

(No Model.)

5 Sheets—Sheet 1.

S. G. GOSS.
PRINTING PRESS DELIVERY APPARATUS.

No. 432,036.

Patented July 15, 1890.

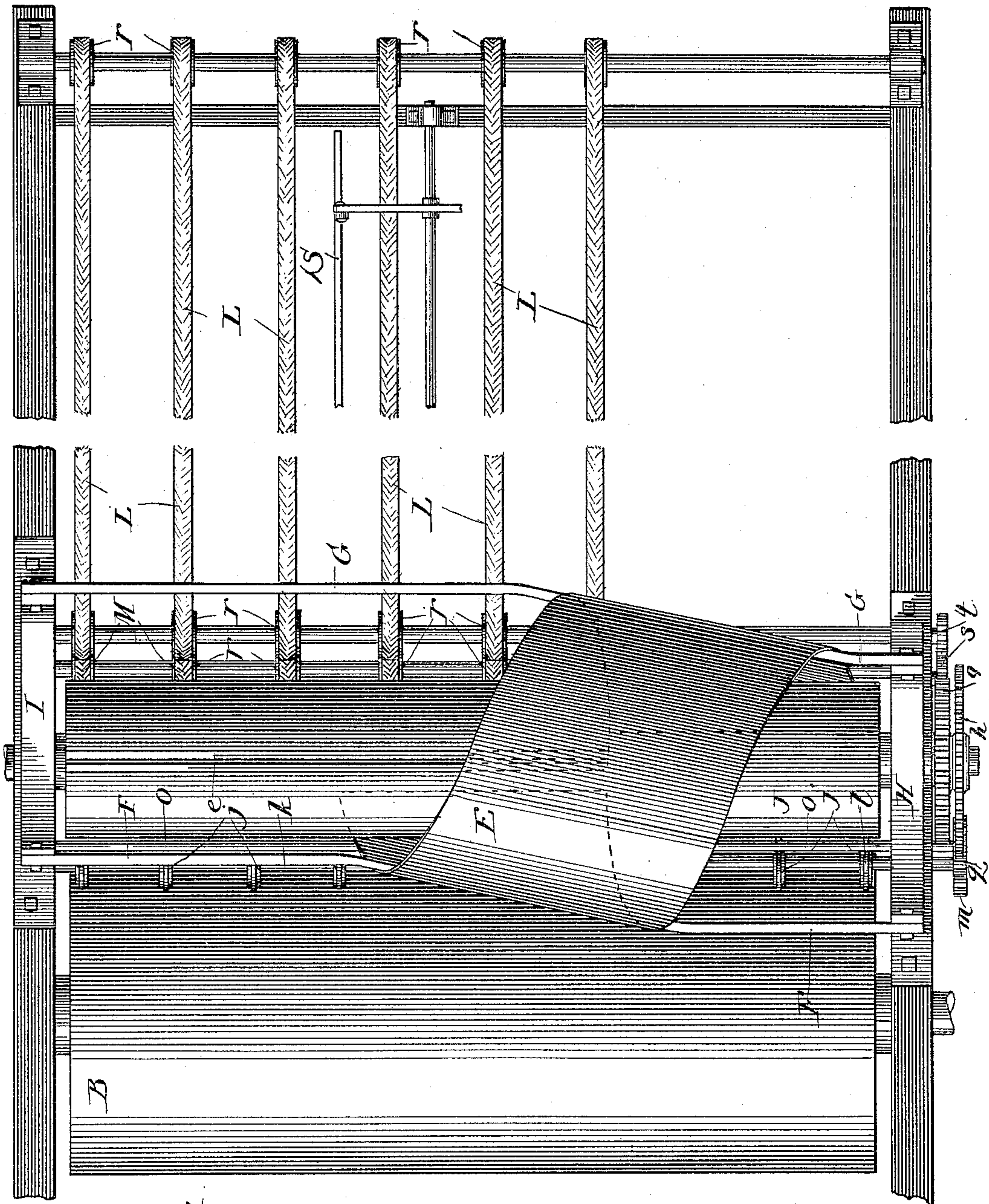


Fig. 1.

