No. 654,284. Patented July 24, 1900.

W. SCOTT.

DELIVERY APPARATUS FOR PRINTING MACHINES.

(Application filed May 18, 1895.)

(No Model.)

Fig. 1.

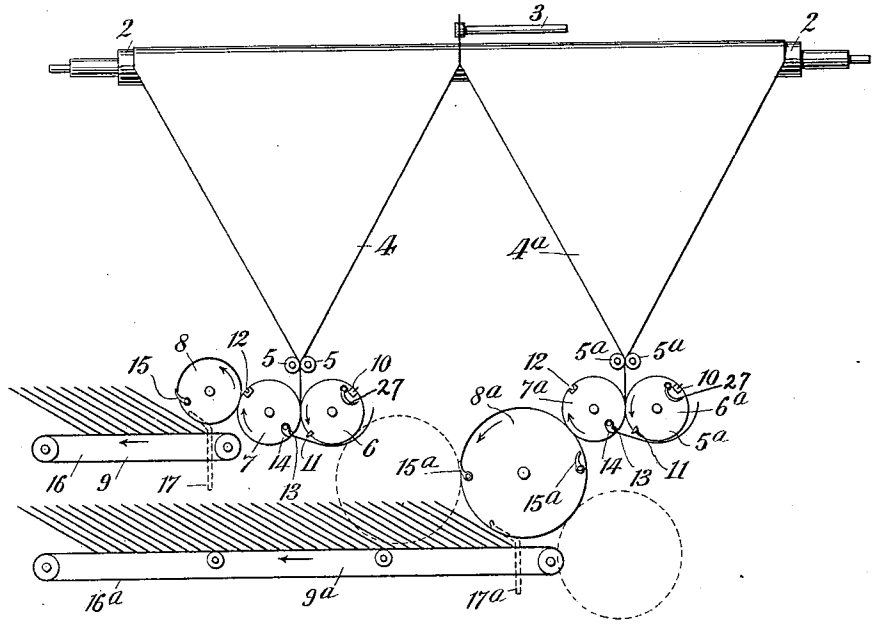


Fig. 2.

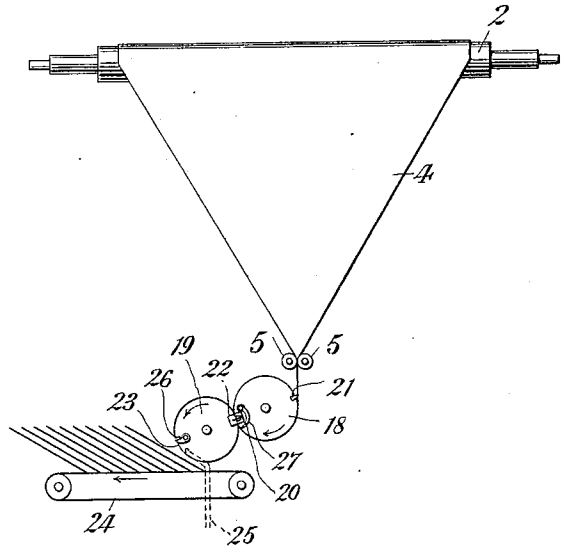
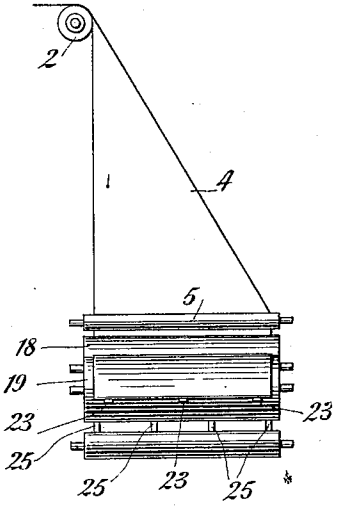


Fig. 3.



WITNESSES:

C. E. Ashley

H. W. Lloyd.

INVENTOR:

Walter Scott

By his Attorneys

Wilcox, Barkley & Brock.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WALTER SCOTT, OF PLAINFIELD, NEW JERSEY.

DELIVERY APPARATUS FOR PRINTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 654,284, dated July 24, 1900.

Application filed May 18, 1895. Serial No. 549,739. (No model.)

To all whom it may concern:

Be it known that I, WALTER SCOTT, a citizen of the United States, and a resident of Plainfield, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Delivery Apparatus for Printing-Machines, of which the following is a specification.

There is a large class of printing-machines wherein one or more webs have printed on them side by side two products or parts of products (which may be alike or may differ from each other) and are then split and the longitudinal halves thereof severed into sheets, which are delivered in any desired manner, usually folded. In some cases the splitting is done before the printing and in others two single-width webs are placed edge to edge and there is no splitting. The longitudinal halves or webs are ordinarily taken each to its own folding and cutting mechanism and delivered separately from the other. The products are or may be treated in a variety of ways in these folding and cutting mechanisms and successive cuts are or may be collected to form the entire product.

This invention relates to the manipulation of the product of such printing-machines wherein one or more webs are perfected and the longitudinal halves thereof are taken to different folding and delivery mechanisms.

An object of the invention is to deliver such products at the same side of the machine and adjacent to each other, so as to leave the other side of the machine free and accessible at all times, and comprises other objects, as will hereinafter more fully appear.

