

No. 670,107.

Patented Mar. 19, 1901.

E. LAMBERT.

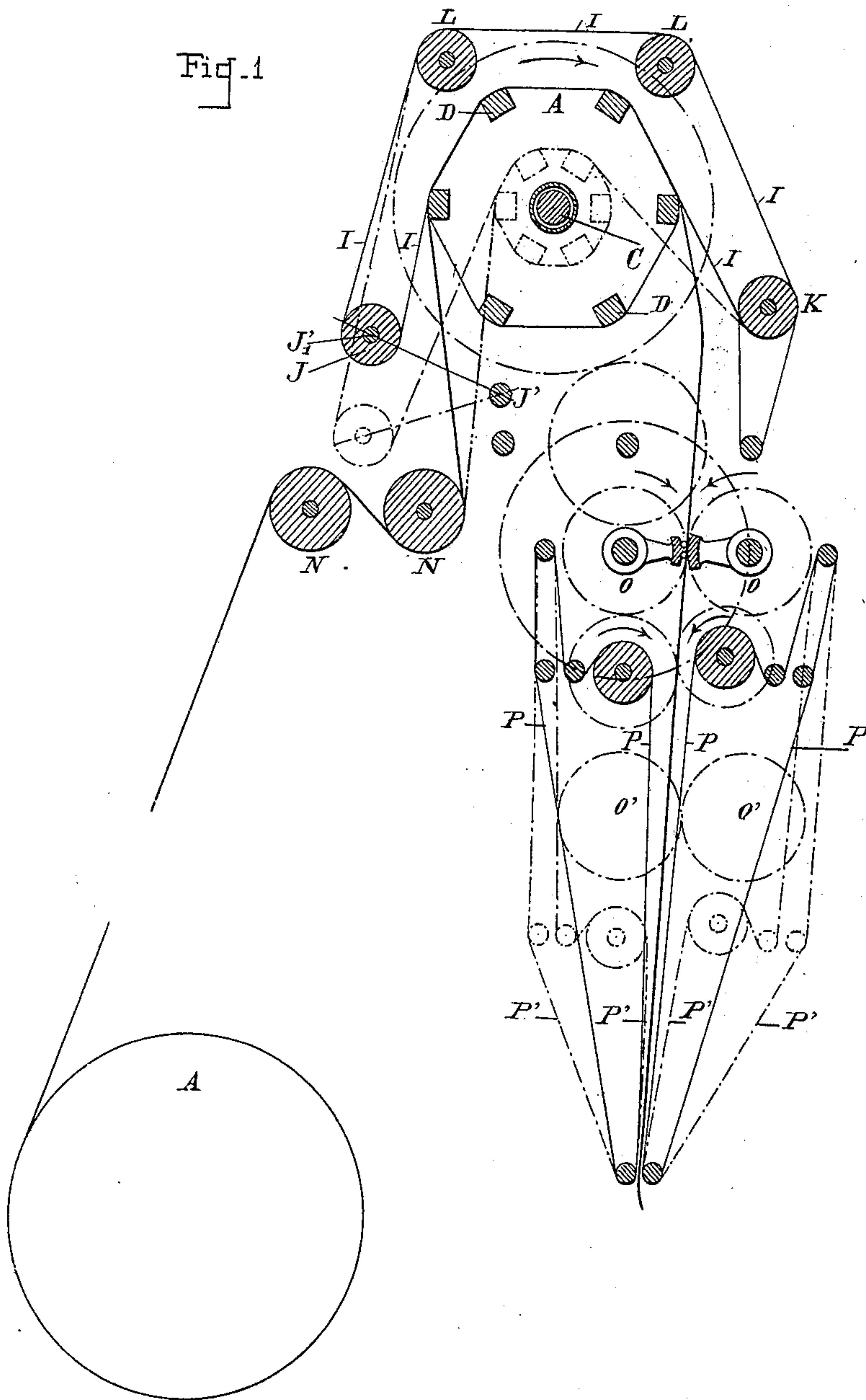
WINDING MECHANISM FOR PAPER AND SHEET FEEDING APPARATUS FOR WEB
PRINTING MACHINES.

