(No Model.) 2 Sheets—Sheet 1.

S. G. GOSS.

DELIVERY APPARATUS FOR PRINTING PRESSES.

No. 495,481. Patented Apr. 18, 1893.

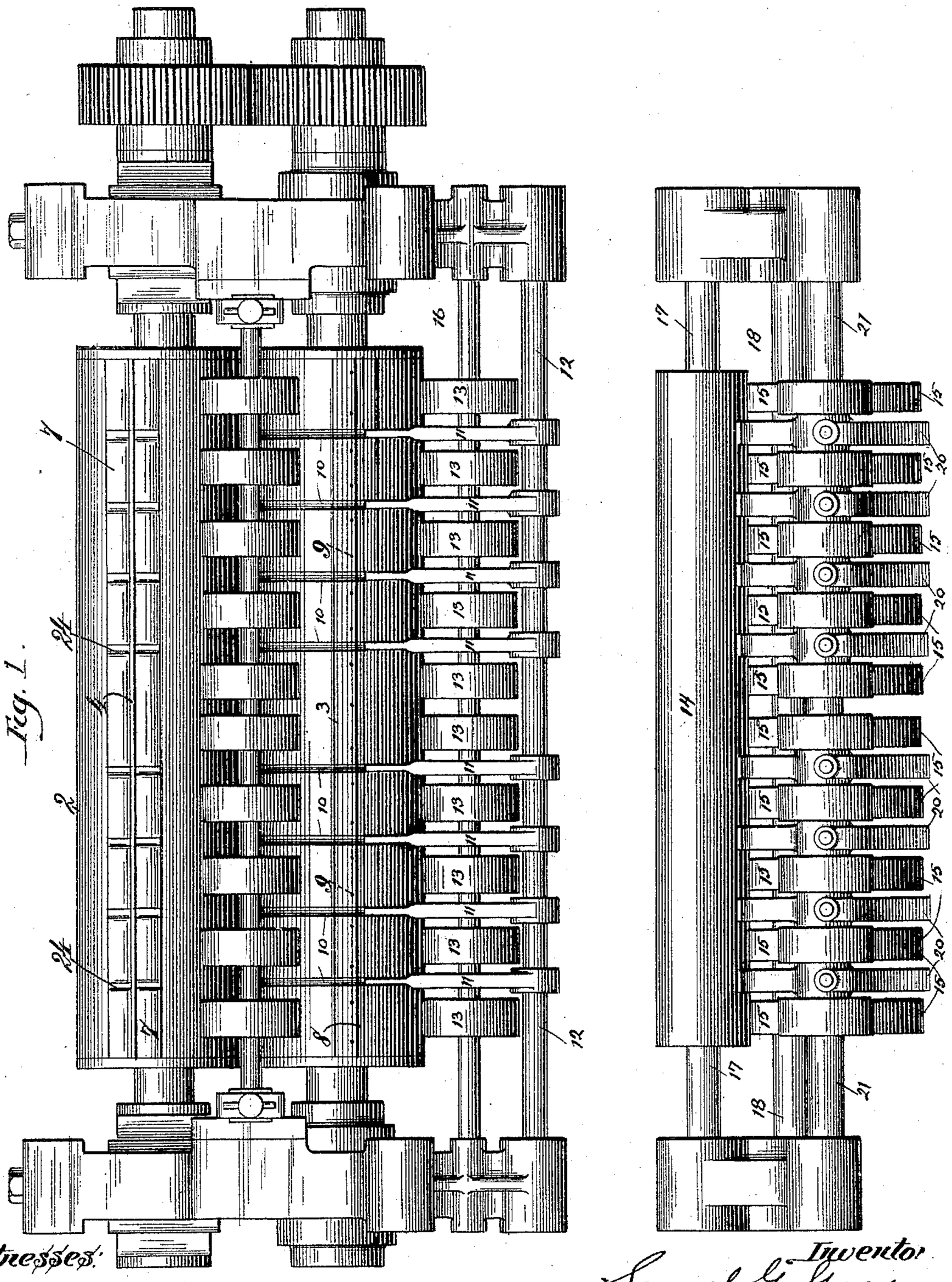


Fig. 1.

