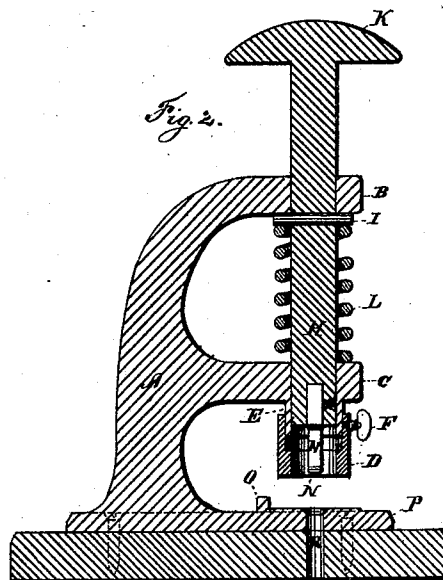
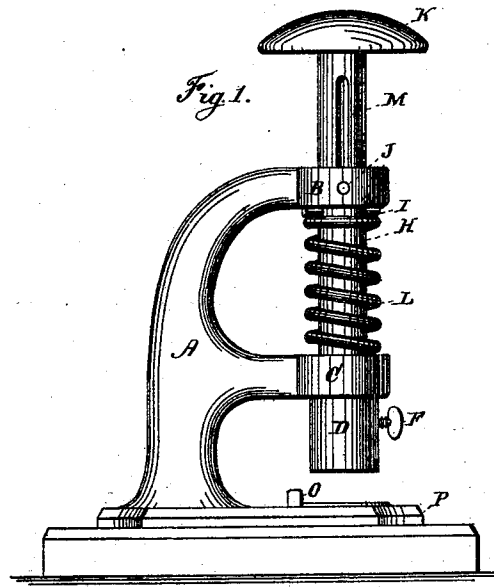


A. N. LEWIS.

MACHINES FOR PUNCTURING PAPER.

No. 178,937.

Patented June 20, 1876.



WITNESSES:

Herm. Lauter
A. Erickson

INVENTOR:

A. N. Lewis.

UNITED STATES PATENT OFFICE.

ALEXANDER N. LEWIS, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN MACHINES FOR PUNCTURING PAPER.

Specification forming part of Letters Patent No. 178,937, dated June 20, 1876; application filed April 22, 1876.

To all whom it may concern:

Be it known that I, ALEXANDER N. LEWIS, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Puncturing-Machines, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

The object of my invention is to puncture at one time any number of thicknesses of paper or other material, and after such puncturing to withdraw the puncturing knife or instrument from the material without disturbing its position in the machine, so that the material can readily be removed therefrom. This is accomplished by means of an adjustable cylinder attached to the lower arm of the machine, and capable of being regulated to the thickness of the quantity of paper or material to be punctured, through which the puncturing-rod passes when forced downward by pressure on the knob, and which prevents the paper or material from being displaced when the rod, on being released from pressure, is forced upward by means of the spiral spring, as shown in the drawing.

In Figure 1 of the accompanying drawing, A represents the frame, with the base P and the arms B and C, through which the puncturing-rod H passes. The puncturing-rod H is kept from turning by means of the pin J, which passes through the arm B into a mortise or slot, M, in the puncturing-rod. It is also prevented from traveling too far upward by means of the pin I, which passes entirely through it, projecting on either side, so as not to pass through the aperture of the arm B. L is a spiral spring, coiled around the rod H, between the pin I and the arm C, so that when the puncturing-rod, after having been forced downward by pressure on the knob K, is released from pressure, it will force the puncturing-rod upward by acting on the pin I and the arm C.

Fig. 2 is a vertical section of the machine.

D represents the adjustable cylinder, capable of being moved upward or downward over the shoulder E of the arm C, and of being fastened into position by the binding-screw F. N represents the puncturing knife or instrument, which is inserted into the ends of the puncturing-rod H, and fastened there by a screw or otherwise. R is the aperture in the base of the machine, into which the puncturing-knife enters after passing through the paper or material punctured. O is an adjustable gage, by which the distance of the puncture from the edge of the material can be regulated and made uniform.

In operation the material to be punctured is placed under the adjustable cylinder D up to the gage O; the adjustable cylinder D is then lowered to the surface of the material; the knob K of the puncturing-rod H is then pressed or struck, forcing the puncturing-rod H down through the adjustable cylinder D, and the puncturing knife or instrument N through the material. Immediately upon the knob K being relieved from the pressure, the puncturing-rod H is forced upward by the action of the spring L, and the puncturing knife or instrument N is disconnected from and raised above the material, which is held down in position by means of the adjustable cylinder, and can be readily removed from the machine.

I claim as my invention—

1. The combination, with a puncturing-rod, H, of the adjustable cylinder D, whereby varying thicknesses of material may be perforated, all substantially as shown and described.
2. In combination, the puncturing-rod H, supported substantially as shown, spring L, adjustable cylinder D, knife N, and slotted base P, all substantially as and for the purpose set forth.

ALEXANDER N. LEWIS.

Witnesses:

A. D. HAZEN,

H. BRADY WILKINS, Jr.