Witnesses:
Harry T. Jones
Albert H. Adams.

Inventor:
Samuel G. Goss.

(No Model.)

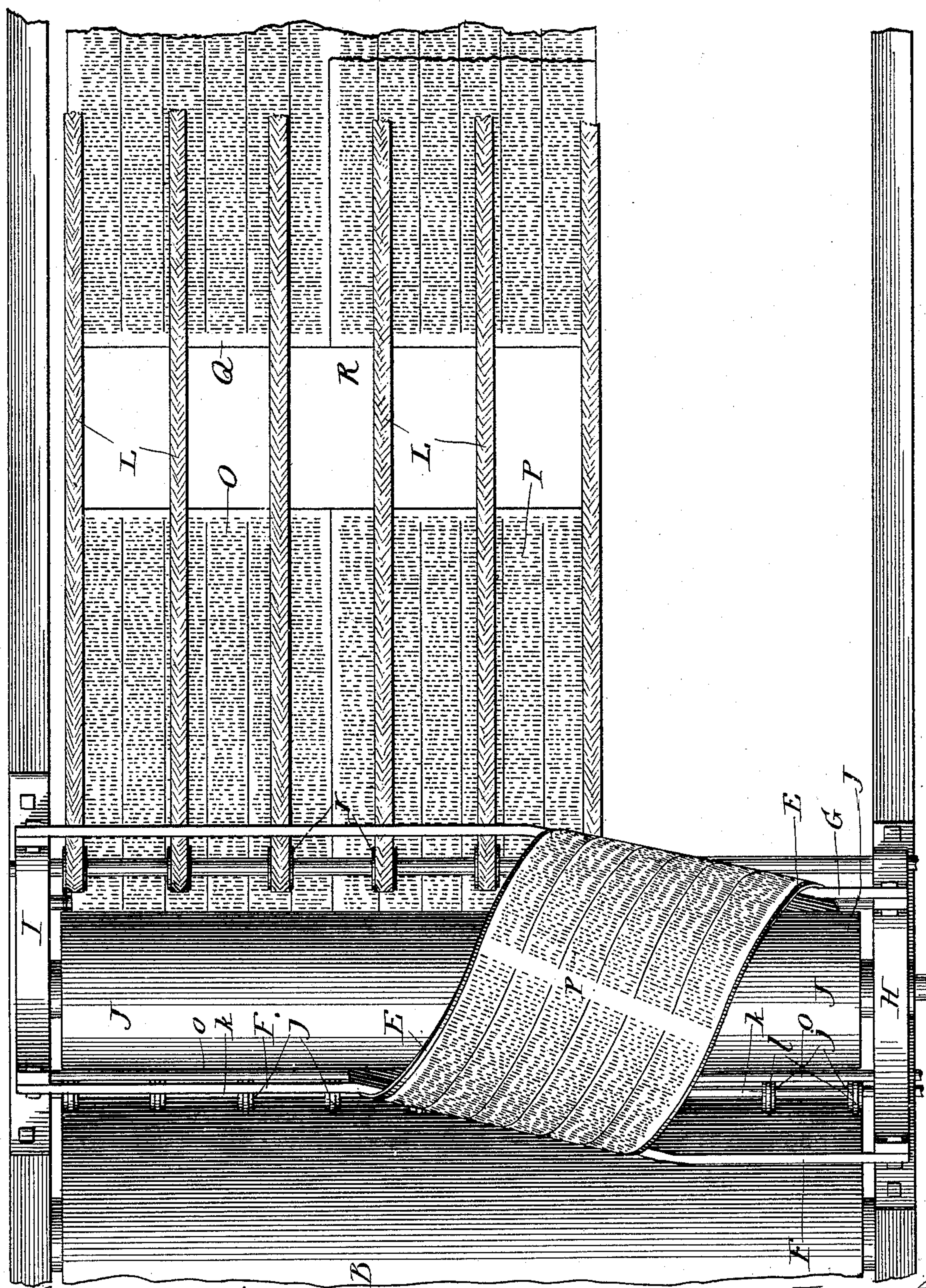
5 Sheets—Sheet 2.

