271. SHEET OR WEB FEEDING OR DELIVERING.

DRAFTSMAN.

(No Model.)

C. H. CAMPBELL.

DELIVERY MECHANISM FOR CYLINDER PRINTING MACHINES.

No. 361,262. Patented Apr. 19, 1887.

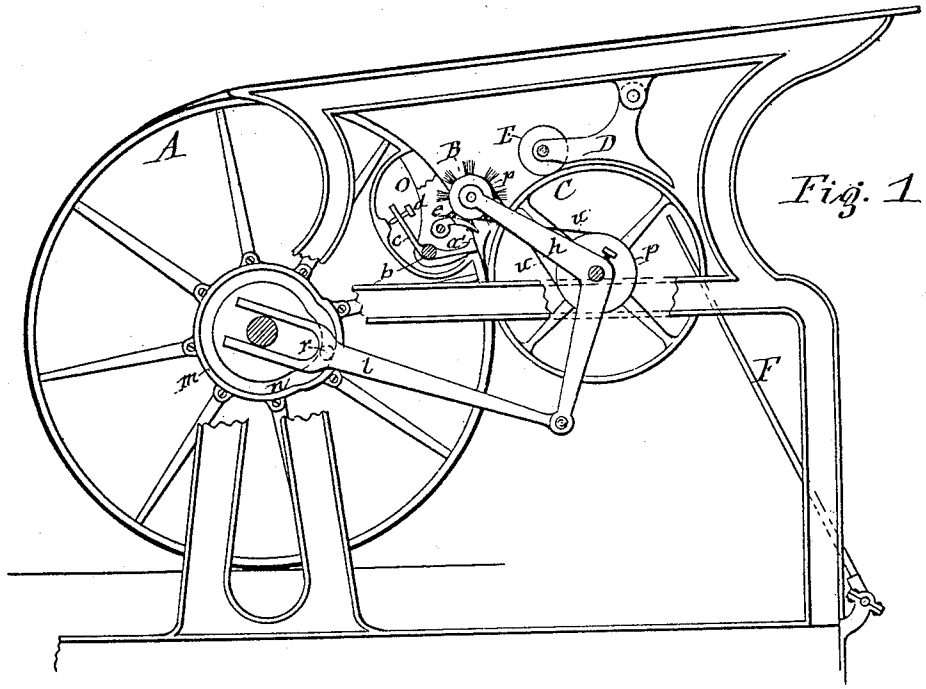


Fig. 1

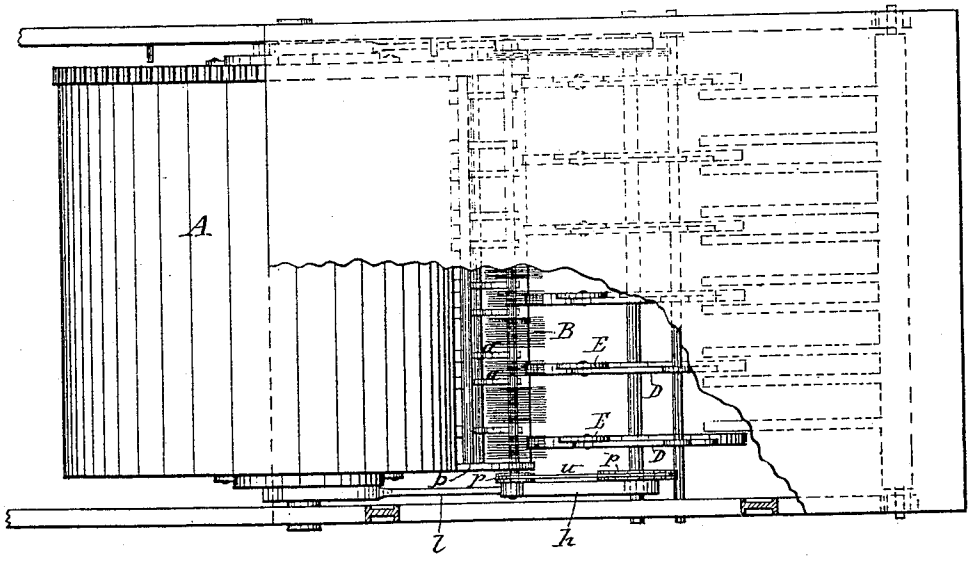


Fig. 2

WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES H. CAMPBELL, OF WATERTOWN, NEW YORK.

DELIVERY MECHANISM FOR CYLINDER PRINTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 361,262, dated April 19, 1887.

Application filed December 30, 1886. Serial No. 222,975. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. CAMPBELL, of Watertown, in the county of Jefferson, in the State of New York, have invented new and useful Improvements in Delivery Mechanism for Cylinder Printing-Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to devices employed for transferring the printed sheets from the impression-cylinder to the delivery-wheels of a printing-press, and is a specific improvement over the sheet-transferring devices shown in my pending applications for Letters Patent, Serial numbers 216,505 and 218,043, and filed, respectively, October 18, 1886, and November 5, 1886.

