

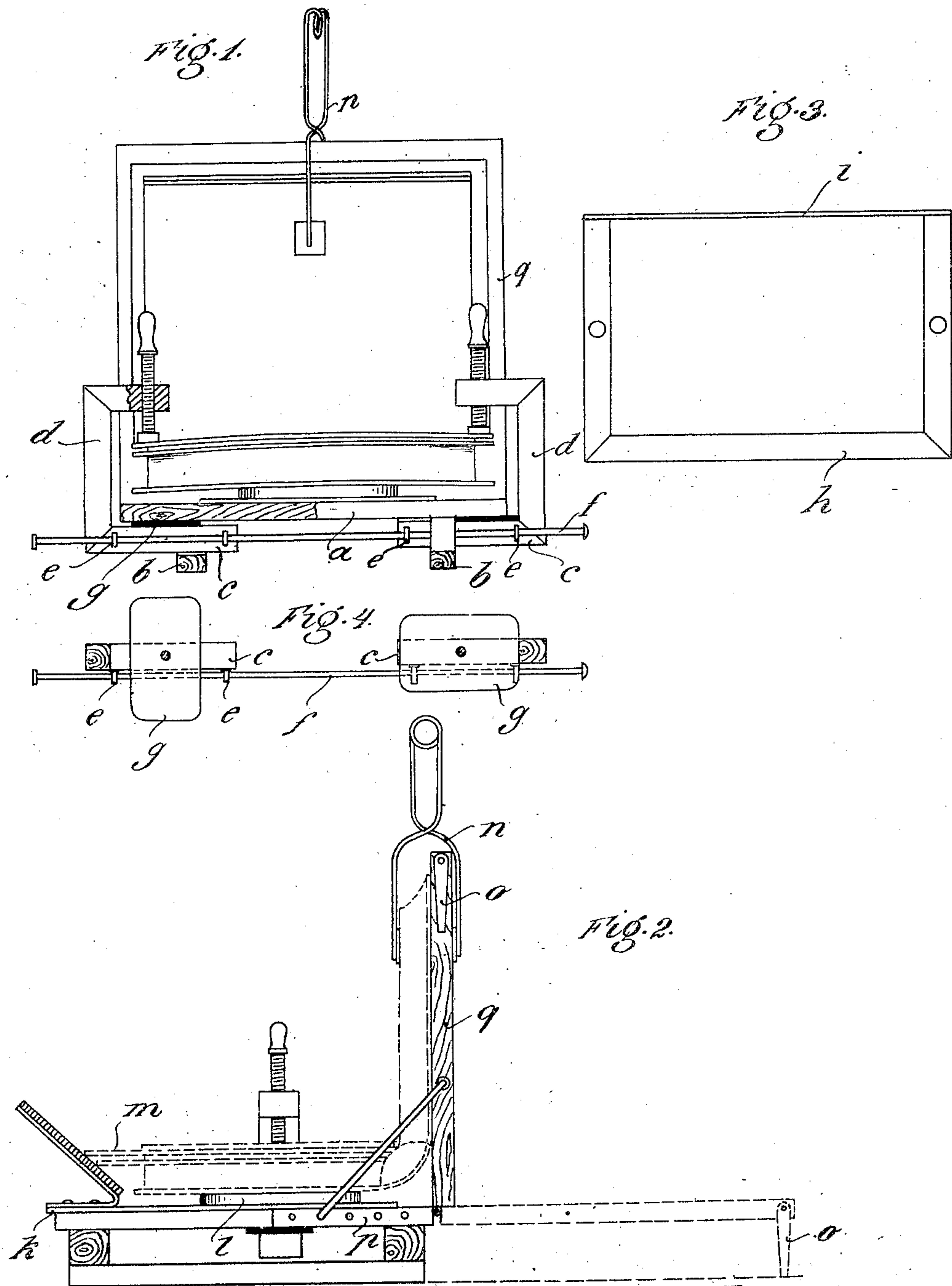
No. 897,954.

PATENTED SEPT. 8, 1908.

C. VON ARNHARD.

PROCESS FOR MAKING PHOTOGRAPHIC COPIES OF PRINTED MATTER AND
THE LIKE.

APPLICATION FILED MAR. 28, 1908.



Witnesses:

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UNITED STATES PATENT OFFICE.

CARL VON ARNHARD, OF MUNICH, GERMANY.

PROCESS FOR MAKING PHOTOGRAPHIC COPIES OF PRINTED MATTER AND THE LIKE.

No. 897,954.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Application filed March 23, 1908. Serial No. 423,853.

To all whom it may concern:

Be it known that I, CARL VON ARNHARD, residing at Munich, Bavaria, Germany, have invented certain new and useful Improve-
5 ments in Processes for Making Photographic Copies of Printed Matter and the Like; 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
10 which it appertains to make and use the same.

Processes for the direct attainment of photographic negative copies from manu-
15 scripts, printed matter, drawings, and the like, in which a light sensitive paper is laid face to face upon the manuscript or other matter to be copied and then exposed to light from the back of the sensitive paper, are already known.

20 The present invention refers to an extension and especial application of this process for the purpose of making copies of manuscripts, printed matter, drawings, and the like, (which may be on paper containing
25 writing etc. on both sides), which form part of a book, without necessitating the removal of the page in question from the book. For this purpose the light sensitive paper (bromid paper or the like) is placed
30 face downwards on the page to be copied; a back or under-layer of some stiff material, such as cardboard, thin sheet metal, a glass plate or the like, is arranged under said page and the sensitized paper and page together
35 pressed against the back with the help of a cover-plate of glass or other suitable transparent material. In the case of paper or pages written or printed on one side only, the color of the back or under-layer is not
40 of importance, but with paper containing also printed or written matter on the rear side, it has been found advisable to use nonactinic colors (yellow, red, green or black) for the back or under-layer, or also
45 a glass plate covered with tinfoil or a color filter may be used.