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Witnesses:
Harry T. Jones.
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(No Model.)

5 Sheets—Sheet 3.

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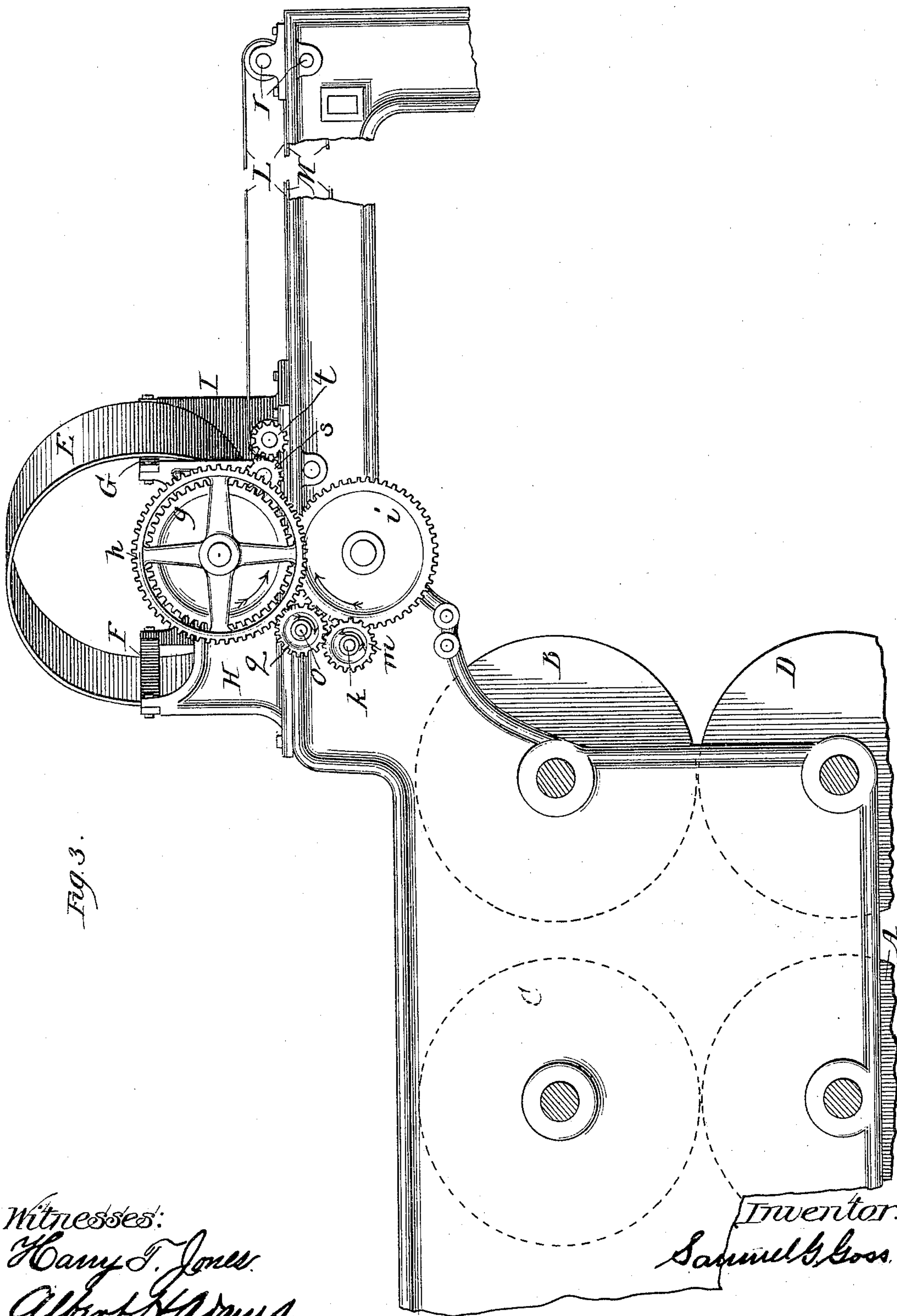