(No Model.)

(Application filed Dec. 29, 1897.)

2 Sheets—Sheet 1.

Fig. 1



WITNESSES:
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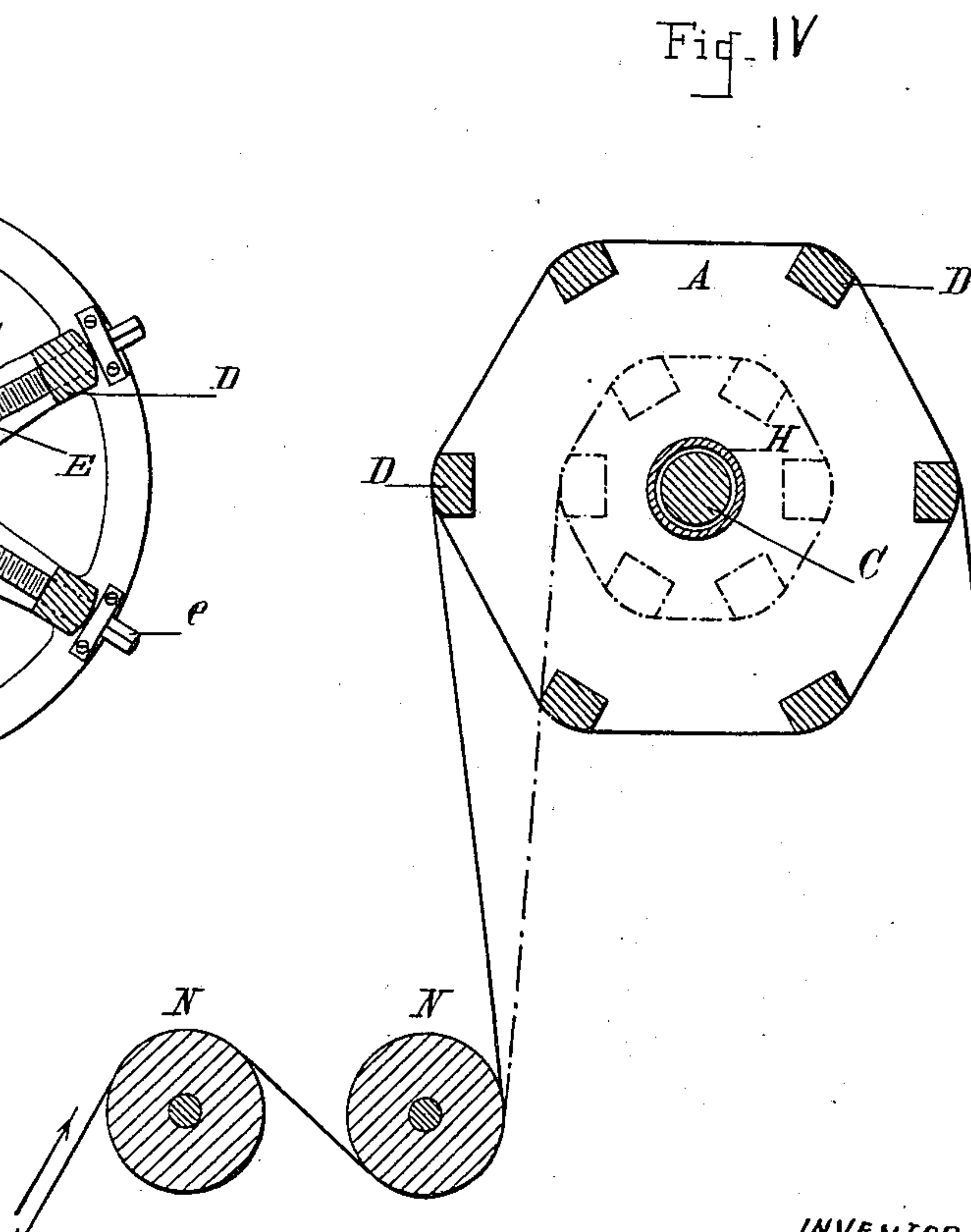
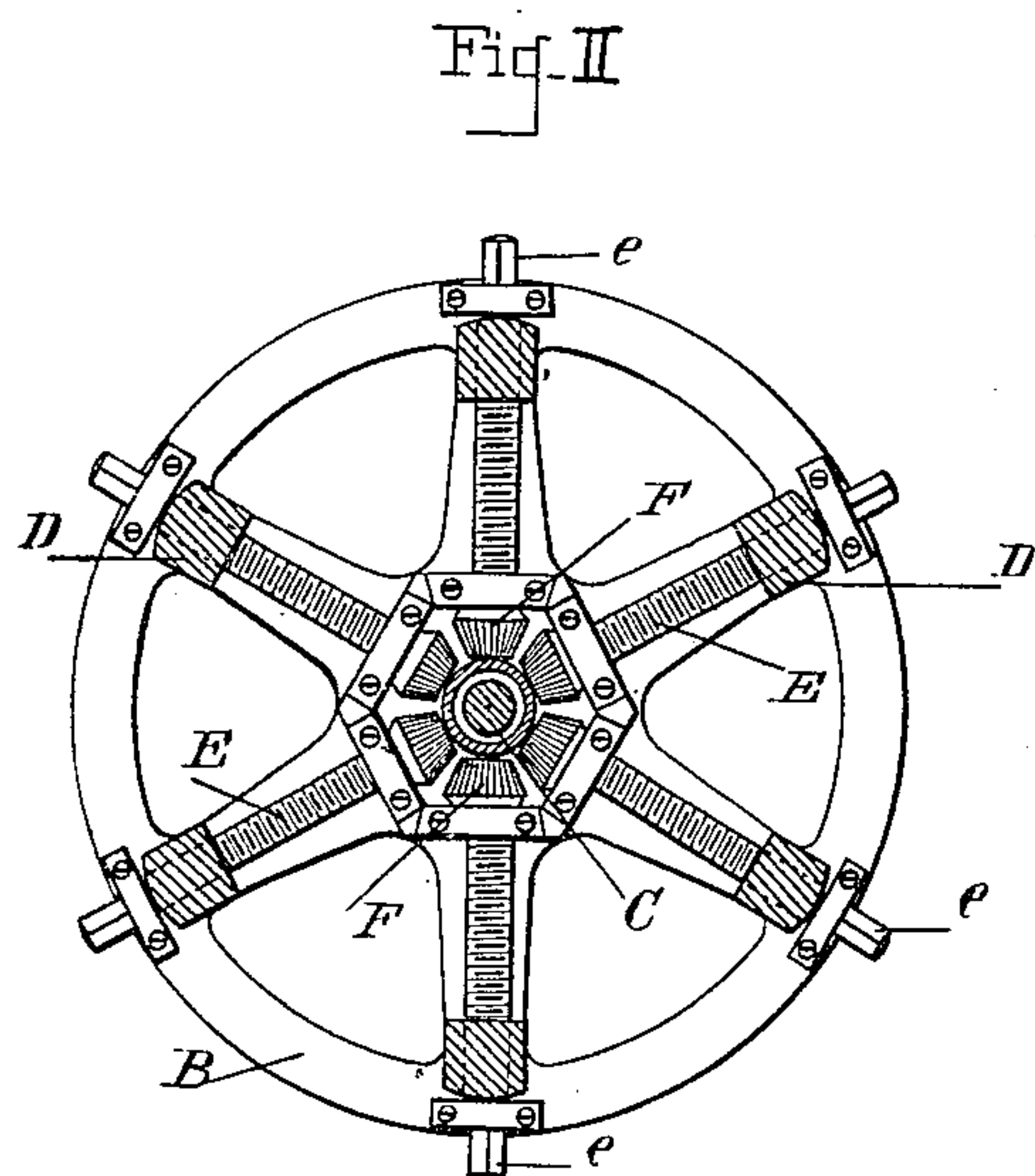
