(No Model.)

C. B. COTTRELL.

SHEET DELIVERING APPARATUS FOR PRINTING PRESSES.

No. 249,505. Patented Nov. 15, 1881.

Fig. 1.

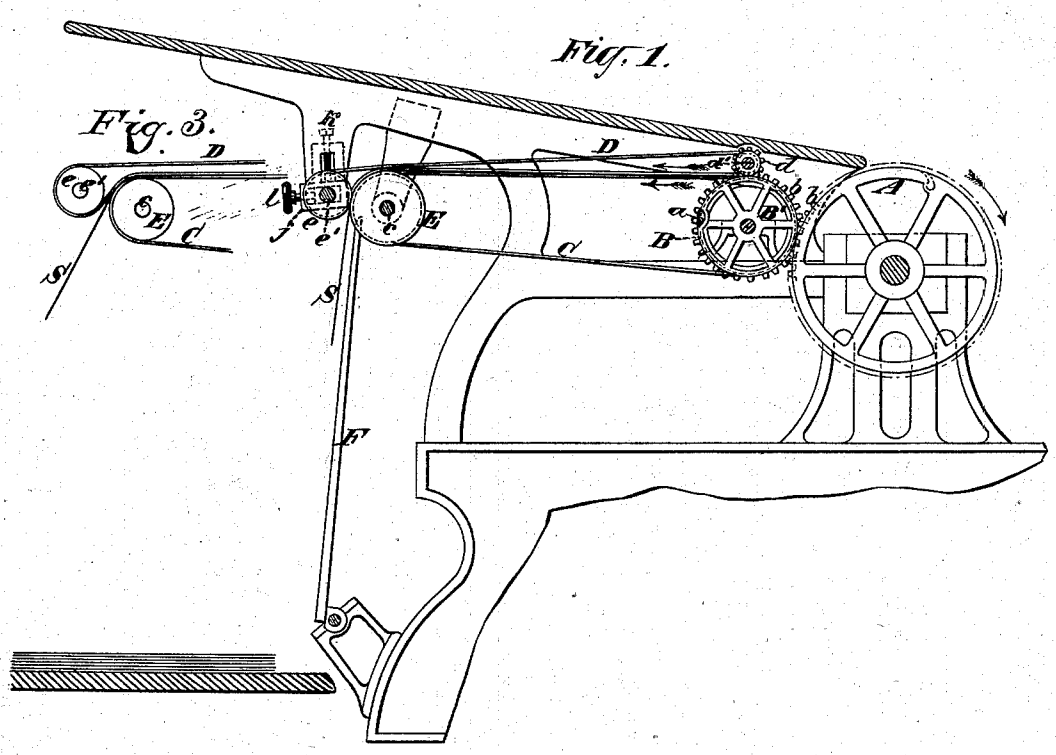
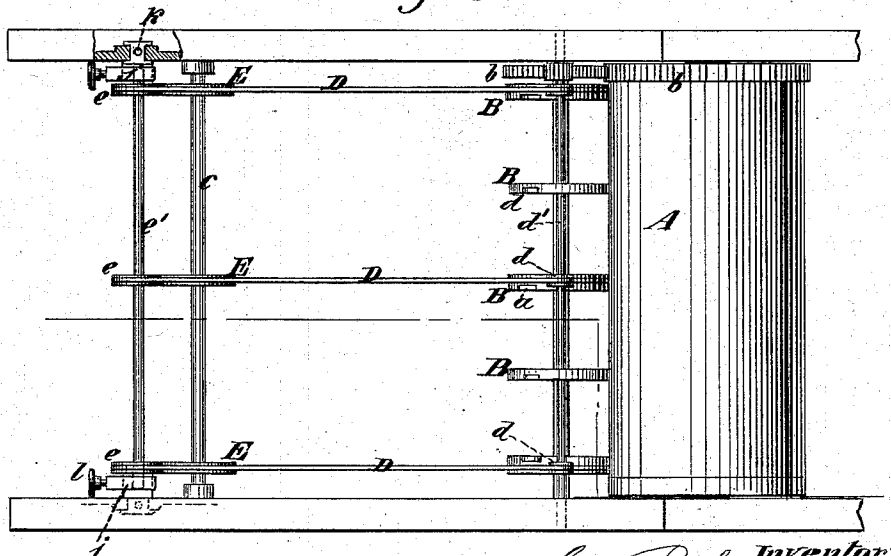


Fig. 2.



