

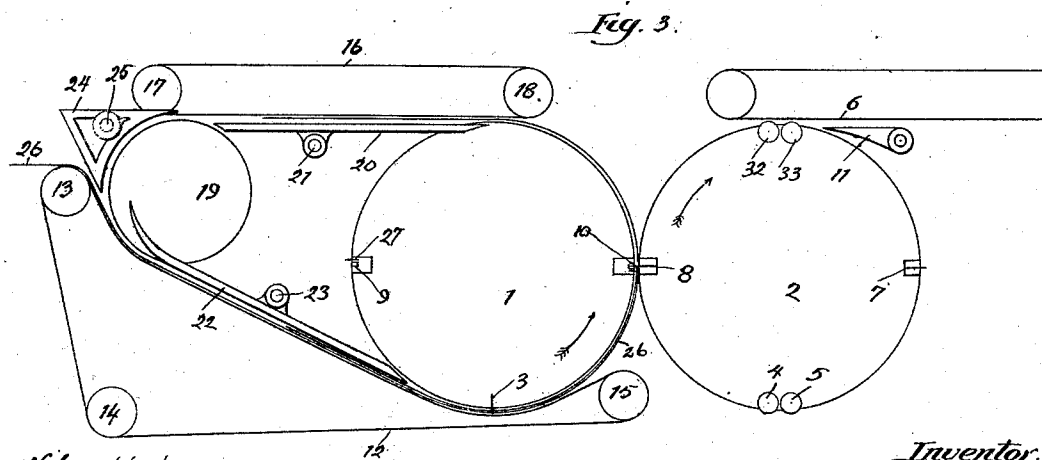
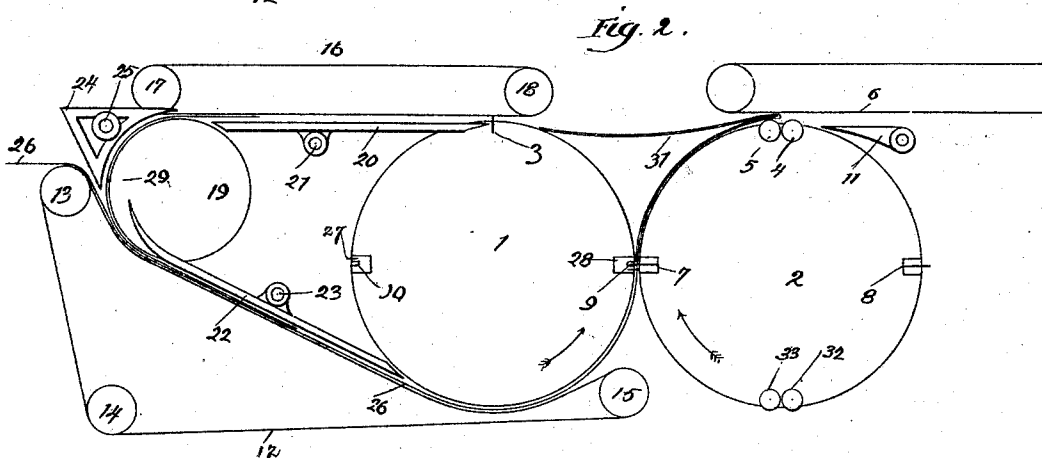
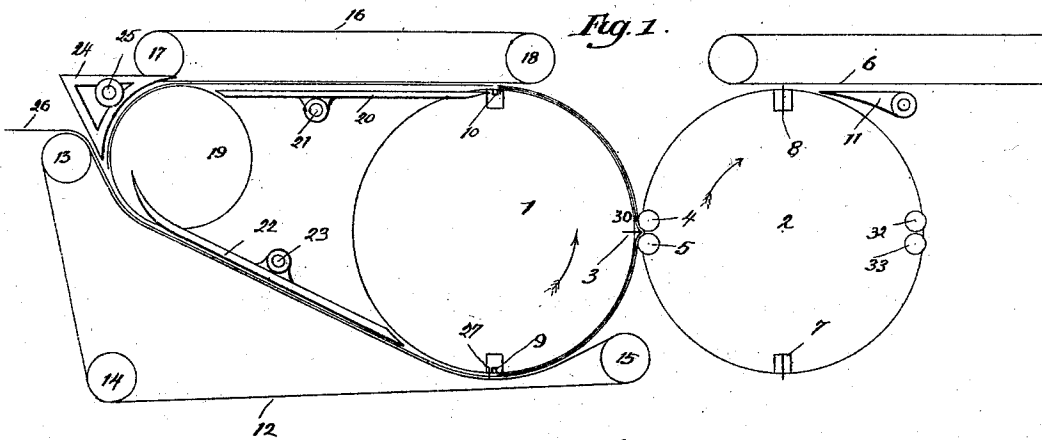
(No Model.)