Witnesses:
Nellie McKibben
Julia M. Bristol

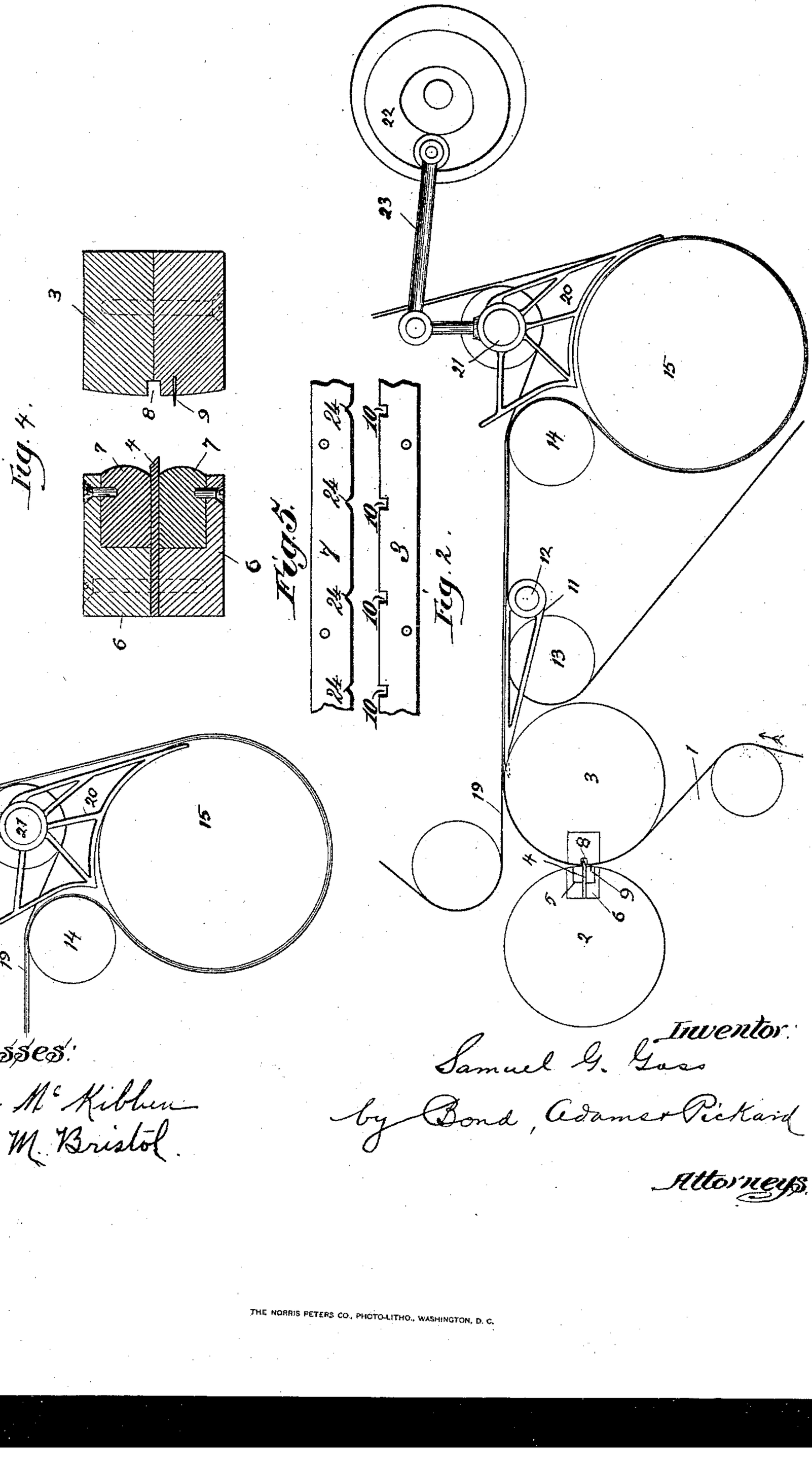
Inventor
Samuel G. Goss
by Bond, Adams & Pickard,
Attorneys.

