

(No Model.)

2 Sheets—Sheet 1.

G. W. VAN ALLEN.

DELIVERY MECHANISM FOR PRINTING PRESSES.

No. 270,267.

Patented Jan. 9, 1883.

Fig. 1.

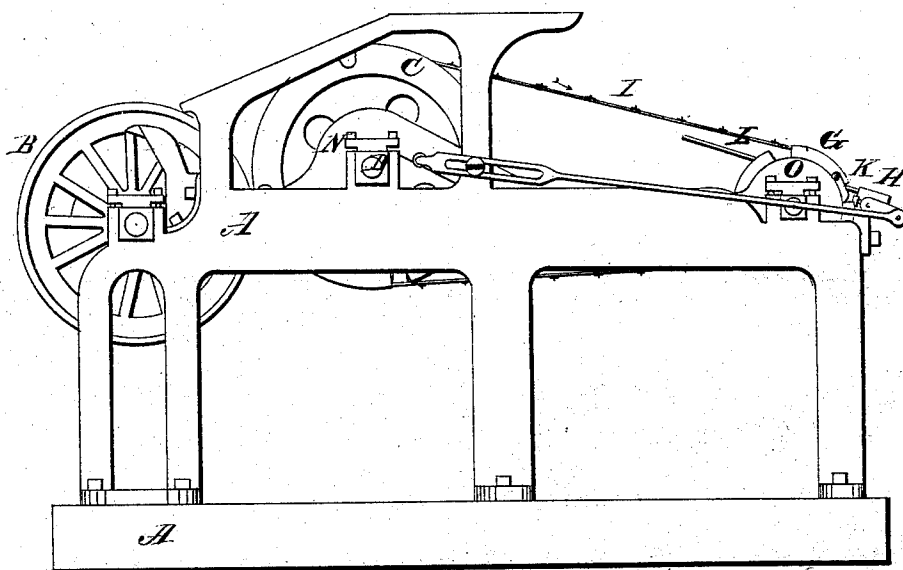
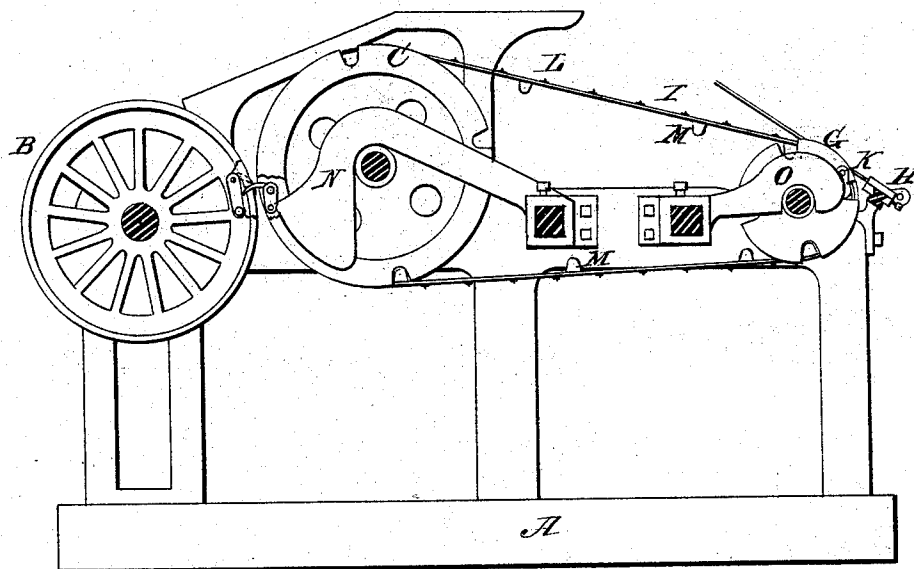


Fig. 2.



WITNESSES:

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INVENTOR

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(No Model.)

