Oct. 23, 1923. 1,471,672

B. WEHRLI

PHOTOGRAPHIC PRINTING DEVICE

Filed Aug. 30, 1922

Fig. 1

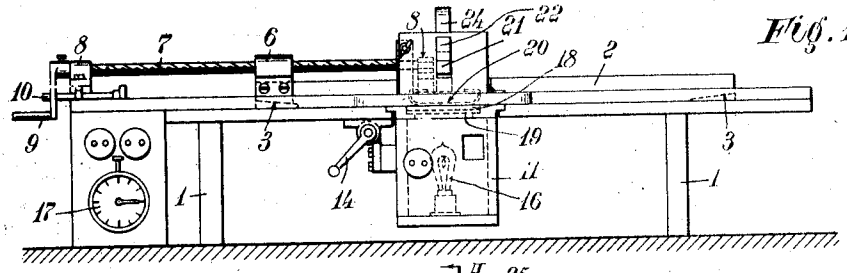


Fig. 2

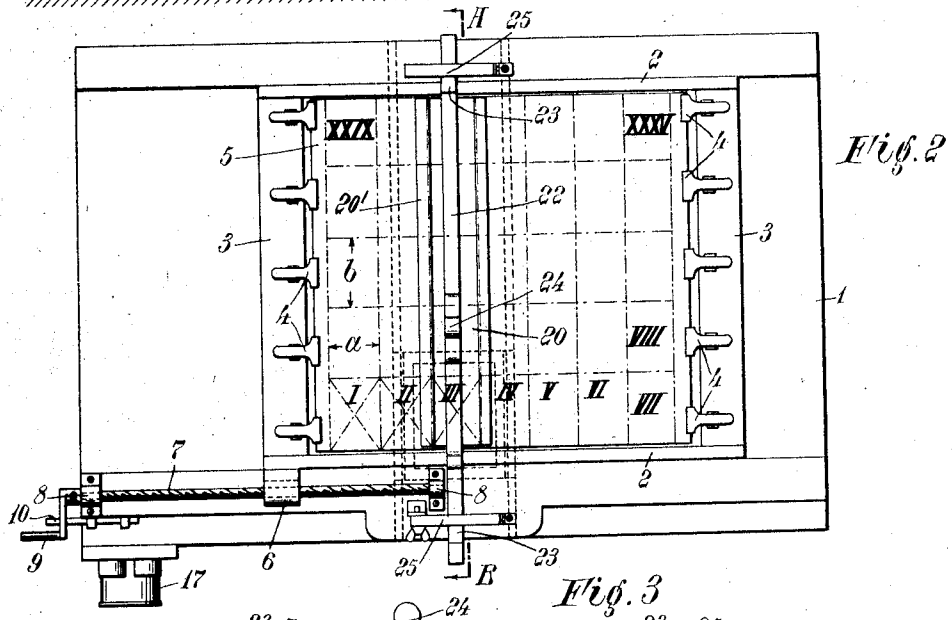
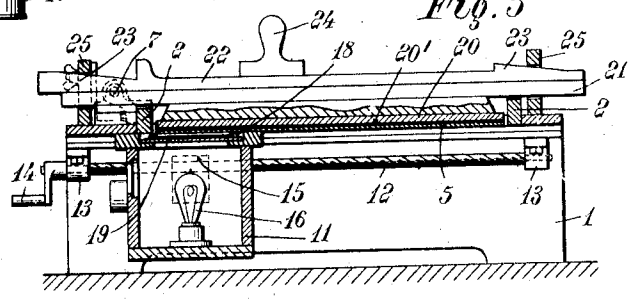


Fig. 3



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UNITED STATES PATENT OFFICE.

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PHOTOGRAPHIC-PRINTING DEVICE.

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To all whom it may concern:

Be it known that I, BRUNO WEHRLI, a citizen of the Republic of Switzerland, residing at Kilchberg, Switzerland, have invented certain new and useful Improvements in Photographic-Printing Devices, of which the following is a specification, reference being had therein to the accompanying drawing.

The invention refers to improvements in a device for producing photographic prints and particularly post-cards on large sheets of sensitive paper, which renders a quick working possible without having to previously cut the large sheets to the size of post-cards.

In contradistinction to known devices in which large sheets can be treated the device according to the present invention comprises a frame adapted to hold a sheet with its photogenic layer pointing downwards. This frame is displaceably arranged in a horizontal plane in one direction. Further the device is provided with a box containing the source of light arranged below the frame with its opening pointing upwards, which box is adapted to be displaced in a horizontal plane and in a direction that is perpendicular to the direction in which the frame can be displaced. Furthermore a device is arranged above the frame adapted to press parts of the sheet against a negative placed on the opening of the box. As the sensitive layer of the sheet to be treated is faced downwards the illumination of the dark room may be kept brighter than usual.

A constructional example of the invention is illustrated on the accompanying drawings in which:

Fig. 1 is a side view,

Fig. 2 is a plan view, and

Fig. 3 is a section along line A—B of Fig. 2.