2 Sheets—Sheet 1.

S. G. GOSS.  
APPARATUS FOR DELIVERING SHEETS.

No. 504,874.

Patented Sept. 12, 1893.



Witnesses:

Hellie McKibben  
Julia M. Bristol.

Inventor:

Samuel G. Goss

by Bond, Adams & Pickard.

Attorneys.

(No Model.)

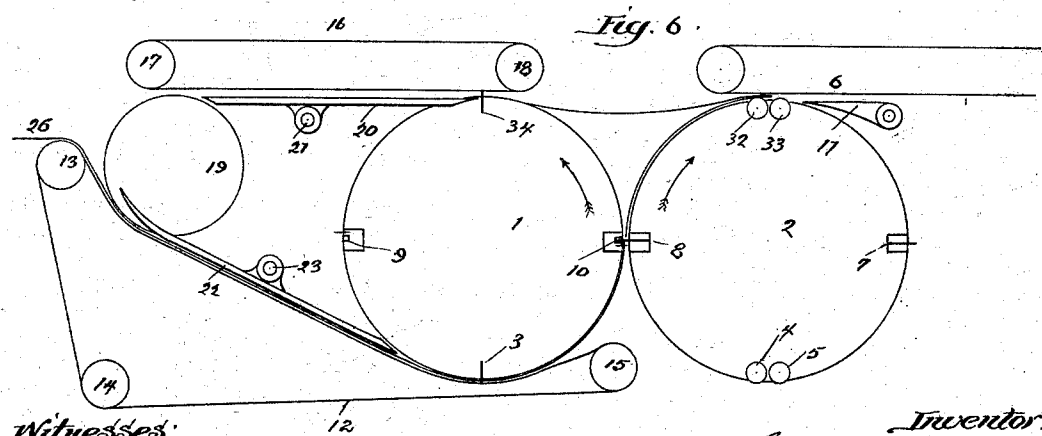
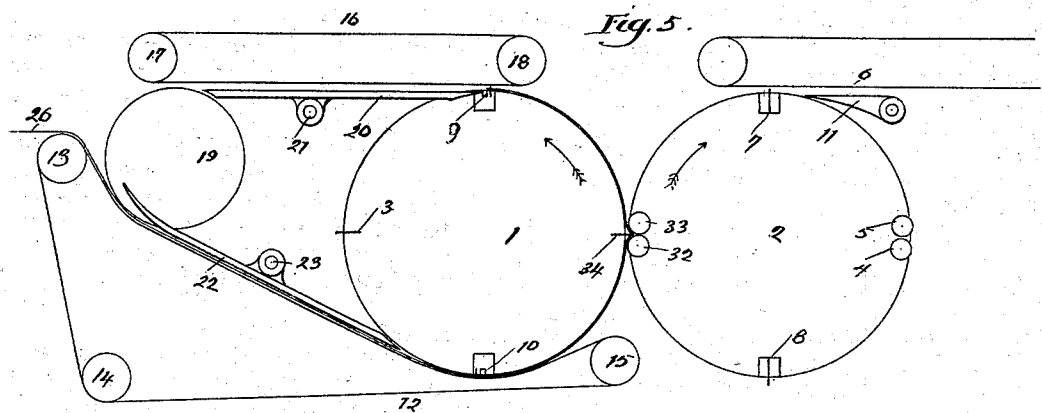
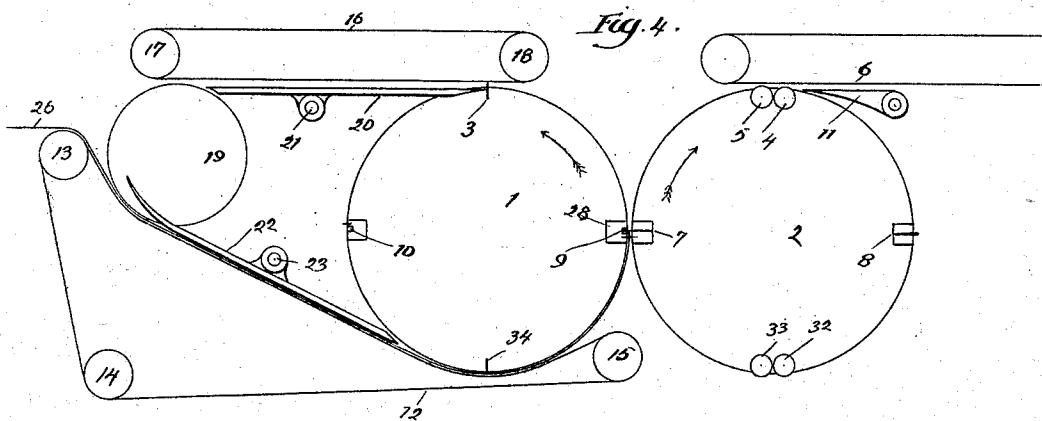
2 Sheets—Sheet 2.

