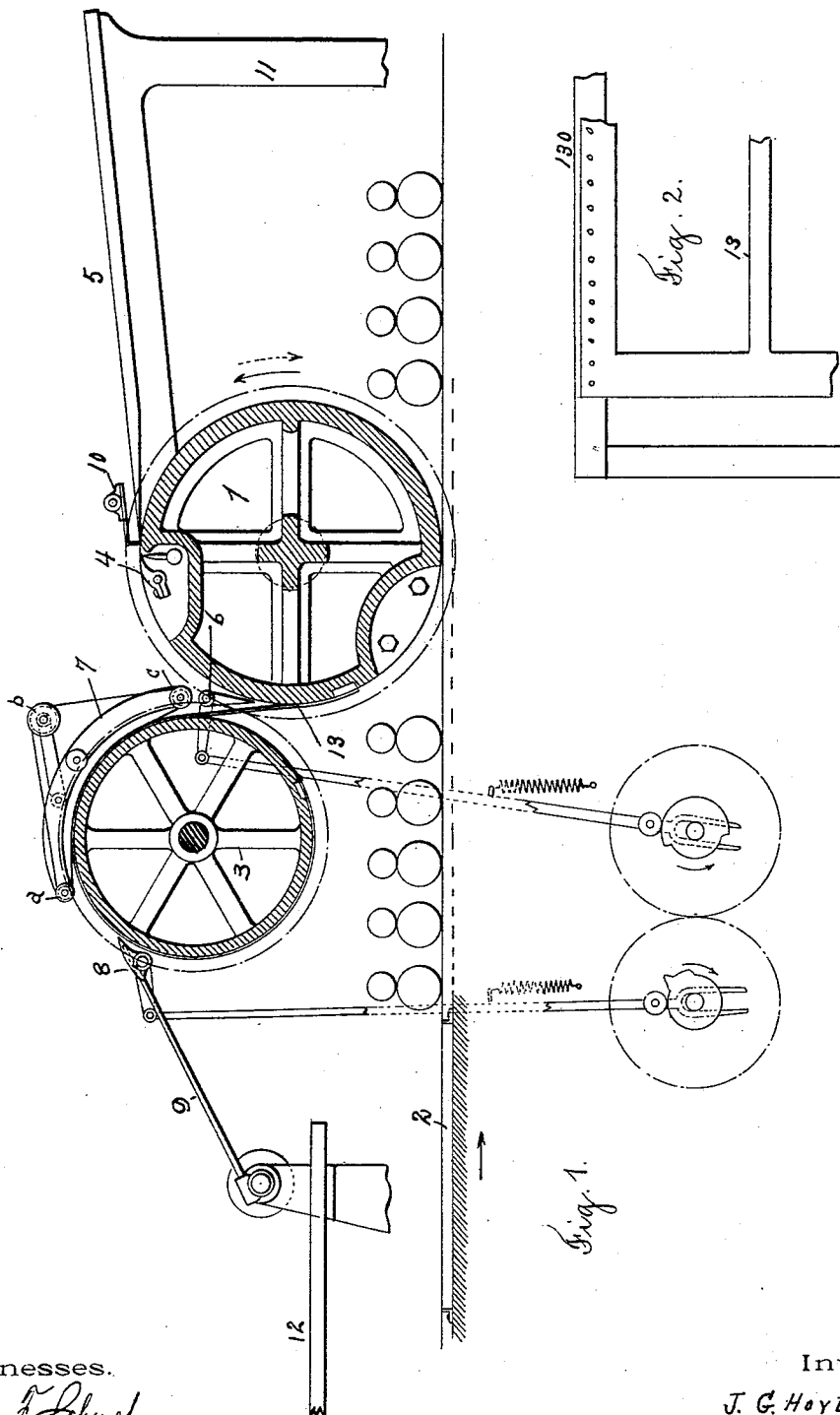


(No Model.)

J. G. HOYT.
PRINTING MACHINE.

No. 573,595.

Patented Dec. 22, 1896.



Witnesses.

Chas. F. Schuch
E. M. Kealy.

Inventor.

J. G. Hoyt -
by -

Louis W. Smith
Attorney.

UNITED STATES PATENT OFFICE.

JAMES G. HOYT, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE CAMPBELL PRINTING PRESS AND MANUFACTURING COMPANY, OF NEW YORK, N. Y.

PRINTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 573,595, dated December 22, 1896.

Application filed April 7, 1891. Serial No. 387,939. (No model.)

To all whom it may concern:

Be it known that I, JAMES G. HOYT, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Printing-Machines, which invention is fully set forth and illustrated in the following specification and accompanying drawings.

The object of this invention is to construct a machine capable of printing rapidly and simply from gelatin and other plates requiring the interposition of a mask-sheet or frisket.

The invention will first be described in detail, and then particularly set forth in the claims.

In printing from gelatin and certain other kinds of plates it is necessary to interpose a mask-sheet between the plate and the sheet to be printed in order that certain parts of the sheet, the margins, for instance, may be protected from the soiled surface of the plate. Such a mask is prepared by cutting in paper or other suitable material openings of the proper shape and size in order that the sheet to be printed may be exposed through these openings in proper parts to the plate.

The accompanying drawings show the best way now known to me for carrying out my invention, referring to which—

Figure 1 is a sectional elevation showing the parts of a printing-machine necessary for the illustration of this invention; and Fig. 2 shows a modified construction of frisket, hereinafter referred to.

