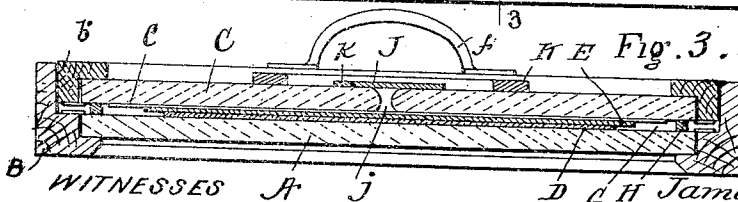
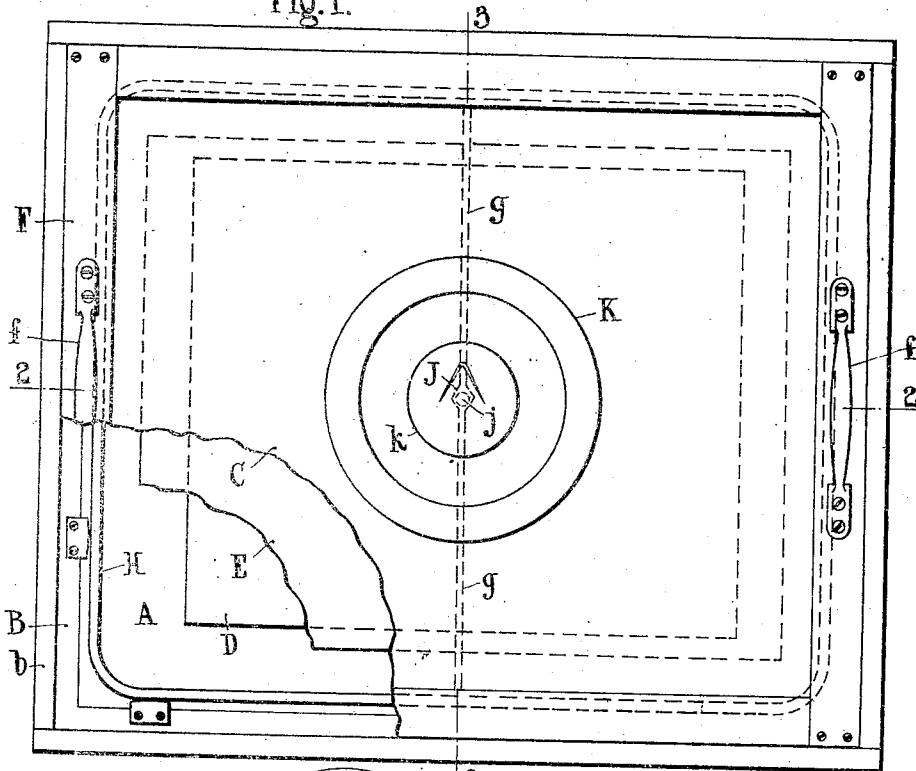
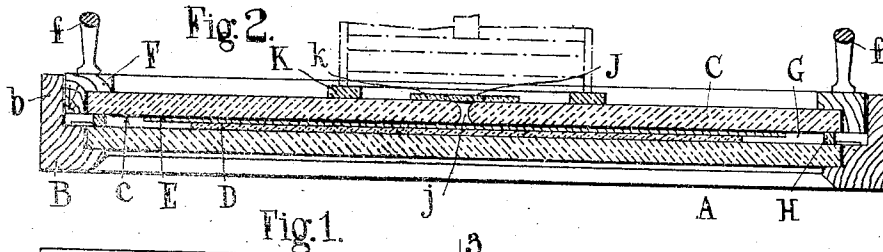


J. & H. PRITCHARD,
 PHOTOGRAPHIC PRESSURE PRINTING FRAME.
 APPLICATION FILED FEB. 12, 1908.

920,648.

Patented May 4, 1909.



WITNESSES
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UNITED STATES PATENT OFFICE.

JAMES PRITCHARD AND HAROLD PRITCHARD, OF LONDON, ENGLAND.

PHOTOGRAPHIC PRESSURE-PRINTING FRAME.

No. 920,642.

Specification of Letters Patent.

Patented May 4, 1909.

