A. E. HIX.

STENCIL COPYING PRESS.

No. 186,733. Patented Jan. 30, 1877.

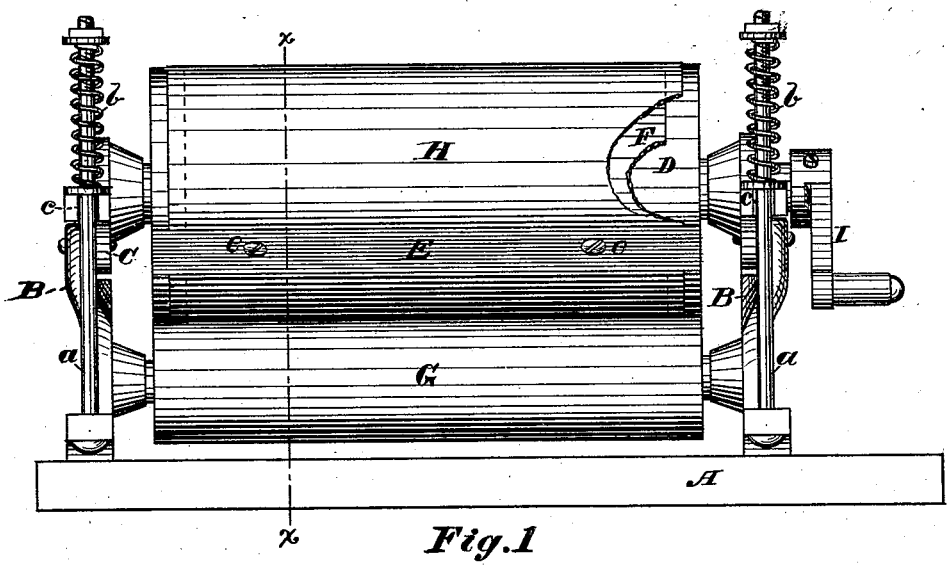

Fig. 1

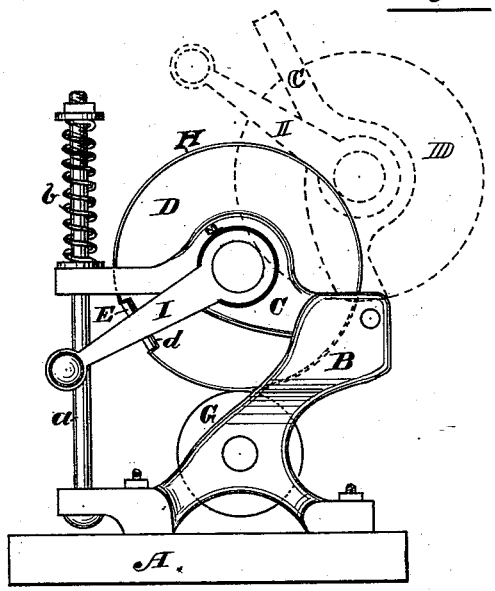

Fig. 2

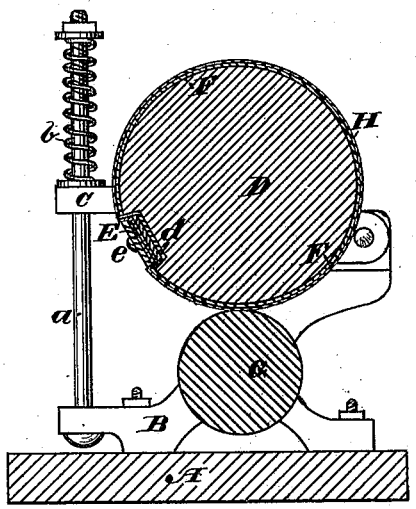

Fig. 3

Attest

W. L. Baker

L. A. Bunting

Inventor

Albert Eugene Hix

By Coburn & Parker

Attorneys

UNITED STATES PATENT OFFICE.

ALBERT EUGENE HIX, OF SYCAMORE, ILLINOIS.

IMPROVEMENT IN STENCIL COPYING-PRESSES.

Specification forming part of Letters Patent No. **186,733**, dated January 30, 1877; application filed September 30, 1876.

To all whom it may concern:

Be it known that I, ALBERT E. HIX, of Sycamore, in the county of De Kalb and the State of Illinois, have invented a new and useful Improvement in Stencil Copying-Presses, which is fully described in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a side elevation of the press; Fig. 2, an end elevation of the same; and Fig. 3, a transverse section taken on the line *x x*, Fig. 1.

The object of my invention is to provide a printing-press for use in producing copies from stencil-paper prepared with a stencil perforating-pen, such as is now well known and in common use.