In said drawings the several parts are respectively indicated by reference numbers and letters as follows:

The number 1 indicates the impression-cylinder of a printing-machine of that class in which the cylinder oscillates through geared contact with a reciprocating bed; 2, the printing-plate fastened upon said bed; 3, a cylinder connected by gearing to impression-cylinder 1 and supporting that portion of the mask 13 not wound about said impression-cylinder; 4, the sheet-gripping device held in a gap in the surface of cylinder 1 and operated in any of the many well-known ways; 5, the feed-board from which the sheet is fed to the gripping device 4; 6, a switch or stripper so placed that upon the return movement of the im-

pression-cylinder 1 it will enter the path of the printed sheet and divert the same, tail first, toward the cylinder 3; 7, an endless tape or tapes running over or around three pulleys *a b c*, as shown, and bearing upon cylinder 3 for the purpose of holding the printed sheet to its path about said cylinder; 8, a switch or stripper operating to divert the sheet from the cylinder 3 to the fly mechanism 9, which, turning about its center, operated by any of the well-known means, deposits the sheet upon a receiving-table 12; 10, a guide to which the sheet is fed while upon feed-board 5; and 11, a portion of the main frame or housing of the machine, the remainder of which frame has been cut away to better expose the working parts.

The number 13 indicates a mask-sheet or frisket, one end of which is attached to a point upon the impression-cylinder 1, the other lying upon and over the cylinder 3 and preferably attached thereto.

The mechanism for imparting motion to the bed and cylinder and inking apparatus is not shown, as these members may be operated in many ways well known to the art.

The switches 6 and 8 may be operated by any of the usual cam mechanisms, as indicated in dotted lines.

The printing-press thus far described consists of the ordinary oscillating cylinder, reciprocating-bed press, in which the impression-cylinder is geared to the reciprocating bed, as indicated in dotted lines, and in which the impression-cylinder is raised clear of the form or plate on the back stroke. The impression-cylinder 1 and the cylinder 3 are geared together, as indicated in dotted lines. The printing plate or form receives ink from the rollers at the left of the impression-cylinder, and, if desired, damping-rollers may be placed at the right of the impression-cylinder.

The operation of the machine is as follows: A sheet to be printed is taken upon cylinder 1 from the feed-board 5 by grippers 4 and there held while said cylinder rotates to meet the advancing printing-plate 2. As the sheet held by said grippers descends it is covered by the mask-sheet 13, which is cut so as to expose the sheet to and protect the sheet

from various portions of said printing-plate. Having passed the point of contact with the said printing-plate, the now printed sheet, being still held upon cylinder 1 and covered by the mask-sheet 13, (which latter is wound upon cylinder 1, as before described,) while the bed carrying the plate 2 finishes its movement toward the rear of the machine and returns, thereby changing the direction of the rotation of the cylinder 1, is carried, tail first, and still covered by the mask, toward the switch or stripper 6. Just previous to reaching said switch the mask-sheet 13 leaves contact with cylinder 1, being "taken up" over cylinder 3, and the printed sheet at about the same point is switched from cylinder 1, tail first, by said switch, so that it follows the course of the mask-sheet 13 over cylinder 3. Upon the surface of cylinder 3 where it lies upon the mask the sheet is held by tapes 7 until it reaches switch 8, when it is directed thereby upon fly 9, which lays it upon the table 12, the stripper 8 being preferably arranged just so as to pick up the tail of the sheet from the mask and then to slightly raise, so that the sheet will be guided out over the switch, but so that the switch will not bear against or derange the mask. The mask need not of necessity be a sheet. It may consist of strips of material stretched between two plates or bands, as 130, Fig. 2.

It is obvious that my invention is applicable to a machine in which a curved printing-plate is used. It will also be seen that with my improved arrangement I can use a front delivery, that is, place the delivery mechanism at the front of the press, or on the other side of the cylinder relatively to the feed-board, and not under the feed-board.

I am aware that a frisket or mask-sheet operated to reel and unreel about an oscillating cylinder is not new, and therefore I do not claim such; but as of my invention

I claim—

1. In an oscillating-cylinder printing-press, the combination of the impression-cylinder, a mask-sheet or frisket attached at one end to said cylinder, and an oscillating support-

ing-cylinder for said frisket, substantially as described.

2. In an oscillating-cylinder printing-press, the combination with the impression-cylinder, a mask-sheet or frisket attached at one end thereto, a suitable supporting device for the mask-sheet or frisket, the whole so arranged that the mask-sheet or frisket will move with the impression-cylinder, and a suitable switch adapted to divert the sheet from the impression-cylinder as the cylinder makes its non-printing movement, substantially as described.

3. In an oscillating-cylinder printing-press, the combination of the feed-board, the impression-cylinder, a mask-sheet or frisket secured at one end to said cylinder, and adapted to move therewith, a supporting device for said mask-sheet and a delivery mechanism arranged on the other side of the cylinder relatively to the feed-board, to which the sheet passes tail first, substantially as described.

4. In an oscillating-cylinder printing-press, the combination with the impression-cylinder, a mask-sheet or frisket secured thereto, means for carrying the part of the mask-sheet or frisket not on the impression-cylinder, the whole so arranged that the mask-sheet or frisket will move with the impression-cylinder, means for diverting the sheet on top of the mask-sheet, as the cylinder makes its non-printing movement, and means for delivering the sheet from the top of the mask-sheet, substantially as described.

5. In an oscillating-cylinder printing-press, the combination with the impression-cylinder, a mask-sheet or frisket secured thereto, means for manipulating the mask-sheet so that the same will move with the impression-cylinder, and a delivery mechanism adapted to receive the printed sheet tail first from the mask, and deliver the same, substantially as described.

JAMES G. HOYT.

Witnesses:

THEO. H. FRIEND,
FRANCIS P. REILLY.