Application filed February 12, 1908. Serial No. 415,462.

To all whom it may concern:

Be it known that we, JAMES PRITCHARD and HAROLD PRITCHARD, both subjects of the King of Great Britain, and both residents of 167 Rosebery avenue, London, E. C., England, scientific-instrument-case makers, have invented certain new and useful Improvements in Photographic Pressure-Printing Frames, of which the following is a specification.

Our invention relates to printing frames of the kind in which equal distribution of pressure is obtained by exhausting air from between the front plate of the frame, and the movable back plate.

The object of the present invention is to obtain an improved printing frame of this class and to this end an automatic air exhaust valve is provided controlling an aperture in the back plate and coöperating with a pump to be placed directly on the back plate over the said valve. Packing means are provided for obtaining an air tight closure between the open end of the pump and the back plate. In this arrangement, the pump is directly brought on the back plate of the printing frame to be exhausted, and after exhausting the air from one frame the pump can be easily transferred to another frame.

In the accompanying drawings, Figure 1 is a rear view of the improved pressure frame, parts being broken away to show the construction. Figs. 2 and 3 are sections on lines 2-2 and 3-3 respectively of Fig. 1.

The pressure frame of our invention comprises the usual plate-glass front A mounted in a frame B having a rearwardly extending marginal coaming or flange b forming a guide for the back or presser plate C, between which and the glass front A, the negative D and the metal plate E to be etched are received and pressed together.

The back or presser plate C is preferably of plate-glass or equivalent hard yet resilient material, and in such case is mounted in a frame F adapted to fit easily but with sufficient accuracy within the coaming b. The frame F may be provided with a pair of handles f by means of which it may be manipulated, these handles serving also for manipulating the entire pressure frame when ready for work.

The back or presser plate C may be faced with a layer c of felt or other fabric adapted to constitute a slightly yielding bed for the

metal plate E, and thus obviate the risk of the glass plate C being fractured by the powerful pressure exerted.

Between the front plate A and back plate C an air-tight chamber G is formed, this chamber being laterally bound around its entire circuit by means of a gasket H of soft indiarubber interposed between the plates A and C outside the margin of the negative D and metal plate E and layer of felt c. This air chamber G communicates with an aperture j in the back plate C provided with a valve J through which the air in the chamber is exhausted by means of an air-pump in order to cause the plates A and C to be forced together by atmospheric pressure, channels such as g being preferably provided in the felt or other backing c for the purpose of affording ready access, from the space immediately within the gasket H, to the aperture j.

The valve J is preferably constituted by an outwardly opening V-shaped flap cut in a thick disk k of indiarubber, leather, or equivalent material cemented to the outer surface of the back plate C, the aperture j being situated near the root of the flap so as to obviate as far as possible the risk of disturbance of the valve and consequent leakage of air from outside into the chamber G when the latter has been exhausted. The disk k may be of sufficient area to provide a seating for the air pump employed to exhaust the chamber g, or said seating may, as shown, be constituted by a separate ring or gasket K of indiarubber, leather or the like encircling the disk k and cemented to the outer surface of the plate C.

The ring or gasket K is made of such diameter as to form a seating for the mouth l of the cylinder L, so that when the latter is applied over the valve J and the crank-handle Q is rotated, to retract the piston M, the air within the chamber G will be exhausted through the valve J into the cylinder, after which the air-pump may be removed from the pressure frame and used for exhausting a second or any number of such frames in succession.

When it is required to open the pressure frame, it is only necessary to raise the valve J so as, by admitting air to the chamber G, to establish equilibrium between the pressure therein and that of the atmosphere.

It will be obvious that the gasket K, instead of being permanently attached to the

back-plate C, might be attached to and constitute a lip for the mouth of the air-pump cylinder L.

Claims.

- 5 1. A pneumatic printing frame provided with an aperture in its back plate, an automatic air exhaust valve controlling the aperture, and packing means encircling the aperture, and arranged to form an air tight closure between the plate and a pump.
2. A pneumatic printing frame provided

with a central aperture in one of its plates, and with an inwardly closing flap valve controlling the aperture, and a packing ring on the said plate concentric with the aperture 15 for the purpose set forth.

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