26. When the support 18 for the sensitized printing-paper or other medium occupies the proper position at either end of the casing, the projection 20 will cooperate with the corresponding notch 21 or 22 to prevent relative motion of the negative and the sensitized medium, the springs 27 27 being also provided, if desired, for engaging the printing-paper holder 18, and thereby retaining it firmly in position upon the negative when the lid or cover 4 of the casing is closed and locked by the catch 28, which cooperates with the pin 29. In order to facilitate the motion of the negative across the bottom of the casing, a facing

30 composed of celluloid or other similar smooth material, preferably of a non-actinic color, may be provided, which in the present instance is secured in position over a backing 31 of felt or other soft pliable material.

In operating a photographic-printing device of this character for obtaining prints for stereoscopic purposes the negative is introduced in such a manner that one of its longitudinal edges may be clamped between the body portion of the relatively movable carrier 7 and its clamping member 10 through manipulation of the nuts 12. The sensitized printing-paper or other medium is secured in the proper manner upon the lower face of the holder or support 18 by means of the gripping members 19, and when this has been accomplished motion may be imparted to one of the movable members until it reaches one end of the casing, the motion thus imparted being transmitted by the operating-cords to the other movable member until it reaches the opposite end of the casing, the said members being locked in such positions by the cooperative engagement of the projection 20 and the corresponding notches 21 and 22 of the respective members. At this time the picture at one end of the negative will be in such a position as to print upon the opposite or reversed portion of the sensitized printing medium when the device is exposed to light, which may enter through the exposure-aperture 2 of the casing. When the proper exposure has been secured, the relative positions of the negative and printing-paper holders are reversed and the second exposure made, the result being that the prints secured will be rearranged from the reversed order in which they appear upon the negative and printed in their proper arrangement upon the sensitized medium.

A photographic-printing device of this character embodying my invention enables photographic prints to be employed for stereoscopic purposes to be readily and conveniently made from negatives which have been previously exposed in the ordinary double-lens or stereoscopic camera, the device operating to automatically arrange the pictures upon the printing-paper or other medium while being transferred from the negative without requiring special attention of the operator in positioning the respective parts, and its construction is such as to enable the device to be manipulated with the greatest facility. Moreover my invention enables both pictures to be printed upon the same paper and by the same operation without the necessity of setting up the negative and the sensitized paper separately for each exposure, thereby insuring accurate centering of the pictures.

I claim as my invention—

1. In a photographic-printing device, the combination with a casing or support, having an exposure-aperture formed therein, of rela-

tively movable holders for the negative and the sensitized medium capable of operating past the exposure-aperture.

2. In a photographic-printing device, the combination with the casing or support having an exposure-aperture formed therein, of relatively movable holders for the negative and sensitized medium capable of operating past the exposure-aperture, and means coöperating with each holder for moving them in opposite directions.

3. In a photographic-printing device, the combination with the casing having the exposure-aperture therein, of the relatively movable holders for the negative and the sensitized medium mounted to operate past the exposure-aperture of the casing, and operating devices connected to said holders for operating them simultaneously in opposite directions.

4. In a photographic-printing device, the combination with the casing having the exposure-aperture therein, of the relatively movable holders for the negative and sensitized medium slidably mounted in said casing and capable of operating past the exposure-aperture, and operating devices connected to said holders for moving them simultaneously in opposite directions.

5. In a photographic-printing device, the combination with the casing having the exposure-aperture therein, of the holders for the negative and the sensitized medium mounted to operate past each other and past the exposure-aperture of the casing.

6. In a photographic-printing device, the combination with the casing having the exposure-aperture therein, of the relatively movable holders for the negative and the sensitized medium independently mounted in the casing and capable of operating past each other and past the exposure-aperture of the casing.

7. In a photographic-printing device, the combination with the casing having the exposure-aperture therein, of the relatively movable holders for the negative and the sensitized medium capable of moving past the exposure-aperture of the casing, and operating-cords for transmitting the motion of one of the holders to the other holder to cause motion of the latter in an opposite direction.

8. In a photographic-printing device, the combination with the casing or support having the exposure-aperture therein, of the relatively movable holders for the negative and the sensitized medium slidably mounted in ways in the casing and capable of operating past each other and past the exposure-aperture of the casing, and operating devices for insuring the simultaneous movements of the holders in opposite directions.

