(No Model.)

C. B. MAXSON.

SHEET DELIVERY APPARATUS FOR PRINTING MACHINES.

No. 333,879. Patented Jan. 5, 1886.

Fig. 1

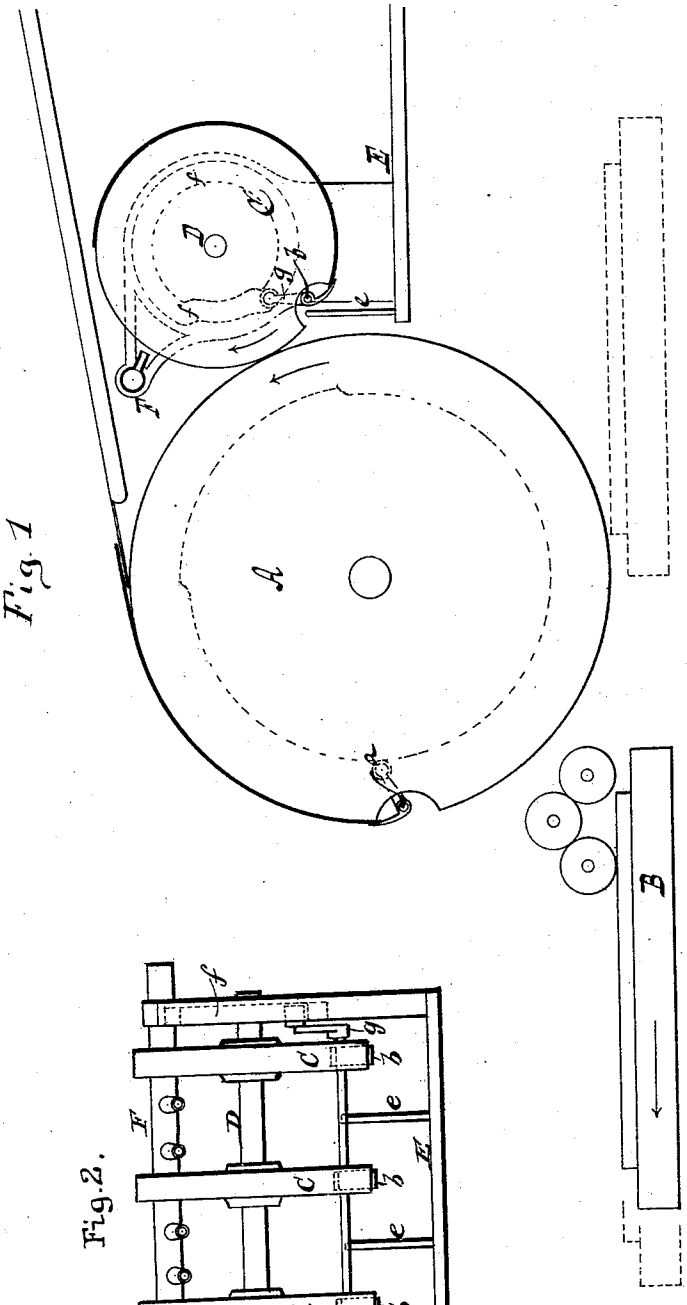


Fig. 2.

WITNESSES:

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CHARLES B. MAXSON, OF WESTERLY, RHODE ISLAND.

SHEET-DELIVERY APPARATUS FOR PRINTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 333,879, dated January 5, 1886.

Application filed July 30, 1885. Serial No. 173,086. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. MAXSON, a citizen of the United States, residing at Westerly, in the county of Washington and State of Rhode Island, have invented new and useful Improvements in Sheet-Delivery Apparatus for Printing-Machines, of which the following is a specification.

This invention consists in the combination, with the impression-cylinder of a printing-press and with its grippers, of a series of reels which are mounted on a common shaft and revolve with the same superficial velocity as the cylinder, a table situated beneath the reels for receiving the printed sheets, stops projecting from the table up between the reels, a set of delivery-grippers carried by the reels, mechanism for closing these grippers upon the printed sheet at the moment the same is released by the grippers of the impression-cylinder and for opening said delivery-grippers a short time after they have passed, or just as they are passing, their lowest position, and a pipe for injecting between the reels a blast of air for the purpose of detaching the printed sheet from the reels.

In the accompanying drawings illustrating my invention, Figure 1 is a side elevation of portions of a cylinder-press embodying my invention; and Fig. 2, an end elevation of the reels, their supporting-frame, and the air-blast pipe.

In the drawings the letter A designates the impression-cylinder, and B is the type-bed. C is one of the series of reels which are mounted at suitable distances apart on a common shaft, D. Beneath the reels is the receiving-table E, from which extend stops *e* up between the reels. The reel-shaft is geared together with the shaft of the impression-cylinder in such a manner that the reels and the impression-cylinder revolve at the same superficial velocity. In the example shown in the drawings the diameter of the reels C is one-half of the diameter of the impression-cylinder, and consequently the reels will make two revolutions for each revolution of the impression-cylinder. The impression-cylinder is provided with a set of grippers, *a*, which are operated by means such as are usually employed for this purpose, and the reels C are provided with a set of delivery-grippers, *b*, which are operated in the same manner as the grippers of the impression-cylinder. The position of the delivery-grippers and their operating mechanism is so adjusted in relation to the grippers *a* of the impression-cylinder and their operating mechanism that the grippers *a* are thrown open at the moment they pass the point of contact between the impression-cylinder and the reels, and at the same time the delivery-grippers *b* are made to close upon the printed sheet just liberated by the grippers *a*, so that they carry said sheet over the reels C. When the delivery-grippers arrive in the position shown in the drawings, they are thrown open so as to release the printed sheet, and in order to liberate the sheet from the reels I have applied a pipe, F, provided with a series of nozzles, through which an air-blast is injected between the reels. By this air-blast the printed sheet is thrown off from the reels, so that it drops down upon the table D with the printed side up. This air-blast is required, since the proportion between the reels and the impression-cylinder is such that the printed sheet encompasses a little more than one-half of the reels, as indicated in the drawings; hence said sheet will not drop off by its own gravity at the moment the delivery-grippers are thrown open. After the printed sheet has been deposited upon the table, as above stated, the delivery-grippers pass around empty for one revolution of the reels, but on the succeeding revolution they take hold of the new sheet presented to them at the proper time. By these means I am enabled to dispense with the fly and to deposit the printed sheet right side up upon a table close behind the impression-cylinder.

The shaft which carries the grippers *b* is provided with a crank, *g*, which engages with a cam-groove, *f*, on the stationary frame, so as to open and close the grippers at the proper intervals.

What I claim as new and desire to secure by Letters Patent, is—

The combination, substantially as hereinbefore described, with the impression-cylinder of a printing-press and with its grippers, of a series of reels which are mounted on a common shaft and revolve with the same superficial

velocity as the cylinder, a table situated beneath the reels for receiving the printed sheets, stops projecting from the table up between the reels, a set of delivery-grippers carried by the reels, mechanism, such substantially as described, for closing these grippers upon the printed sheet at the moment the same is released by the grippers of the impression-cylinder, and for opening said delivery-grippers a short time after they have passed, or just as they are passing, their lowest position, and a pipe for injecting between the reels a blast of air.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

CHARLES B. MAXSON. [L. S.]

Witnesses:

NATHAN BABCOCK,

GEORGE COLFAX.