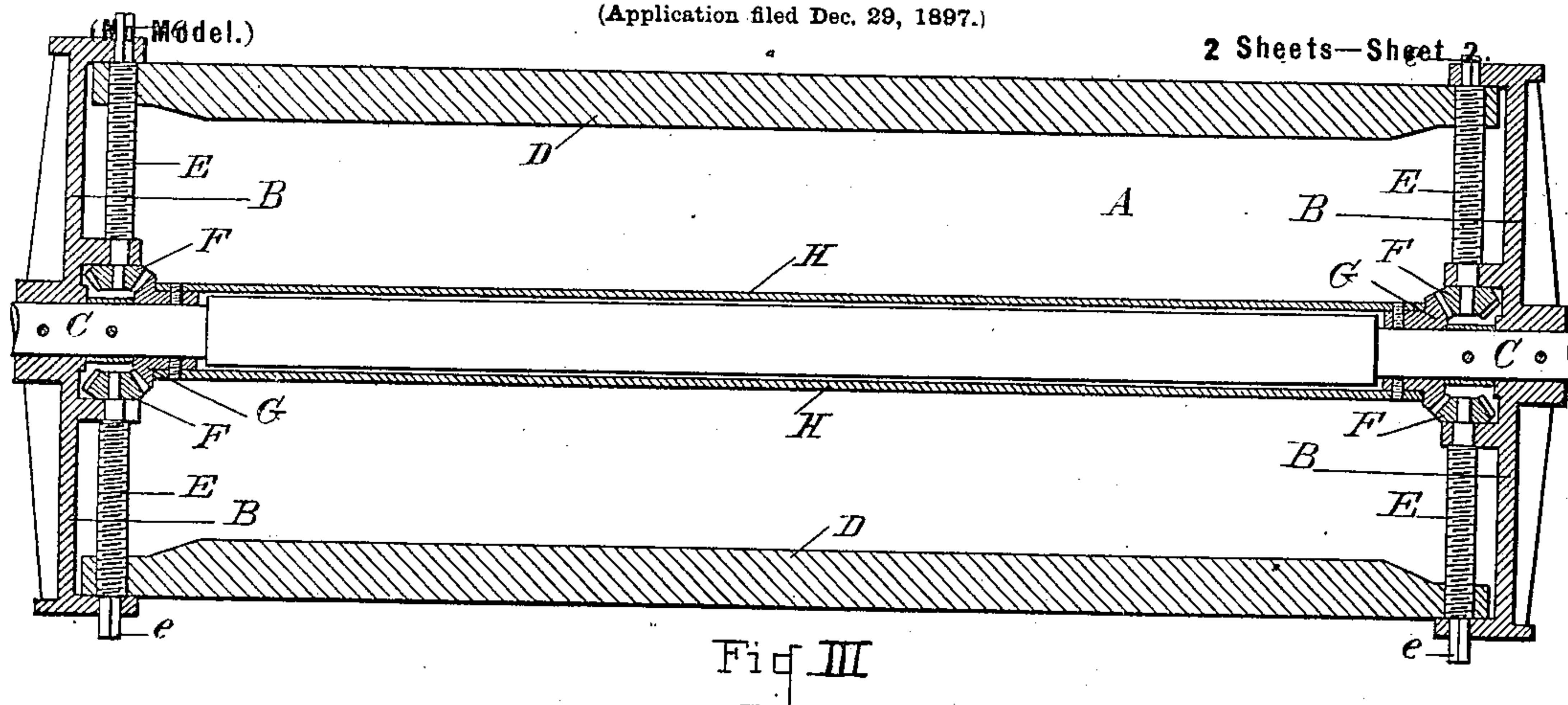
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UNITED STATES PATENT OFFICE.