Fig. 3.

Witnesses:

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(No Model.)

5 Sheets—Sheet 4.

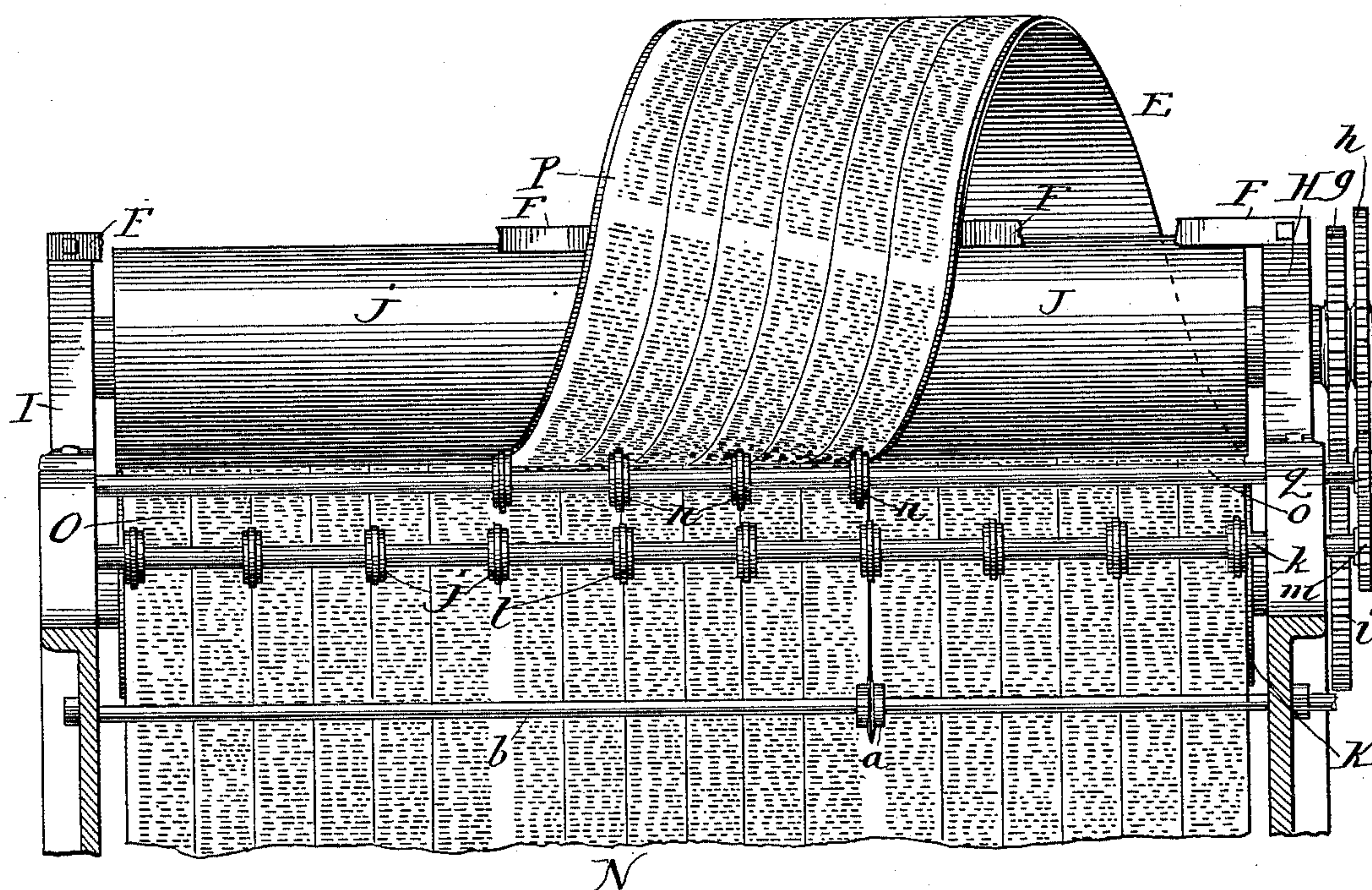
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Fig. 4.