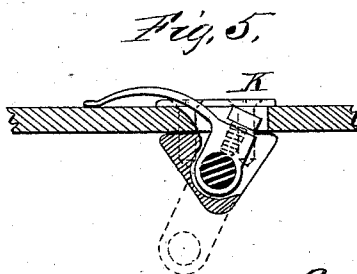
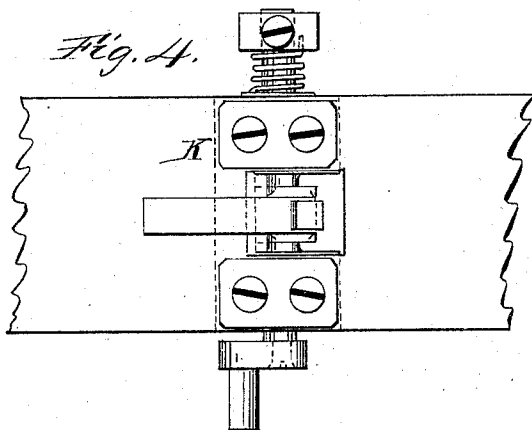
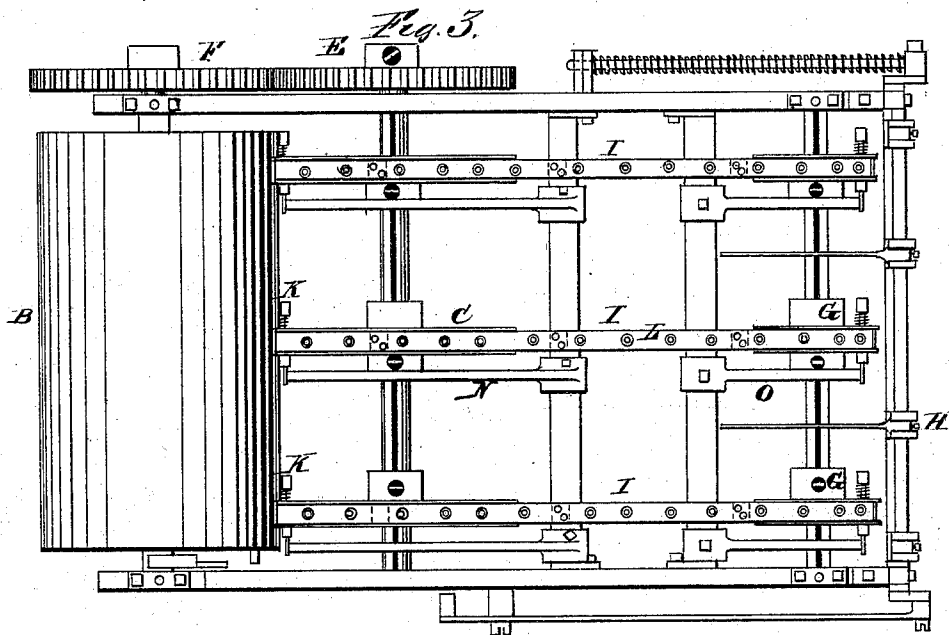
2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

GEORGE W. VAN ALLEN, OF NEW YORK, N. Y.

DELIVERY MECHANISM FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 270,267, dated January 9, 1883.

Application filed June 24, 1881. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. VAN ALLEN, a citizen of the United States, residing at New York city, State of New York, have invented a new and useful Improvement in the Delivery Mechanism for Cylinder Printing-Presses; and I do hereby declare that the following specification, when taken in connection with the drawings which accompany and form part of the same, is a description of my invention, sufficient to enable those skilled in the art to practice it.

My invention relates to improvements in the means or mechanism for delivering sheets of paper from cylinder-presses after the same have been printed; and the object of my invention is to provide a positive means for the delivery of such sheets of paper from the impression-cylinder. I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the machine. Fig. 2 is a longitudinal sectional elevation thereof. Fig. 3 is a plan view thereof. Fig. 4 is a top view of one of the delivery-grippers as affixed to one of the belts. Fig. 5 is a sectional side elevation of one of the delivery-grippers.