S. G. GOSS.

APPARATUS FOR DELIVERING SHEETS.

No. 504,874.

Patented Sept. 12, 1893.



Witnesses:  
Hattie McKibben.  
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# UNITED STATES PATENT OFFICE.

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

## APPARATUS FOR DELIVERING SHEETS.

SPECIFICATION forming part of Letters Patent No. 504,874, dated September 12, 1893.

Application filed May 12, 1892. Serial No. 432,808. (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 a certain new and Improved Apparatus for Delivering Sheets, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figures 1, 2 and 3 are diagrammatic views, showing the position of the different parts of the apparatus and showing the sheets in their different positions. Figs. 4, 5 and 6 are similar views, showing the apparatus modified for delivering single sheets with a single fold.

My invention relates to apparatus for delivering the sheets of a newspaper or other fabric, and is in some respects similar to my application, Serial No. 432,807, filed of even date herewith for sheet delivery apparatus.

The object of my invention is to provide new and improved means for associating the sheets. I accomplish this object 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 and 2 indicate folding and cutting cylinders, which are substantially similar to those described in my application hereinbefore referred to; the folding cylinder 1 carrying a folding blade 3 which is adapted to force the sheet into the bite of folding rollers 4 and 5 carried by the cylinder 2. The folding rollers 4 and 5 may be operated by any suitable mechanism, preferably that shown in my application above referred to, to cause them to grip the sheet to carry it to tapes 6 and then release it.

7 and 8 indicate cutting blades carried by the cylinder 2, which blades register with recesses 9 and 10 respectively carried by the cylinder 1. By this construction, the web will be severed into sheets each of a length equal to half the circumference of the folding cylinders 1 and 2.

11 indicates a guide adapted to strip the folded sheets from the cylinder 2.

12 indicates tapes which are mounted on rollers 13, 14 and 15, which rollers are so located as to carry the web in a proper direc-

tion to feed it to the folding cylinders 1 and 2, as shown.

16 indicates tapes mounted upon rollers 17 and 18, the object of which will be hereinafter set forth.

19 indicates guide rollers, which are mounted upon a suitable shaft parallel with the shaft upon which the cylinder 1 is mounted, as indicated by the diagram.

20 indicates guides which extend from the upper portion of the cylinder 1 to the upper portion of the rollers 19, and are adapted to conduct the sheets from the cylinder 1 to the rollers 19, as best shown in Fig. 3. The tapes 16 serve to carry the sheets over the guides 20. The ends of the guides 20 which are adjacent to the cylinder 1, preferably fit into grooves in said cylinder and serve to strip the sheets from the cylinder. The guides 20 are mounted upon a cross bar 21 or other suitable supporting device.

22 indicates guides which are in general similar to the guides 20, and serve to guide the web as it is carried along by the tapes 12 from the rollers 19 to the lower portion of the cylinder 1. The upper ends of the guides 22 are curved, as shown, and fit between the rollers 19. They not only serve to guide the web to the lower portion of the cylinder 1, but also serve to direct the associated sheets in the proper direction. The guides 22 are mounted upon supporting bars 23 or other suitable devices.