(No Model.) 2 Sheets—Sheet 2.

S. G. GOSS.

DELIVERY APPARATUS FOR PRINTING PRESSES.

No. 495,481. Patented Apr. 18, 1893.



Witnesses:
Nellie McKibben
Julia M. Bristol.

Inventor:
Samuel G. Goss
by Bond, Adamer & Pickard
Attorneys.

UNITED STATES PATENT OFFICE.

SAMUEL G. GOSS, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE GOSS PRINTING PRESS COMPANY, OF SAME PLACE.

DELIVERY APPARATUS FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 495,481, dated April 18, 1893.

Application filed May 6, 1892. Serial No. 432,104. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL G. GOSS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Delivery Apparatus for Printing-Presses, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a top or plan view of a portion of a printing press, showing my improved apparatus. Fig. 2 is a diagrammatic side elevation of the parts shown in Fig. 1. Fig. 3 is a detail, showing the switch in position for delivering the associated sheets. Fig. 4 is an enlarged detail, being a vertical cross section of a portion of the cutting cylinders, showing the method of mounting the cutting blade; and Fig. 5 is an enlarged detail, being a side elevation of the longitudinal strips which are inset into the cutting cylinder.

My invention relates to printing presses, and particularly to means for cutting the web transversely into sheets and associating the sheets preparatory to their being folded.

The objects of my invention are to provide new and improved means for effecting the transverse cutting of the web, and for delivering the severed sheets to the associating mechanism. I accomplish these objects as hereinafter specified and as illustrated in the drawings.

That which I regard as new will be pointed out in the claims.

In the drawings,—1 indicates a web of paper, which moves in the direction indicated by the arrow in Fig. 2, after having received the impressions from the usual impression cylinders, and passes between cutting cylinders 2 and 3. The cutting cylinder 2 carries a blade 4, which extends longitudinally of the cylinder and projects a short distance beyond its surface, in the usual manner. The blade 4 is mounted in a box 5 formed in the cylinder 2, in which is fitted a suitable block 6. Extending longitudinally of the block 6, on each side of the blade 4, are strips 7, which are crowned, as shown in Fig. 4, and extend a short distance beyond the surface of the cylinder 2. The strips 7 are composed of rubber or other suitable material and serve to engage the paper as it is cut so that it may be held taut during the operation of cutting. The blade 4 is so placed as to register with a recess 8, which extends longitudinally of the cylinder 3, as best shown in Figs. 2 and 4. As the cylinders 2 and 3 rotate, the web passing between them will be severed transversely.

9 indicates a pin, a number of which project from the cylinder 3 and engage the web of paper and serve to hold it upon the cylinder as it rotates. The cylinder 3 is provided with a number of peripheral grooves 10, as best shown in Fig. 1.

11 indicates a number of guide arms, one for each groove 10, which guide arms are mounted upon a shaft 12 in such position that their opposite free ends will rest in the grooves 10 in the cylinder 3, as shown in Fig. 1 and indicated by dotted lines in Fig. 2. The arrangement is such that when the cylinder 3 rotates, the points of the guide arms 11 will pass beneath the edge of the paper and will strip or remove it from the pins 9 by permitting it to pass from the cylinder 3.