Witnesses:

Harry T. Jones

Albert H. Adams

Inventor:

Samuel G. Goss

(No Model.)

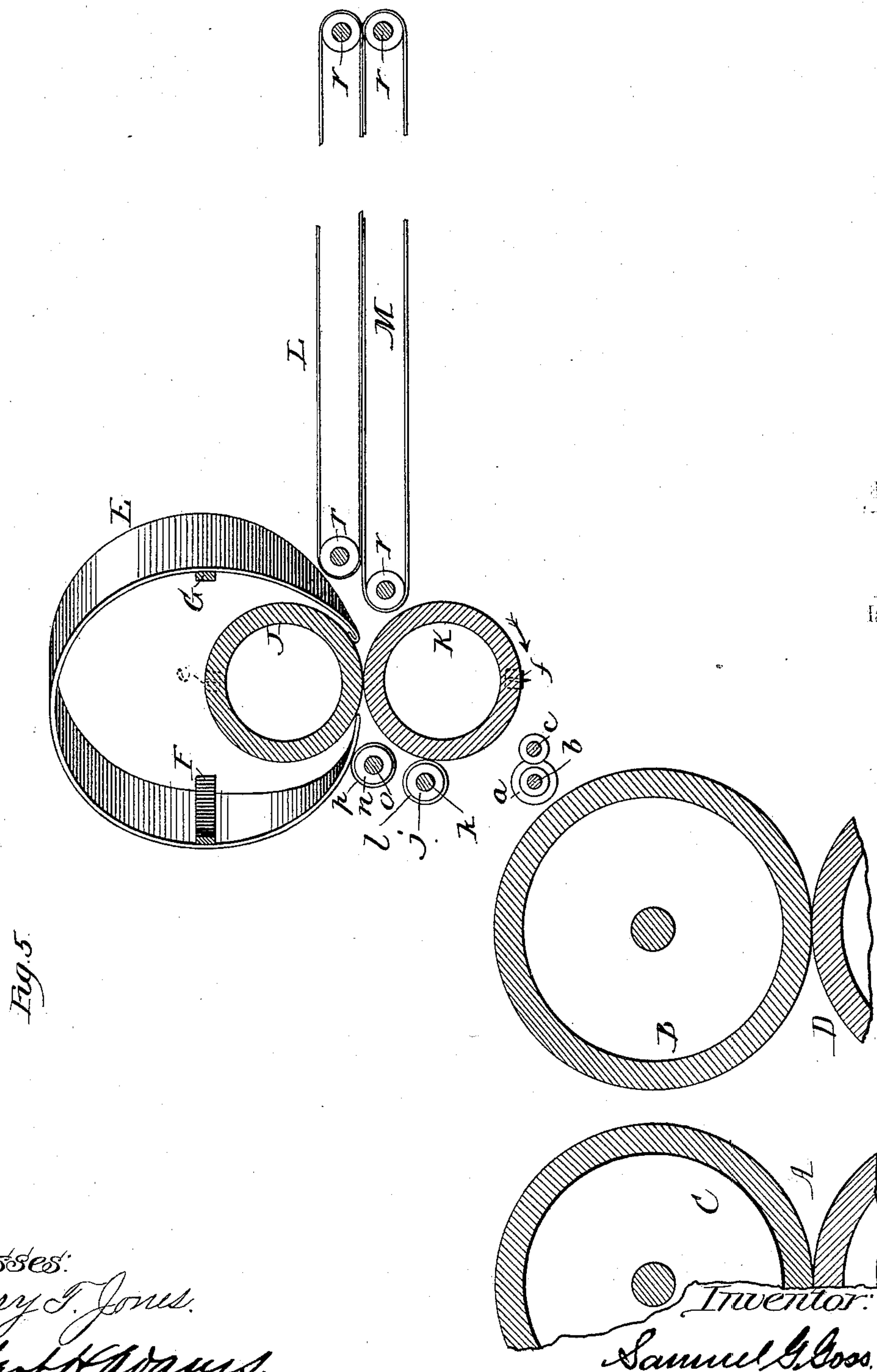
5 Sheets—Sheet 5.