24 indicates shoes, which are mounted upon a shaft 25 and serve to direct the sheets around the rollers 19, as shown.

26 indicates the web to be delivered.

To deliver two sheets with a single fold, the web 26 is carried by the tapes 12 to the under side of the cylinder 1, where it is impaled by pins 27 carried by said cylinder, and is then carried around ninety degrees to the position shown at 28 in Fig. 2, the cylinders 1 and 2 rotating in the direction indicated by the arrows in Fig. 2. At this point the cutting blade 7 will lie in the recess 9 of the cylinder 1. As the cylinder 1 continues its rotation, the end of the web will be carried around to the upper side of the cylinder 1, and will there be stripped from the cylinder by the

guides 20, and when it reaches the position shown in Fig. 3 the cutting blade 8 will sever the sheet from the web, as shown in Fig. 3. At the next half revolution of the cylinder 1, the sheet thus severed will be carried to the position shown at 29 in Fig. 2 to be partly associated with the web 26. At the next half revolution the web will be severed in line with the forward edge of the superposed sheet, as shown in Fig. 3, and at the next quarter revolution the web and the sheet superposed upon it will be in the position shown in Fig. 1, and will be folded by the folding blade 3, as shown at 30 in Fig. 1. At the next quarter revolution the associated sheet and web will be in the position shown at 31 in Fig. 2, and the web will be severed at the rear edge of the superposed sheet, thereby leaving two sheets with a single fold. In starting the mechanism it will be observed that the second sheet severed from the web will be folded and delivered by itself, but all subsequent sheets will be associated as above described.

I have shown two rollers 32 and 33 on the cylinder 2 opposite the rollers 4 and 5, but they are not used when associating two sheets.

To adapt my improved delivery apparatus for delivering single sheets with a single fold, I provide on the cylinder 1 a second folding blade 34, which is adapted to register with the rollers 32 and 33. By this arrangement each sheet will be folded singly, as the presence of the second folding blade will not permit any of the sheets to pass back to the rollers 19, but will fold them as shown in Figs. 4, 5 and 6.

The apparatus shown in Figs. 1, 2 and 3 is intended for use in associating two sheets and giving them a single fold, as above described, but by providing different numbers of cutting blades the apparatus may be so arranged as to associate any desired number of sheets before they are folded.

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

1. The combination of a pair of cylinders having means for severing one or more sheets from a continuous web, mechanism for trans-

ferring the severed sheet or sheets back to and superposing the same upon said web, and folding devices for folding the web and the sheet or sheets superposed thereupon, substantially as described.

2. The combination with a pair of cylinders having web severing and folding devices, of guide rollers, suitable upper guides located between the upper portions of the guide rollers and the adjacent cylinder, suitable lower guides located between the lower portions of the guide rollers and the said adjacent cylinder, tapes for carrying a web along the said lower guides to the folding cylinders, means for carrying a severed sheet from the cylinders along the upper guides to the guide rollers, and devices for transferring the severed sheet or sheets to and upon the web as it moves toward the cylinders, substantially as described.

3. The combination with a pair of cylinders having web severing and folding devices, of guide rollers 19, suitable guides located between the guide rollers and the adjacent cylinder, tapes for carrying a web to the lower portion of said adjacent cylinder, means for carrying a severed sheet from the cylinders to the guide rollers, and devices for transferring the severed sheet or sheets around the guide rollers to and upon the web as it moves toward the cylinders, substantially as described.

4. The combination of a cylinder 1 having a folding blade 3, a cylinder 2 having folding rollers 4 and 5 and cutting blades 7 and 8, carrying tapes 12 for carrying the web to the cylinders, guide rollers 19 co-operating with said tapes, suitable guides 20 and 22 located between the guide rollers and the adjacent cylinder, tapes 16 for carrying a sheet or sheets from the cylinders to the guide rollers, and devices for directing the severed sheet or sheets under the guide rollers to and upon the web as it moves toward the cylinders, substantially as described.

SAMUEL G. GOSS.

Witnesses:

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