In the drawings, 1 denotes a rigid base part. On the latter there is displaceably mounted a horizontal frame 2 for holding the sheet of sensitive paper. To the lateral parts 3 of the frame, which parts are of a wedge-shaped cross-section, clamps 4 are mounted serving to grip a sheet 5 of sensitive paper, which sheet is arranged with its sensitive layer facing downwards and which is thus only gripped at its two lateral sides, the other parts of the sheet hanging freely. The sheets are of such a size that a large number of prints can be produced on them in the lateral and in the longitudinal direction the individual prints being indicated in Fig. 2 by chain-dotted lines. In the example illustrated seven prints of post-cards may be produced in the longitudinal direction of the sheet and five prints of post-cards in the transverse direction, thus a total of 35 post-cards can be printed on one sheet. To the frame 2 a nut 6 is fixed, with which a screw threaded spindle 7 is in engagement, the latter being rotatably mounted in bearings 8 and prevented against axial displacement. A hand crank 9 is fixed to the one end of the spindle 7. The turning movement of this crank 9 may be stopped after every complete revolution by means of a slidably arranged bolt 10. The pitch of the thread of spindle 7 is so chosen that one complete revolution of the crank 9 causes the frame 3 to be displaced by a distance *a* corresponding approximately to the width of a post-card. On the base part 1 there is arranged a box 11 containing the source of light, which box can be displaced in a horizontal plane at right angles to the direction in which the frame 3 can be displaced. The displacement of the box 11 is effected by means of a screw threaded spindle 12 which is rotatably mounted in bearings 13, but is prevented from being displaced in the axial direction. The spindle is in engagement with a nut fixed to the box 11 and is provided with a hand crank 14. Upon a turning of the hand crank 14 through an angle of 360° the box 11 is displaced by a distance *b* which corresponds approximately to the length of the post-card. Inside the box 11 is the source of light 16, the burning of which is controlled by a known device 17 which switches the light in and out automatically and controls the time of exposure. Above the source of light 16 and below the frame 3 the box 11 is arranged to hold a negative 18, a pane of glass 19 is placed below the negative.

Above the sheet 5 a member 20 is arranged lined on its under side, for instance with felt. The member 20, i. e. the device for pressing parts of the sheet 5 against the negative in the box 11, is provided on its upper side with a bar 21 of rectangular cross-section, on the top of which a bar 22 is loosely mounted, the latter having two wedge shaped portions 23 and a handle 24. When the bar 22 is displaced towards the right in Fig. 3, the wedge shaped portions 23 press against

fixed abutments 25 and urge the bar 21 and member 20 in the downward direction whereby the part of the sheet 5 to be exposed to the source of light is pressed against the negative 18.

When for instance a number of prints have to be made from one negative the work is started in such relative positions of frame 2 and box 11, that the box is below the part of the sheet 5 which is indicated with I in Fig. 2. After the exposure having taken place the hand crank 9 is turned through a complete revolution, so that the box 11 is now below the part of the sheet 5 indicated by II. The operation is continued in this manner effecting a relative displacement between the sheet 5 and the box 11 after every exposure. When the box 11 has reached the part of the sheet 5 indicated by VII in Fig. 2 and after the exposure of this part is finished the crank handle 14 is turned once whereby the box is now in the position of the part VIII of the sheet (Fig. 2), whereupon the crank handle 9 is turned through an angle of 360° in the opposite direction to which it has been turned previously to expose the portions I, II etc. and the frame 2 is now displaced towards the left in Fig. 2. When all the 35 prints have been effected on the sheet 5, the latter is replaced by a new sheet.

The box 11 containing the source of light, may be so arranged that it may provide accommodation for five negatives in one row. A construction of this type is shown in Fig. 4. The box does not need to be displaceably arranged and the hand crank 14 is dispensed with. The box is first arranged below the portions I, XXIX of the sheet. Five sources of light 16 are advantageously provided and by a turning of the hand crank 9 through an angle of 360° the sheet 5 is brought into a position in which the second longitudinal row of the portions of the sheet corresponding to post-cards can be exposed and prints made. When the same time of exposure is used for obtaining prints from the five negatives simultaneously negatives of approximately the same density will have to be used.

I claim:

1. A device for producing photographic prints and particularly post-cards on large sheets of sensitive paper, comprising in combination, a frame adapted to have the sheet with the sensitive layer facing downwards fixed to it, means adapted to displace said frame longitudinally in a horizontal plane, means containing the source of light with its opening pointing upwards and holding a negative to be printed, and means adapted to cause a displacement of the last named means in a direction at right angles to the direction in which said frame can be displaced.

2. A device for producing photographic prints and particularly post-cards on large sheets of sensitive paper, comprising in combination, a frame, gripping means on said frame adapted to hold the sheet with the sensitive layer facing downwards, means adapted to alternately displace said frame in a horizontal plane in opposite directions, a box containing the source of light with its opening pointing upwards and having a negative placed on said opening, means adapted to cause a displacement of said box, in a direction at right angles to the direction in which said frame can be displaced, and a device adapted to press portions of the sheet against the negative.

In testimony whereof I affix my signature.

B. WEHRLI.