By pressing the glass cover plate tightly against the under-layer all inequalities can be removed, so that the intimate contact of
50 the sensitized surface with the paper or page to be copied, which is necessary to secure a sharply defined copy, is insured; this is of especial importance in the case of old and creased books. It is also of importance,
55 especially when copying from old and large books, that the book cover situated below

the page to be copied should be somewhat raised in the middle by means of a suitable pad or the like, in order to insure a better contact of the paper with the slightly curved
60 cover plate. It must also be mentioned that essentially better results are attained in connection with the already known photographic process for copying from old etch-
65 ings and the like, if the under-layer, arranged below the sensitive paper, and pressing it against the etching or other matter to be copied, is of a nonactinic color (yellow, red, green, black).

Reference being had to the accompanying
70 drawing, a device for the convenient carrying out of the process according to the present invention is shown in Figure 1 in a front view and in Fig. 2 in a side view, Figs. 3 and 4 showing details.

75 This printing or copying device consists of a support (a) for the book, which support may be arranged on legs, and against which the book with the sensitized paper is pressed with the help of the already mentioned
80 glass cover plate in conjunction with suitably arranged screw-clamps or the like.

In the form of construction of the device shown in the accompanying drawing, the support itself consists of a board (a) and
85 cross-pieces (b) between which the lower arms (c) of the screw-clamps or the like (d) are situated. These lower arms (c) may advantageously be made somewhat longer than the upper arms and are fitted with two rings or
90 the like (e) through which an iron rod (f) having an enlarged head at each end passes. In this way the clamps can be conveniently adjusted at varying distances from one another, but at the same time always remain in
95 a proper position for screwing down. Further, on each lower arm (c) a rectangular metal plate (g) with rounded corners is rotatably arranged; when copying from large books this plate can be arranged crosswise, as
100 seen in Fig. 4 on the left, and for the purpose of smaller books lengthwise, as seen in Fig. 4 on the right.

The frame (h), which is shown in Fig. 3, is intended to be placed on the glass cover plate
105 and to receive the pressure of the clamp-screws and to distribute the same over the glass plate. This frame may be advantageously constructed of wood and have its under surface covered with felt, paper or the
110 like. The side facing the back of the book may advantageously consist of a flat iron piece (i),

which will hide as little of the page as possible, and may be pressed up against the upright portion of the book, that is, the part not contained in the press. Instead of this frame (h) also small cross-pieces fitted with indiarubber cushions or the like can be used in order to secure a uniform distribution of the pressure over the glass cover plate.

Since the screw-clamps, even with the help of the above-described frame, will exert their pressure chiefly on the two outer sides of the glass cover plate, a certain amount of curvature of this when under pressure is unavoidable. This results in a less intimate contact of the sensitized paper with the page to be copied, thus causing a partly indistinct copy, more especially in the middle. This disadvantage is remedied in the present invention with the help of a simple device, consisting of a cushion or pad of indiarubber or the like (l), resting on a metal plate (k) and arranged below the book. Said cushion may be of round, square or rectangular form, but should be somewhat smaller than the cover of the book, so that this book cover can, under the pressure of the glass cover plate, curve somewhat downwards at the sides.

In order to afford the glass cover plate (m) a support at its free outer end, an elastic wedge-like rest may be provided at one side of the device. This rest may consist, for instance, of a knee-piece of metal covered on its slanting surface with indiarubber or the like. And finally, in order to support the back cover of the book, that is to say, that part of the book which is not contained in the press, a back-board (q) is provided; a suitable clamping device (n) holds this part of the book in position. This back-board (q) may be adjusted at different angles with the help of a suitable strut and plate (p) with holes or other means for fixing said strut. Or again, in order to lay this back-board flat and in a plane with the plate (k) it may be laid back until it rests on its pivoted feet (o). When not in use, the back-board (q) closes down on the plate (k). The clamp (n) may advisably have the form shown in Fig. 2; if

made of suitable dimensions it can also be used to fix the distance of the electric incandescent lamp used for copying from the plate (k).

What I claim as my invention and desire to secure by Letters Patent, is:

1. The improved method of making photographic reproductions of printed matter and the like, which consists in laying the printed sheet face to the front upon a backing sheet, applying a light-sensitive sheet with its face in intimate contact with the printed surface, overlaying with a transparent cover plate, and exposing to light from the front.

2. The improved method of making photographic reproductions of printed matter and the like, which consists in laying the printed sheet upon a backing sheet of non-actinic properties, applying a light-sensitive sheet in intimate contact with the printed sheet, and exposing to light from the front.

3. The improved method of making photographic reproductions of printed matter and the like, which consists in laying the printed sheet face to the front upon a backing sheet of nonactinic color, applying a light-sensitive sheet with its face in intimate contact with the printed surface, overlaying with a transparent cover plate, and exposing to light from the front.

4. The improved method of making photographic reproductions of printed matter and the like, which consists in laying the printed sheet face to the front upon a backing sheet, applying a light-sensitive sheet with its face in intimate contact with the printed surface, overlaying with a transparent cover plate, applying pressure about the edges of the cover plate and centrally below the backing sheet, and exposing to light from the front.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

CARL VON ARNIARD.

Witnesses:

ABRAHAM SCHLESINGER,
LOUIS MUELLER.