The invention consists in fastening the paper stencil to the circumference of a printing-cylinder, which is first covered with a cloth or other suitable material saturated with ink, and in combining this cylinder with a second plain roller, against which it revolves when the paper to receive the copy is passed between them, and also in various details of construction, which will be hereinafter fully set forth.

In the drawings, A represents a bed or base of any material suitable for the attachment and support of the printing-press. The press-frame consists of two upright standards, B, which are secured in any suitable manner to the base A, and two horizontal pieces, C, which are pivoted at one end to the upper standards B, so that they may be readily turned back whenever desired. A cylinder, D, is mounted in suitable bearings in the hinged pieces C. This cylinder should be of such size that its circumference will be equal to the length of an ordinary sheet of paper, and is preferably made of metal, in order that it may present a hard smooth surface. A shallow longitudinal groove, *d*, is cut the entire length of the cylinder, in the bottom of which screw-threaded holes are made, so that a thin plate, E, may be secured to the cylinder, within the groove, by the screws *e*. The cylinder D is covered with a cloth, F, saturated with suitable printing-ink. This cloth may be of any kind whatever that will take up and hold a large quantity of ink, and any other material suitable for this purpose may be used instead of cloth. A second cylinder, G, is mounted just underneath the cylinder D, in suitable bearings in the standards B. This cylinder G is an ordinary plain roller, somewhat smaller than the cylinder D, and preferably made of metal. Two headed bolts, *a*, pass up through holes in the lower ends of the standards B. The forward or free ends of the hinged pieces C are provided with recesses or slots *c*, which the bolts *a* enter when the hinged pieces are brought down in the working position of the press. The bolts *a* project some distance above the hinged pieces C, and upon their upper ends are placed coiled springs *b*, which are secured, by suitable washers and nuts, between the outer ends of the pieces C and the extreme upper ends of the bolts *a*.

It is obvious that, with this arrangement of devices, the cylinder D will be held down in contact with the roller G, with a yielding force depending upon the strength of the springs *b*, and also that the cylinder may be removed from contact with the roller G by simply removing the nuts from the upper ends of the bolts *a*, so that hinged pieces C may be turned back on their pivots.

A sheet of paper, H, having been prepared by the operation of a perforating stencil-pen in the ordinary way, is put around the cylinder D, outside of the inked cloth F, and both ends are brought around so as to lap each other over the groove *d*. The ends of the ink-carrier F are also arranged in a similar manner, and the strip E is placed upon the outside of both cloth and paper, forced down into the groove, and secured in place, as heretofore described. Both the ink-carrier and the stencil-paper will thus be securely fastened to the surface of the cylinder D. A crank, I, is attached to one end of the shaft of the cylinder D, by means of which the latter is rotated.

The operation of this press is as follows: The ink-cloth F and the paper stencil H having been secured upon the cylinder D, as described above, (the latter being swung back for the purpose, as shown in dotted lines in Fig. 2,) the hinged pieces C are brought down and secured in the position shown in Figs. 1 and 2 of the drawings, as described above. In this position the cylinder D is held in con-

tact with the roller G, under the pressure of the strong springs *b*. A clean sheet of paper is then placed with its edge entering between the rollers, and the crank I is turned, which causes the rotation of both cylinders, and the sheet of paper is drawn through between them, receiving through its passage ink which is pressed through the small perforations in stencil-paper, and thus a copy of the stenciled matter will be left upon the copy-sheet.

The plate E is not quite flush with the surface of the cylinder, and therefore the groove *d* will act as a stop to hold the cylinder D from being turned easily when the groove is brought opposite the roller G.

With this press copies are produced with great facility and in large numbers, more than a hundred having been produced by me from a single stencil without changing paper or cloth. The mechanism heretofore employed for obtaining these stencil-copies cannot be operated rapidly; but it is obvious that with my press copies may be produced as fast as sheets of paper can be fed to the rollers.

I have described one method of fastening the ink-holder and stencil upon the cylinder; but I do not wish to confine myself to the special device shown, for it is evident that some other means may be employed without departing from the gist of my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A cylinder, D, in combination with the ink-holder F and paper stencil H, arranged on the cylinder, as described, and secured thereto, substantially as and for the purpose set forth.

2. The cylinder D, provided with a longitudinal groove *d*, in combination with the inked fabric F, paper stencil H, and binding-strip E, substantially as described.

3. The combination of the cylinder D, ink-holder F, and paper stencil H, arranged upon and fastened to the cylinder, and roller G, substantially as and for the purpose set forth.

4. The combination of the standards B, pivoted pieces C, cylinder D, bolts *a*, and springs *b*, substantially as and for the purpose set forth.

ALBERT EUGENE HIX.

Witnesses:
A. M. STARK,
G. W. MOSHER.