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No. 432,036.

Patented July 15, 1890.



Witnesses:

Harry T. Jones.

Albert H. Adams.

Inventor:

Samuel G. Goss.

UNITED STATES PATENT OFFICE.

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

PRINTING-PRESS DELIVERY APPARATUS.

SPECIFICATION forming part of Letters Patent No. 432,036, dated July 15, 1890.

Application filed December 5, 1889. Serial No. 332,722. (No model.)

To all whom it may concern:

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

Figure 1 is a plan, no paper being shown. Fig. 2 is a plan representing one end only of the apparatus, paper being shown therein. Fig. 3 is a side elevation. Fig. 4 is a front view of the upper part of the apparatus, the printing-cylinders not being shown and the frame being in section, paper also being shown. Fig. 5 is a detail and is a sectional side view showing the location and arrangement of the printing-cylinders, the slitting device, the cutting-cylinders, transfer-guide, and the delivery-tapes.

The leading objects of my invention are to provide improved devices by means of which one sheet can be transferred laterally and brought into juxtaposition with another sheet, so that the two can be manipulated together; to so arrange the slitting-cutter, the cutting-cylinders, and transfer-guide that they will occupy but little room longitudinally, thereby making a more compact machine, to dispense with the use of delivery-tapes between the printing-cylinders and the transfer-guide, and to provide devices for carrying the paper around the transfer-guide without the use of delivery-tapes, all of which I accomplish as illustrated in the drawings, and as herein-after described.

That which I claim as new will be set forth in the claims.

My improvement is primarily designed or adapted to be used in connection with a printing-press by means of which a wide web is printed upon both sides, which web is then divided longitudinally, and in the drawings one of the two sheets shown is supposed to be a four-page sheet and the other a sheet of two pages.

In the drawings, A B are two blanket-cylinders.

C D are two plate-cylinders.

a is a slitting-cutter mounted on a shaft *b*. *c* is a roller provided with a groove to receive a slitting-cutter, as usual.

E is a transfer-guide, which is arranged somewhat diagonally to the line of travel of the paper. This guide is made of sheet metal, preferably steel, bent into the form shown in the drawings.

F G are two bars, the ends of which are secured to uprights *H I* on opposite sides of the frame, and these uprights may be regarded as parts of the frame. The transfer-guide is firmly secured to these two bars, which do not extend directly across the machine, but are bent, as shown in Figs. 1 and 2, to conform to the diagonal or oblique position of the transfer-guide. As shown, the ends of this transfer-guide are free and are not directly supported, and one end of this guide is, as shown, bent over a little upon itself, so as to present a rounding surface.

