J. HINCHCLIFF.

Printing-Press.

No. 162,650. Patented April 27, 1875.

FIG. 1.

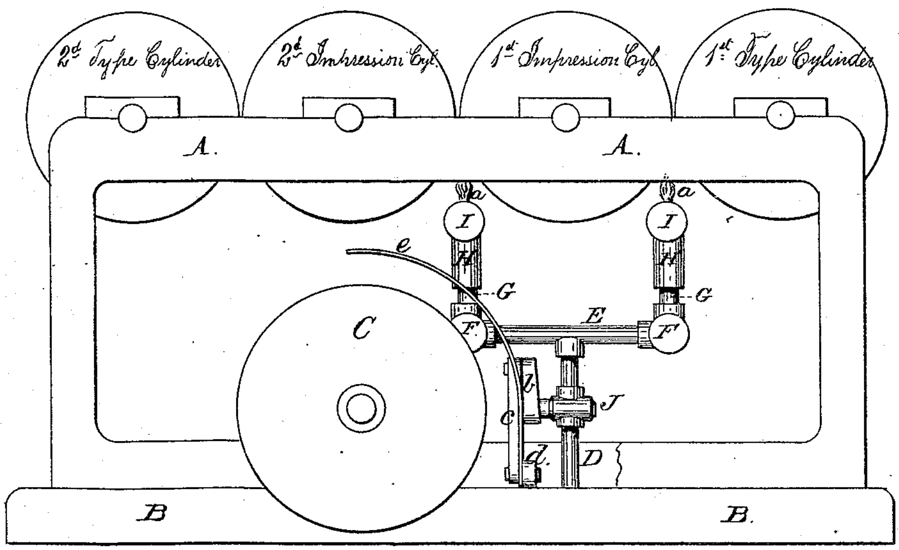


FIG. 2.

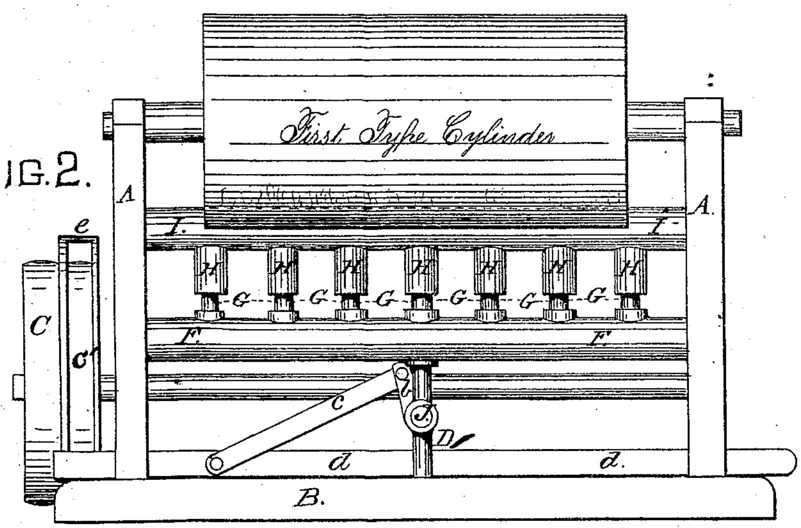
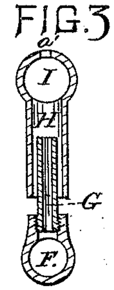


FIG. 3.



E. H. Johnson
J. P. Crawford
WITNESSES.

James Hinchcliff
per [illegible] atty.
INVENTOR

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

JAMES HINCHCLIFF, OF BROMLEY, ENGLAND, ASSIGNOR TO R. HOE & CO., OF NEW YORK, N. Y.

IMPROVEMENT IN PRINTING-PRESSES.

Specification forming part of Letters Patent No. **162,650**, dated April 27, 1875; application filed October 13, 1873.

To all whom it may concern:

Be it known that I, JAMES HINCHCLIFF, of Bromley, in the county of Middlesex, England, subject of the Queen of Great Britain, have invented certain Improvements in Printing-Presses, which said improvements were patented in England on the 5th day of June, 1872, and numbered 1,705, of which the following is a specification:

My invention relates to printing-presses, and more particularly to those known as perfecting-presses; and consists, first, in a novel construction, combination, and arrangement of mechanism for drying the ink upon the sheets as they pass through the printing-machine, and thus facilitate the operation of printing perfected sheets; and the second part of my invention consists in a novel combination and arrangement of mechanism for shutting off the gas-flame simultaneously with the stoppage of the press.

Figure 1 is a side elevation of a perfecting-machine with my improvements. Fig. 2 is an end view of the same. Fig. 3 is a sectional detail.

In the drawing, A A show the side frames of a printing-press secured to the bed B; C, the driving-pulley, and C′ a loose pulley. D shows a gas-tube, which rises from the bed B about half the vertical distance of the frame A. On the upper part of pipe D a branch pipe, E, is screwed, the ends of which enter the tubes F F, located transversely of the machine. In a series of bosses on the upper sides of the pipes are screwed the tubes G G, which enter the larger slitted gas-tubes H H, extending downward from the under side of the tubes I I, situated under and parallel with the first impression-cylinder. This arrangement is shown in detail at Fig. 3, the space between the tubes G and H affording a passage for air, which mingles with the gas from the tube G before it issues from the longitudinal slit *a′* in the pipe I, and when lit forms a long narrow sheet of flame along the tube. The flame-tubes I I are situated below, on each side of the first impression-cylinder, and as the paper passes between this cylinder and the first type-cylinder it is carried along on the impression-cylinder with its freshly-printed side presented to the flames, and on arriving at the second impression-cylinder the ink is sufficiently dried to prevent its setting off on the blanket of the second impression-cylinder.

It will be necessary on stopping the machine to shut off the gas, and to do this the supply-pipe D is provided with a stop-cock, J, the crank-handle *b* of which is operated by the pitman C, connected with the slide-bar *d*, to which is secured the belt-shipper *e*, which runs the belt on and off the driving-pulley C, and it will be readily seen that as the bar *d* is reciprocated the stop-cock will be opened and closed.

To protect the first type-cylinder from the effects of the heat, a sheet-metal plate may be introduced between it and the flame.

I claim—

1. The combination, with two or more type and impression cylinders, whereby a web is printed on opposite sides, of a series of gas-burners, which direct heat upon said web at a point between the first type and first impression cylinders, or between the first and second impression-cylinders, whereby the ink is dried to prevent its offsetting, substantially as described.

2. In a printing-press having impression and type cylinders, the combination of the slitted gas-tubes I I with the shipper *e*, cock J in pipe D, and connecting-rod *c d* for shutting off the gas supply simultaneously with the stopping of the press, substantially as described.

JAMES HINCHCLIFF.

Witnesses:

G. N. SURSHAM,

J. W. FRIGOT.