9. In a photographic-printing device, the combination with the casing or support having the exposure-aperture therein, of the rel-

atively movable holders for the negative and the sensitized medium capable of operating past the exposure-aperture, and a retaining device for locking the holders in fixed relation.

10. In a photographic-printing device, the combination with the casing or support having the exposure-aperture therein, of the relatively movable holders for the negative and the sensitized medium capable of operating past the exposure-aperture, the support for the sensitized medium being mounted in pivotal relation to the negative-holder.

11. In a photographic-printing device, the combination with the casing or support having the exposure-aperture therein, of the relatively movable holders for the negative and the sensitized medium capable of operating past the exposure-aperture, the support for the sensitized medium being mounted pivotally to enable it to be moved into and out of coöperative relation with the negative, and a retaining device for locking the said holders in fixed relation when they are in coöperative position.

12. In a photographic-printing device, the combination with the casing or support having the exposure-aperture located centrally therein, of the relatively movable holders for the negative and the sensitized medium capable of operating in opposite directions past the exposure-aperture and occupy relatively reversed positions upon opposite sides of the exposure-aperture.

13. In a photographic-printing device, the combination with the casing or support having the exposure-aperture located intermediately therein, of the relatively movable holders for the negative capable of operating past the exposure-aperture and occupy relatively reversed positions upon opposite sides thereof, and operating-cords connecting said holders and arranged to move the latter simultaneously in relatively opposite directions.

14. In a photographic-printing device, the combination with the casing having the exposure-aperture therein, of the negative-holder arranged to operate past the exposure-aperture and embodying a movable carrier and a clamping member thereon capable of securing a negative between it and the carrier, and a holder for the sensitized medium.

15. In a photographic-printing device, the combination with the casing having the exposure-aperture therein, of the negative-holder arranged to operate past the exposure-aperture embodying a movable carrier, a clamping member thereon capable of securing a negative between it and the carrier, and devices normally tending to separate the clamping member and carrier for releasing the negative, and a holder for the sensitized medium.

16. In a photographic-printing device, the combination with the casing having an exposure-aperture therein, of the negative-holder

arranged to operate past the exposure-aperture embodying a movable carrier, the clamping member capable of securing the negative between it and the carrier, adjustable securing devices connecting the carrier and the clamping member, and springs interposed between the carrier and clamping member normally tending to separate them, and a holder for the sensitized medium.

10 17. In a photographic-printing device, the combination with the casing having an exposure-aperture therein, of the negative-holder, and the holder for the sensitized medium embodying a movable body portion mounted to
15 operate past the exposure-aperture, and a support for the sensitized medium mounted pivotally relatively to the body portion of the holder and arranged to be moved into coöperative relation with the negative.

20 18. In a photographic-printing device, the combination with the casing having the exposure-aperture therein, of the relatively movable holders for the negative and the sensitized medium capable of operating past the
25 exposure-aperture, the operating-cords connecting the holders for moving the latter in relatively opposite directions, and an adjustable device connecting the cords to the holder for enabling the tension of the said cords to
30 be adjusted.

19. In a photographic-printing device, the combination with the casing having the exposure-aperture in one side thereof, and the cover or lid forming a closure for the oppo-

site side thereof, of the relatively movable
35 holders for the negative and the sensitized medium mounted to operate past the exposure-aperture, one of the holders being provided with a pivoted or removable portion for rendering the negative and the sensitized me-
40 dium accessible, and devices coöperating with the said portion and with the cover or lid of the casing for retaining the said portion in operative position while the cover of the case is closed.

45 20. In a photographic-printing device, the combination with the casing having the exposure-aperture in one side thereof, and the cover or lid forming a closure for the opposite side of the casing, of the relatively movable
50 holders for the negative and the sensitized medium mounted to operate in opposite directions and to occupy relatively reversed positions upon opposite sides of the exposure-aperture, one of the holders being provided
55 with a relatively pivoted portion capable of being moved into and out of coöperative relation with the other holder, a retaining device for locking the holders in fixed relation when the said pivoted portion is in operative
60 position, and devices coöperating with the cover of the casing and the said pivoted portion for retaining the latter in operative position.

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