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UNITED STATES PATENT OFFICE.

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SHEET-DELIVERING APPARATUS FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 249,505, dated November 15, 1881.

Application filed June 23, 1881. (No model.)

To all whom it may concern:

Be it known that I, CALVERT B. COTTRELL, of Westerly, in the county of Washington and State of Rhode Island, have invented a new and useful Improvement in Sheet-Delivery Apparatus for Printing-Presses, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to that class of sheet-delivery apparatus consisting of a delivery-cylinder or delivery-wheels furnished with gripers to take the sheet from the impression-cylinder, two sets of tape, between which the sheet passes from said delivery-cylinder and wheels, and a fly for taking the sheet from said belts and depositing it upon a receiving-table. The two sets of tapes are arranged so that the portions of the upper set farthest from the impression-cylinder lap downward over the lower set; and my improvement consists in the combination, with the impression-cylinder, delivery griper-wheels or griper-cylinder, fly, and so-arranged tapes, of an adjustable set of carrying-wheels for the overlapping portions of the upper set of tapes, whereby the said tapes may be adjusted to provide for the delivery of the sheet exactly in the direction desired, so as to avoid both the smirching of the impression by rubbing against the fly and the tearing of the sheet by the fly flapping against it.

In the accompanying drawings, Figure 1 is a vertical section of such parts of a printing-press as are necessary to illustrate my invention. Fig. 2 is a plan of the same, the feed-board being omitted to expose the tapes and delivery-cylinder and carrying-wheels. Fig. 3 exhibits a side view of portions of the tapes and their carrying-wheels.

A is the impression-cylinder, and B B are delivery-wheels, furnished with gripers *a a*, and arranged in a well-known manner in relation to the cylinders, from which their shaft B′ is driven by gearing *b b* in the usual way. Instead of these wheels a griper-cylinder may be used.

C D are two sets of endless carrying-tapes, arranged in nearly horizontal positions. The lower set, C, runs on the wheels B B or delivery-cylinder and upon wheels E E, the shaft *c* of which is supported in suitable bearings. The upper set, D, is arranged on two sets of wheels, *d* and *e*, on shafts *d′* and *e′*, the shaft *d′* being directly over and driven by gearing from the shaft B′, and the shaft *e′* being arranged beyond the shaft *c* in such manner that the lower parts of the wheels *e* may be brought to a position below the upper parts of those E, and that the upper tapes, D, may extend beyond and lap downward over the lower ones, C, so that the point at which the tapes begin to part from each other may be almost horizontally between the shafts of their carrying-wheels, and the sheet S may be delivered downward in a nearly vertical direction, as shown in Fig. 1, in front of the fly.

The fly F is so arranged that it comes to a nearly-vertical position to take the sheet as it is delivered downward by the tapes.

In order to provide for the delivery of the sheet from the tapes exactly in the direction desired, that it may neither rub against the fly and so be smirched, nor yet be so far off that the fly may flap and so be liable to tear it, the journal-boxes *j* of the shaft *e′* are made adjustable vertically and horizontally by set-screws *k l*, so that the wheels *e* may be brought to lap lower over and closer to those E, as shown in Fig. 1, or be set higher and farther out from them, as shown in Fig. 3, and thus cause the tapes C D to part at lower or higher points and to deliver the sheet more directly downward, as shown in Fig. 1, or more outward, as shown in Fig. 3.

What I claim as my invention is—

The combination, with the impression-cylinder, delivery griper-wheels or griper-cylinder, and fly, and two sets of tapes placed horizontally, or nearly so, one above the other, and having the portions of the upper set farthest from the impression-cylinder arranged to lap downward over the lower set, of an adjustable set of carrying-wheels for the said portions of the upper tapes, whereby the overlap of the said tapes may be adjusted substantially as and for the purpose herein described.

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Witnesses:

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