In the devices shown in said prior applications the rotary sheet-transferring brush is maintained with its axis at a uniform distance from the periphery of the impression-cylinder, and hence said brush is either in constant contact with said cylinder and with the delivery-wheels, and thus subject to rapid wear, or is held in such a position as to clear the aforesaid cylinder and wheels, and in this case is not as reliable in its operation as is necessary. To obviate these defects, I now carry the brush intermittently toward and from the rotating impression-cylinder and time it so in its movements as to dip the brush into the usual opening in the circumference of the impression-cylinder and allow said brush to obtain an effective hold on the edge of the paper carried on said cylinder, and then raise the brush in time to clear the periphery of the rotating cylinder, all as hereinafter more fully described, and specifically set forth in the claims.

In the accompanying drawings, Figure 1 is a side elevation of that part of a cylinder printing-press to which my invention pertains, and Fig. 2 is a top plan view of the same with a portion of the feed-table broken away to better illustrate the invention.

A denotes the impression-cylinder, C C the delivery-wheels, and D and E are the guides and rollers which hold the paper on the delivery-wheels during the transfer of the paper to the fly-board F in the usual and well-known manner.

a' are the blanket-nippers, which are attached to a shaft, *b*, extended lengthwise in the usual opening, *o*, in the cylinder A, and journaled in the ends thereof. From the shaft *b* projects a tail-piece, *c*, having a screw-threaded eye, in which works a set-screw, *d*, which bears on a suitable stop on the cylinder. By means of said set-screw the nippers *a a* are caused to grip the blanket on the cylinder in the usual manner.

e e denote the grippers for holding the paper on the cylinder, said grippers being secured to a shaft which is pivoted to the cylinder and has secured to its protruding end a tumbler, which during the rotation of the cylinder encounters cams on the side of the press-frame, and thereby turns the shaft so as to cause the grippers to release the paper at the proper time to allow it to be transferred from the impression-cylinder A to the delivery-wheels C C. This transfer of the paper I accomplish by means of a rotary brush, B, journaled at opposite ends on arms or bell-cranks *h*, pivoted to the axis of the delivery-wheels C C, as shown, or to the side of the press-frame. *l* is a bifurcated pitman, which is supported by its bifurcated end placed astride the shaft of the cylinder A, and has its opposite end connected with one of the arms or bell-cranks *h*. To each end of the impression-cylinder A is rigidly secured a plate, *m*, provided with a cam-groove, *n*, and on the adjacent side of the pitman *l* is secured a roller, *r*, which travels in the cam-grooves. Said cam-grooves are of such a contour as to impart an intermittent reciprocating movement to the pitmen, and the latter cause the arms or bell-cranks *h* to carry the brush B toward and from the impression-cylinder A at the proper time to allow the brush to enter the opening in the side of the cylinder and sweep outward therefrom the edge of the paper, which by that time has been released from the grippers. The contour of the cam-grooves *n* is such as to cause the aforesaid pitmen and bell-cranks to throw the brush away from the cylinder in time to clear the periphery thereof as it advances. The brush or sheet-transferrer B receives rotary motion either by gears or by pulleys *p p* on the axis of the delivery-wheels and shaft of the sheet-transferrer and a belt, *u*,

connecting said pulleys, as shown in Fig. 1 of the drawings.

I do not limit myself to the use of a brush for transferring the paper from the impression-cylinder to the delivery-wheels, inasmuch as a rotary shaft with radial vanes and analogous sweeping devices will answer the same purpose; neither do I wish to be restricted to the use of the bell-cranks for carrying the brush or sheet-transferrer, as it is obvious that the latter may be carried by other movable supports adapted to approach and recede from the impression-cylinder and actuated by the pitman.

What I claim is—

1. In combination with the impression-cylinder and delivery-wheel, arms arranged automatically movable toward and from the impression-cylinder, and a sheet-transferrer journaled in said arms above the delivery-wheels, as set forth.

2. In combination with the impression cylinder and delivery-wheels, arms arranged movably toward and from the impression cylinder, a sheet-transferrer carried on said arms, cams on the impression-cylinder, and pitmen for transmitting motion from the cams to the aforesaid arms, substantially as described.

3. In combination with the impression-cylinder and delivery-wheels, arms pivoted on the axis of the delivery-wheels, sheet-transferrers journaled in said arms, pulley-and-belt connections for transmitting motion from the shaft of the delivery-wheels to the shaft of the sheet-transferrer, cams on the impression-cylinder, and pitmen for transmitting motion from the cams to the aforesaid arms, substantially as described and shown.

4. In combination with the impression-cylinder and delivery-wheels, arms pivoted on the axis of the delivery-wheels, cam-grooved plates on the heads of the impression-cylinder, bifurcated pitmen placed astride the shaft of said cylinder and connected with the aforesaid arms, and rollers pivoted on the pitmen and traveling in the cam-grooves of the aforesaid plates, substantially as described and shown.

In testimony whereof I have hereunto signed my name and affixed my seal, in the presence of two attesting witnesses, at Watertown, in the county of Jefferson, in the State of New York, this 20th day of December, 1886.

CHARLES H. CAMPBELL. [L. S.]

Witnesses:
G. A. BAGLEY,
E. HEWETT.