The invention includes two cutting and folding mechanisms side by side at one end of the machine combined with receivers placed both at one side of the machine. In some cases there may be an independent delivery-cylinder or the like between the folding and cutting mechanisms and their respective receivers, and in other cases one of the folding-cylinders may deliver the folded products directly to the receiver.

The invention is illustrated in the accompanying drawings, forming part hereof, wherein—

Figure 1 is a view from the end showing two longitudinal folders, receivers, and delivery-cylinders. Fig. 2 is a like view of a modification wherein one of the folding-cylinders delivers the product to the receiver direct. Fig. 3 is a side view of the modification shown in Fig. 2.

The printing mechanism may be of any character suitable for perfecting one or more webs which are or may be of "double" width. The web or associated webs are led to and over the roller 2, where they may be split, as by the knife or cutter 3. Thence the halves pass over the triangular formers 4 4^a to and between the drawing-rollers 5 5^a. The halves of the web or webs now pass the folding and cutting cylinders 6 7 6^a 7^a. From the cylinders 6 7 the products pass to the delivery-cylinder 8 and the receiver 9, while the products from cylinders 6^a 7^a pass to the cylinder 8^a and the receiver 9^a. The cylinders 6 6^a are similar in their details, being provided each with the cutting and the creasing blades 10 11, while the cylinders 7 7^a are each provided with the cutting and the creasing grooves 12 13 and the sheet retainers or grippers 14. The cylinder 8 has one set of sheet-retainers, as grippers 15, while the cylinder 8^a, which is shown as twice the size of cylinder 8, has two such sets 15^a. The cylinders 6 7 6^a 7^a are shown as being in the same horizontal plane and the deliveries as being one above the other. The cylinder 8^a is shown as being twice the size of the cylinders 6^a 7^a and is provided with two sets of sheet-retainers, as grippers 15^a, in order to take the sheets from the cylinder 7^a and carry them to the tapes 16^a, which are below the tapes 16, which receive sheets from the cylinders 8, 6, and 7. Thus the products from both folders are brought by the described means to one side of the machine, thus economizing space in the length or the machine and enabling one attendant to watch both receivers. Also it permits all the products to be removed at one side of the machine, thus economizing the floor-space required for this purpose. The cylinders 8 8^a deliver the folded products onto the traveling tapes 16 16^a, respectively, the strippers or guides 17 17^a aiding in this step. The tapes 16 16^a are driven as usual. It is to be understood that the various cylinders and parts are provided with suitable means for operating their moving parts and that they are cut away

to allow grippers to pass, &c., all as usual. The broken-line circles shown in Fig. 1 indicate the pitch-lines of gear-wheels. It is understood, of course, that the various cylinders are driven by suitable gearing as common in this class of machines.

It is to be understood that the cylinders 6 6^a are provided with suitably-operated pins 27 adjacent their respective cutting-blades to carry around the ends of the sheets until the cylinders 7 7^a pull the sheets with them.

The modification shown in Fig. 2 comprises a longitudinal folder composed of roller 2, the former 4, drawing-rolls 5, and cutting and creasing cylinders 18 19, of which the former is provided with a cutting-groove 20 and a folding-blade 21, and the cylinder 19 is provided with a cutting-blade 22, a folding-groove 23, and grippers 26. The cylinder 18 is likewise provided with pins 27 in rear of the groove 20. The folding-blade 21 may be withdrawn within the cylinder 18, except at such times as it is to perform its function of folding, by any suitable means, such as are commonly employed for the purpose. The operation of this mechanism is as follows: The web going over the roller 2 is folded longitudinally by the former 4 and the drawing-rolls 5, the end thereof being caught by the pins 27. These pins carry the end around until the blade 21, coacting with the groove 23, has made the fold and the grippers 26 have seized the folded margin of the product. The pins are then withdrawn and the product is carried around the cylinder 19, and the folded product is deposited upon the traveling tapes 24 by the opening of the grippers and the action of the guides 25.

It is obvious that the grippers on the cylinders may be replaced by other forms of sheet-retainers known or common in the art and that changes in details, proportions of parts, &c., may be made without departing from this invention, which is not limited to the precise form and arrangement thereof shown and above described.

The strippers 17, &c., may be replaced by throw-offs on the cylinders, or other means may be employed to strip the products therefrom.

The cylinders 6^a 7^a may be placed lower down and the cylinder 8^a be replaced by one having but one set of grippers, which would deliver the sheets to the traveling tapes, as in the case of cylinder 8, above described.

The cutting-blade 22 may be withdrawn inside the cylinder 19, so as to pass guides or shippers 25.

Having thus fully described my invention, what I claim as new, and desire Letters Patent for, is—

The combination of two longitudinal folders side by side and adapted to fold halves of the same web or webs, a transverse cutting and folding mechanism for each longitudinal folder, two receivers one above another at the same side of the machine, and a delivery-cylinder between each transverse folder and its receiver, one of said delivery-cylinders having one set of sheet-retainers and the other having two such sets, substantially as described.

Signed at New York, in the county of New York and State of New York, this 14th day of May, A. D. 1895.

WALTER SCOTT.

Witnesses:
R. W. BARKLEY,
GUS. C. HENNING.