J K are two cutting-cylinders supported in suitable bearings. The cylinder *J* is provided with a recess *e*, and the other cylinder *K* is provided with a knife or cutter *f*. This recess and the cutter do not extend the whole length of their respective cylinders, as indicated by dotted lines in Fig. 1. As represented, this recess and knife extend a little more than two-thirds of the length of their respective cylinders.

g is a gear-wheel on the shaft of the cutting-cylinder *J*, and *h* is another gear-wheel on the same shaft, but a little larger than the wheel *g*.

i is a gear-wheel on the shaft which carries the cutting-cylinder *K*.

j are a number of rollers fixed upon a shaft *k*, each roller being provided on its periphery with a ring of rubber *l*, which rings are in close proximity with the cylinder *K*. The shaft *k* is provided on one end with a small gear-wheel *m*.

n are rollers mounted on a shaft *o*. Each roller is provided with a rubber ring *p*, arranged in close proximity with the transfer-guide *E*. The shaft *o* is provided with a small gear-wheel *q*, with which the gear-wheel *h* engages, and this gear-wheel *q* engages with the gear-wheel *m*.

L M are delivery-tapes, which run over tape-rollers *r*.

s, Fig. 3, is an idler between the gear-wheel *g* and the small gear-wheel *t* on one of the tape-roller shafts. The idler *s* is supported on a stud.

N is a web of paper. O P are the two parts of such web after the same has been cut by the slitting-knife.

Q represents a sheet of four pages after the same has been severed by the cutting-cylinders.

R represents a sheet of two pages in juxtaposition with the four-page sheet.

S represents a folding-blade.

The operation is as follows: The web of paper passes upward from the printing-cylinders between the slitting-cutter *a* and the roller *c*, by the action of which it will be divided into two parts, which two parts will then pass up between the rollers *j* and the cylinder K. The wide piece O of the severed web will pass between the cutting-cylinders and from thence directly to the delivery-tapes L M. The narrow piece P of the paper at the same time passes between the two cutting-cylinders J K and is carried up over and around the transfer-guide E, and then passes between rollers *n* and the adjoining end of the transfer-guide, and will pass a second time to the cutting-cylinders, having then been brought into juxtaposition with one-half of the part O of the severed web, and the two parts O P of the web will pass from the cutting-cylinders to the delivery-tapes L M. The two parts of the web after they have been brought into juxtaposition will be cut into sheets by the action of the cutting-cylinders J K. When the operation commences, the end of the web must be directed by hand up between the slitting-cutter *a* and roller *c*, and the two parts O P must in like manner be directed between the rollers *j* and the cylinder K, and the part P of the web must in like manner be directed over and around the transfer-guide E and between

the rollers *n* and the adjoining end of such transfer-guide and be brought a second time to the cylinders J K, from which the two parts of the web will be carried to the delivery-tapes L M. After the operation commences the rollers *j n* and the cylinders J K will carry the paper forward continuously. The tapes L M run somewhat faster than the cutting-cylinders, so that after the sheets have been severed they will travel a little faster than does the web, thereby leaving a space between the ends of the adjoining severed sheets, as indicated in Fig. 2. The cutting-cylinder J is located within the transfer-guide E, which nearly surrounds such cylinder, a little space being left between the two ends of the transfer-guide, where the cutting devices can operate. By this arrangement of the cutting-cylinders I am able to make the machine more compact than it would be possible if the cutting-cylinders were arranged in the usual manner.

What I claim as new, and desire to secure by Letters Patent, is as follows:

1. In sheet-delivery apparatus, a transfer-guide, in combination with two cutting-cylinders, one of which is located within the transfer-guide, substantially as and for the purpose specified.

2. The combination of a cutting-cylinder K, feed-rollers *l*, cutting-cylinder J, a transfer-guide partly surrounding the cylinder J, and feed-rollers *n*, substantially as and for the purposes specified.

3. A transfer-guide placed obliquely to the line of travel of the paper, in combination with two cutting-cylinders provided with cutting devices which extend only a part of the length of such cylinders, one of said cylinders being located within the transfer-guide, substantially as and for the purpose specified.

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Witnesses:

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