13, 14 and 15 indicate tape rollers, which are mounted on suitable shafts 16, 17 and 18, as best shown in Fig. 1. Suitable tapes pass from the rollers 13, 14 and 15 and act with a tape 19 mounted on suitable rollers to carry the sheets from the cutting cylinders to the rollers 15, where the severed sheets pass around the rollers 15 to a switch 20 mounted upon a suitable shaft 21. The arrangement is such that when the point of the switch is below the surface of the rollers 15 and the tapes carried by them, the sheets will pass over the switch to the folding mechanism, as shown in Fig. 3, while when the switch is in the position shown in Fig. 2,—that is, when its point is outside of or above the peripheries of the rollers 15 and the tapes carried by them,—the sheets will pass under the switch and around the rollers 15 to the point where they were first delivered to said rollers, as indicated in Fig. 2. Suitable tapes are provided for carrying the sheets in the manner suggested.

The switch 20 is operated by rocking the

shaft 21, which is preferably accomplished by means of a cam 22 and connecting rod 23; but I do not wish to limit myself to this specific means of operating the shaft 21, as any other suitable mechanism may be provided.

In order to prevent the strips 7 from breaking the surface of the paper over the grooves 10, I provide such strips with depressions or recesses 24, so placed as to register with the grooves 10. By this arrangement the paper over the grooves 10 will not be engaged by the strips 7, and breaking of the paper will thereby be avoided.

In operating the delivery apparatus, the operation of the switch 20 is so timed that it will be thrown inward when the desired number of sheets have been associated. For instance, if it were desired to associate two sheets, the first sheet would be severed by the cutting cylinders 2 and 3, and it would then pass along the tapes, over the roller 14, and down around the roller 15, under the switch 20, which would then be in the position shown in Fig. 2, and around to the point where it first came in contact with the roller 15, where it will meet the second sheet. The two sheets will then be associated, and will pass around the rollers 15 to the switch 20, which will have been moved to the position shown in Fig. 3, causing the associated sheets to leave the rollers 15 and pass around the tapes to the folding mechanism. By adjusting the mechanism which operates the switch 20, any desired number of sheets may be associated before they pass from the rollers 15. I do not, however, wish to limit myself to the mechanism above described for associating the sheets, as it forms no essential part of my present invention.

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

1. The combination with a cylinder 3 having a longitudinal groove 8, a series of peripheral grooves 10, and projecting pins 9, of a cylinder 2 having a web cutting knife 4, the strips 7 arranged in the knife carrying cylinder at opposite sides of the knife and provided with recesses 24, which register with the said peripheral grooves, and guide-arms 11 extending into said peripheral grooves, substantially as described.

2. The combination with a cylinder 3 having a longitudinal groove 8, a series of fixed projecting pins 9 and a series of peripheral grooves 10, of a cylinder 2 having a web cutting knife 4, the strips 7 arranged in the knife carrying cylinder at opposite sides of the knife and provided with recesses 24 which register with the said peripheral grooves, a series of guide arms 11 which extend at one end into the peripheral grooves for stripping the paper from the fixed projecting pins, and carrying tapes and tape supporting rollers, substantially as described.

3. The combination with a cylinder 3 having a longitudinal groove 8, a series of peripheral grooves 10 and pins 9, of a cylinder 2 having a web cutting knife 4, the strips 7 arranged at opposite sides of the knife and provided with recesses 24 which register with the said peripheral grooves, a shaft 12, and a series of guide arms 11 mounted at one end on the shaft and extending at their opposite ends into the peripheral grooves for stripping the paper from the fixed projecting pins, substantially as described.

4. The combination with a cylinder 3 having a longitudinal groove 8, pins 9 and peripheral grooves 10, of a cylinder 2 provided with a web cutting knife 4, the strips 7 located at opposite sides of the knife and having crowned surfaces formed with a series of recesses 24 which register with the said perigheral grooves, and the guide arms 11, substantially as described.

5. The combination with a cylinder 3 having a longitudinal groove 8 and a series of peripheral grooves 10, of a cylinder 2 having a web cutting knife 4, and the strips 7 arranged in the knife carrying cylinder at opposite sides of the knife and each provided with a series of recesses 24, which register with the said peripheral grooves, substantially as described.

SAMUEL G. GOSS.

Witnesses:
A. H. ADAMS,
J. L. JACKSON.