EDOUARD LAMBERT, OF PARIS, FRANCE.

WINDING MECHANISM FOR PAPER AND SHEET-FEEDING APPARATUS FOR WEB-PRINTING MACHINES.

SPECIFICATION forming part of Letters Patent No. 670,107, dated March 19, 1901.

Application filed December 29, 1897. Serial No. 664,347. (No model.)

To all whom it may concern:

Be it known that I, EDOUARD LAMBERT, of No. 18 Rue Mogador, Paris, France, have invented an Improvement in Winding Mechanism for Paper and Sheet-Feeding Apparatus for Web-Printing Machines; and I do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement.

This invention relates to an apparatus which winds off paper or stuff bobbins at various speeds, and is particularly suitable for printing-machines in which the web may be cut into sheets of various lengths. The length can be changed without moving any gear. It is only necessary to turn a crank, and the paper can be wound off without any fold.

The principal characteristics of the invention are as follows: The apparatus is not composed, as usual, of two cylinders which press between them the paper or stuff to be drawn and can be driven by various gears to obtain various speeds, but of an expansible drum turning at an unvaried speed and of endless tapes or cloth, the paper or stuff to be drawn being pressed between the drum and the tapes. The drum is made of six or more bars which can be moved nearer to or farther from the axis, so as to change the speed of the paper bearing on them.

The accompanying drawings show such an apparatus.

Figure I shows a view of the mechanism. Fig. II shows a transverse section of the drum. Fig. III shows a longitudinal section of the drum. Fig. IV is a slightly-enlarged view of part of Fig. I on the same scale as Figs. II and III.

The drum A is composed of two circular pieces B B, fixed on the shaft C, which turns at an unvaried speed. On these pieces B B are six or more bars D D, placed on the apex of a regular polygon. These bars can be moved nearer to or farther from the axis of the shaft C by such a mechanism that they may be always parallel and on the apex of a regular polygon. Figs. II and III show, by way of example, such a mechanism. On each of the pieces B B are six screws E, which pass through the extremes of the bars D D. The

outer ends *e* of these screws are square, and on the inner ends of the screws are fixed six pinions F, gearing with a pinion G. The two pinions G (one on each end of the drum) are joined by a tube H, in which passes the shaft C. When one of the square ends *e* is turned by a crank, the twelve screws turn together, and the six bars are moved farther or nearer.

Around the drum A endless tapes (or cloth) I are stretched to make the paper or stuff adhesive on the bars. The tapes (or cloth) I pass on the roller J, which can be moved so as to stretch them by a suitable mechanism, which makes the lever J' turn on its axis. The tapes pass then onto the rollers K and L L. The travel of the paper or cloth is as follows: The paper or cloth comes from a bobbin A and passes onto the rollers N N and then between the tapes or cloth I and the bars D D. Pressed by the tapes on the bars the paper or stuff is regularly drawn, the surface speed being determined by the position of the bars D D.

For the printing-machines with the drum A and tapes I a cutting mechanism must be combined. The bars D D must be in such a position that during a revolution of the machine they draw the length of a sheet. The paper goes from the drum A to the cutting mechanism O O, and when the sheet is cut it goes on tapes P P to the nippers of the printing-machine. The distance between the cutting mechanism and the nippers must be changed when the length of the sheet is varied. The cutting mechanism must be lowered from O O to O' O' when the sheet is varied from the maximum length to the minimum length. In the same time the position of the tapes is changed from P to P'.

The speed of the paper in the cutting apparatus is the same as the surface speed of the drum when the minimum length must be drawn.

What I claim as my invention is—

1. In a winding apparatus the combination of an expansible drum composed of bars and fixed on a shaft which turns at an unvaried speed with endless tapes or cloth stretched on it so as to draw between them paper or stuff.
2. The combination with an expansible drum and endless tapes or cloth of a mechan-

ism which changes the distance between the bars and consequently gives the desired surface speed, and which is driven by a single crank.

- 5 3. The combination with an expansible drum and endless tapes of a cutting mechanism.

In witness whereof I have hereunto set my hand in presence of two witnesses.

EDOUARD LAMBERT.

Witnesses:

EDWARD P. MACLEAN,
JULES FAYOLLET.