

No. 679,740.

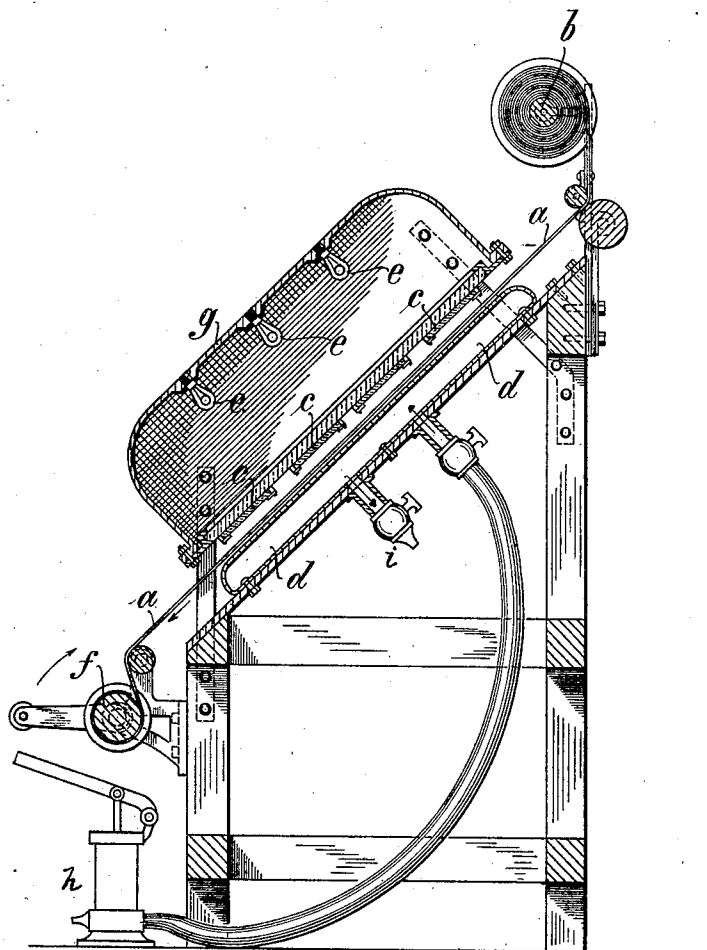
Patented Aug. 6, 1901.

G. GERLACH.

PHOTOGRAPHIC PRINTING APPARATUS.

(Application filed Jan. 4, 1901.)

(No Model.)



Witnesses

Maldo M. Chapin

Frank S. Oby

Inventor

Georg Gerlach

by Wm. R. Rumbach
att'y.

UNITED STATES PATENT OFFICE.

GEORG GERLACH, OF BERLIN, GERMANY.

PHOTOGRAPHIC-PRINTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 679,740, dated August 6, 1901.

Application filed January 4, 1901. Serial No. 42,058. (No model.)

To all whom it may concern:

Be it known that I, GEORG GERLACH, a subject of the King of Prussia, Emperor of Germany, residing at Berlin, in the Kingdom of Prussia and German Empire, have invented certain new and useful Improvements in Photographic-Printing Apparatus, of which the following is a specification.

Photographic-copying presses in which sensitized paper is unwound from a reel and, being exposed to the light of incandescent lamps, is pressed against the negative by means of a vacuum or rarefaction are already in use. Because a sucking action is utilized in these apparatus it is necessary to employ mechanical means to press a proportionately-heavy frame against the sensitized paper. These apparatus have also the drawback that the frame must be removed from the negative by some mechanical means, such as springs, so that the sensitized paper could not be easily and certainly pressed against the negative. In addition to this, when suction is used the sensitized paper becomes fixed to the negative, so that it can only be removed from the same by exercising force. The consequence of so removing the paper from the negative is that either the negative itself or the gummed strips used for securing the same are torn or the prepared surface or the paper itself is injured. In order to overcome these drawbacks, I use a pneumatic cushion to press the sensitized paper against the negative, so that the heavy frame necessary with apparatus working with suction is dispensed with. On allowing the air to escape from the cushion the latter falls of itself away from the negative, so that the paper can pass freely beneath the same.

A very essential improvement is that I arrange the printing-table at an angle to the horizontal plane, whereas with the construction at present in use the paper on being moved beneath the negative frequently strikes or bears against the latter, thus injuring either of the prepared surfaces. The paper can, when the table is arranged at an angle, be moved from the upper roller over the pneumatic cushion and wound on the lower roller without danger of its coming into contact with the negative. With horizontal tables the drawback of the sensitized paper

bearing against the negatives is especially noticeable when the negatives, as is usually the case, are situated at different levels. All these drawbacks are avoided in my present invention, which by the provision of a pneumatic cushion and by the inclination of the table produces good prints even when the negatives are arranged at different levels. In this respect the ability to easily draw off the sensitized paper in consequence of the inclination of the table is a very important factor.

In the accompanying drawing the figure represents a vertical section of the improved copying apparatus.

The sensitized paper *a* passes from the reel *b*, between the negative *c* and the cushion *d*, to the reel *f*. The table or frame upon which the apparatus is supported has an inclined bed.

h is an air-pump by which the cushion *d* can be inflated, and *i* is a vent by which it can be deflated. If air is pumped into the cushion *d*, which is provided underneath and parallel to the negatives *c*, the paper *a* will be pressed against the negatives. At the same time electric lamps, (for example, incandescent lamps,) which are provided underneath the hood *g*, are caused to burn. After the plates have been sufficiently exposed the lamps are switched off and the air is allowed to escape from the cushion *d*. When deflated, the cushion *d* falls away from the negative, so that the paper *a* can be passed between the negatives and the cushion and wound on the drum *f* without danger of its being injured.

What I claim, and desire to secure by Letters Patent of the United States, is—

In a photographic-printing apparatus, the combination of a fluid-chamber having flexible walls, a holder for the negatives located in front of said chamber, means for conducting a strip of material between the chamber and the holder, a source of light, means for inflating and deflating said chamber and means for shifting the strip of material.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

GEORG GERLACH.

Witnesses:

SAMUEL GEORGE TRIPP,
EDWARD BETT.