On the frame *A* is mounted the impression-cylinder *B* in the usual manner, said impression-cylinder being provided with grippers operated by suitable mechanism, and so adjusted that they take their hold on the sheet at the edge of the gripper-slot. *C* is the delivery-cylinder, which is composed of several recessed flanged pulleys or wheels, said pulleys being arranged on a grooved shaft, *D*, mounted in suitable bearings and parallel with the axis of the impression-cylinder. Upon the shaft is secured a spur-gear, *E*, which meshes with the driving-gear *F* on the shaft of the impression-cylinder, and by means of these gears the said shaft *D*, with its attachments, is rotated in a direction opposite to that in which the impression-cylinder turns. The operation of the adjustable spur-gear *E* is such that when it is desired to deliver a sheet of paper with a wide margin the set-screw of the adjustable spur-gear *E* is loosened, which releases the gib-key and allows the shaft to which the delivery-pulleys are attached to be turned back to a sufficient distance, so that the grippers on the de-

livery-belts will take the edge of the sheet as it is delivered by the grippers of the impression-cylinder, and vice versa if the margin is narrow. The set-screw is then tightened, and the delivery mechanism is ready for operation. This method of adjustment of the spur-gear wheel *E* circumferentially on the shaft to which the pulleys of the delivery-cylinder are attached enables the machine to be adjusted readily to deliver any desired width of margin. The hubs of the pulleys or wheels composing said delivery-cylinder are provided with set-screws, by means of which said pulleys are secured longitudinally on the shaft *D*. This arrangement enables the said pulleys or wheels to be set and secured at any desired point on the shaft, so as to properly deliver any width of sheet. G are similarly-mounted correspondingly-recessed flanged pulleys, located at the rear of the frame in close proximity to the shaft or stock of the sheet-flier *H*, and in such relative position thereto that the upper surfaces of the endless bands carried by the said pulleys shall be above the plane of the surface of the said flier. The fly-fingers of the sheet-flier *H* are held by means of adjustable clamps, furnished with set-screws for securing them to the grooved stock or shaft, as shown in Fig. 3 of the drawings.

I are endless delivery-belts, carrying independent grippers *K*, said grippers being provided with cranks and springs for opening and closing the same, as shown in Figs. 4 and 5. At the proper time the said grippers are opened by their cranks passing over suitably-arranged cams *N* and *O*, and are automatically closed by their springs. These delivery-belts are also provided with a series of buttons, *L*, secured to their surfaces, said buttons having points on which the sheet rests while being delivered to support it above the surface of the belt and preclude the possibility of its being "smutted." Attached to the under surfaces of these delivery-belts are chucks *M*, made of hard wood or other suitable material, and so arranged as to fit into the recesses in the flanged delivery-wheels, thereby precluding the possibility of the said delivery-belts slipping and rendering their action positive.

N are adjustable cams for opening the delivery-grippers to receive the sheet from the

grippers on the impression-cylinder, and O are similarly-adjustable cams for opening the delivery-grippers and releasing the sheet at the proper time, in order that the sheet-flier may deposit it on the delivery-table.

The operation of this improved machine is such that the sheet is fed into the press in the usual way. The grippers of the impression-cylinder take the sheet, hold it during the operation of printing, and at the proper time deliver it to the independent grippers K, affixed to the delivery-belts, which instantly close upon it and carry it over the delivery-cylinder to and over the sheet-flier, when the cams O open the grippers, thereby releasing the sheet, which is deposited by the flier on the receiving-table. Owing to the positive action of this delivery mechanism, there is no possibility of the sheet slipping on the belts, and it is also kept entirely above the surface of the belts by the action of the buttons L, thereby removing all possibility of smutting.

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

1. In a cylinder printing-press, the combination of an impression-cylinder provided with grippers, a delivery-cylinder, consisting of a series of adjustable recessed flanged wheels, a series of belts carrying grippers, chucks, and buttons or rests, a second series of flanged and recessed wheels or pulleys arranged in close proximity to a sheet-flier, so that the belts passing over the two series of pulleys are above the plane of rest of the sheet-flier, and a sheet-flier, all arranged and combined as specified.

2. In a cylinder printing-press, the combination of a sheet-flier, a receiving-cylinder provided with belts carrying grippers and buttons or rests, and an impression-cylinder provided with grippers, but without tapes, all arranged and combined as specified.

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Witnesses:

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