

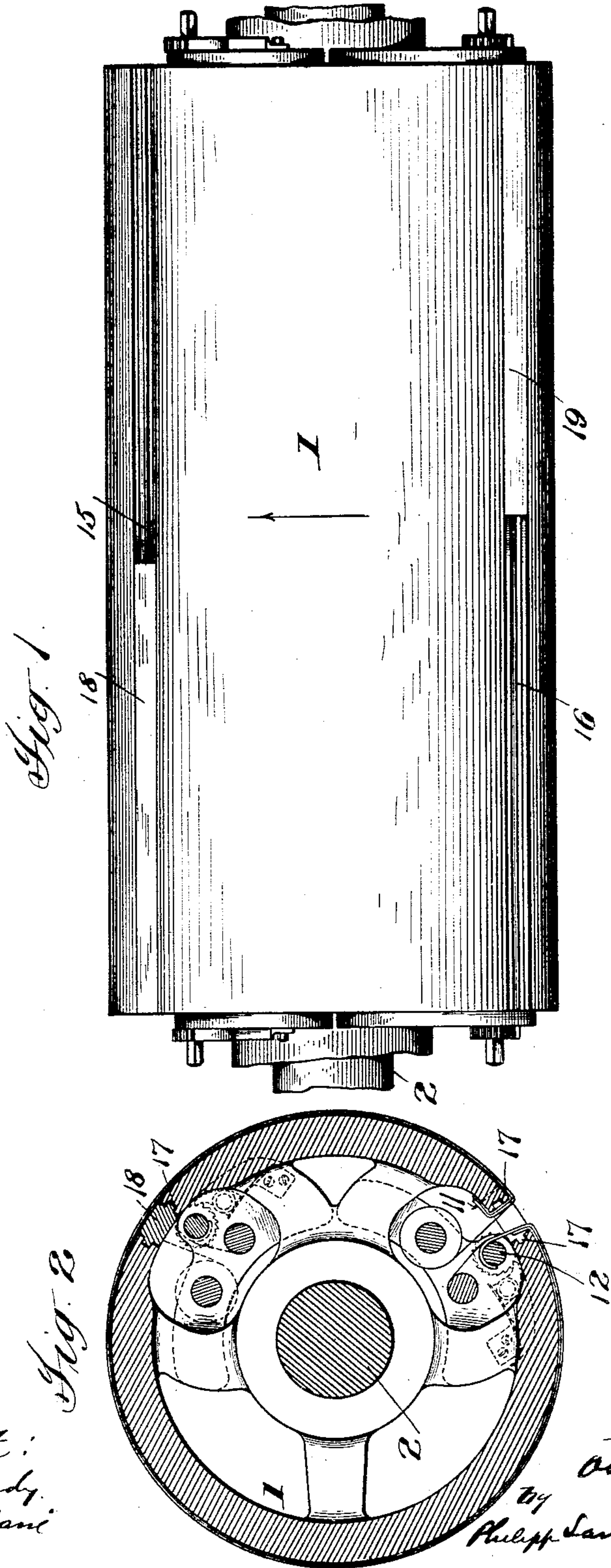
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CYLINDER FOR PRINTING MACHINES.

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NO MODEL.



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# UNITED STATES PATENT OFFICE.

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## CYLINDER FOR PRINTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 733,277, dated July 7, 1903.

Application filed November 12, 1902. Serial No. 130,968. (No model.)

*To all whom it may concern:*

Be it known that I, OSCAR ROESEN, a citizen of the United States, residing at New York, county of New York, and State of New York, have invented certain new and useful Improvements in Cylinders for Printing-Machines, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to certain improvements in cylinders for printing-machines.

In printing-machines employing a plurality of printing-couples it is desirable to arrange the cylinders of one or more of the rotary couples so that the direction of rotation of the cylinders may be reversed. In constructions in which the plate-cylinders are arranged to carry staggered plates, however, when the direction of rotation of one or more of the couples is reversed the impressions do not fall in proper relation on opposite sides of the web, and it has been customary in most cases to introduce a special slitting mechanism into the machine and also to use special compensating mechanism to retard or increase the length of travel of one or both portions of the web, so as to bring the impressions on opposite sides of the web into proper relation with the other webs with which they are to be associated. The introduction of slitting and compensating mechanisms produces a machine of considerable complexity and is objectionable for that and other reasons. If, however, the use of these slitting and compensating mechanisms is to be avoided, the stagger of the plates must be changed—that is to say, the plates which are in advance when the cylinders are rotating in one direction must be the rear set of plates when the cylinders are rotating in the other direction. This change in the stagger of the plates, however, necessitates in couples of the ordinary construction a corresponding change in the position of the impression-surfaces which correspond to the plates—that is to say, the surface on the impression-cylinder which is the leading surface when the couple is running in one direction must be the rear surface when the couple is running in the opposite direction.

The present invention has for one of its ob-

jects to produce a cylinder adapted for use in a printing-couple arranged to carry staggered plates, the cylinder being so constructed that the changes of stagger incident to a reversal of the couple may be readily and easily made.

A further object of the invention is to provide an impression-cylinder adapted for use in a couple arranged to print from staggered plates in which the position of the impression-surfaces and the blankets and other appurtenances incident thereto may be readily shifted when the stagger of the plates is altered.

With these and other objects in view the invention consists in certain constructions and in certain parts, improvements, and combinations, as will be hereinafter fully described and then specifically pointed out in the claims hereunto appended.

In the accompanying drawings, Figure 1 is an elevation of the improved cylinder, and Fig. 2 is a sectional end elevation of the construction shown in Fig. 1.

Referring to the drawings, 1 indicates a cylinder adapted for use in a printing-couple. In the construction shown the cylinder 1 is an impression-cylinder and is mounted on a shaft 2, which will be supported in the frame in the usual manner. This cylinder is adapted for use with a plate-cylinder carrying sets of staggered plates and is constructed so that the position of the impression-surfaces may be altered when the stagger of the plates is altered—as, for instance, when the direction of rotation of the couple is reversed.

The means by which the relative position of the impression-surfaces on the cylinder is to be shifted include in the construction illustrated gaps 15 and 16. As shown, these gaps are continuous—that is to say, they extend entirely across the cylinder from side to side—and this is the preferred construction. It is to be understood, however, that gaps which are not continuous might under some circumstances be employed.

When the cylinder is rotating in the direction indicated by the arrow, the right-hand side of the gap 15 will define or form the leading end of the impression-surface which coöperates with the leading set of plates and the left-hand side of the gap 16 will form or de-



fine the leading end of the impression-surface which coöperates with the rear set of plates.

In order that the impression-surfaces may be continuous, gap-filling means are employed, by which the parts of the gaps which do not define the ends of the impression-surfaces may be closed. These filling means may be considerably varied in construction. As shown, each of the gaps 15 and 16 has grooved sides, the groove being marked 17, and located in the gaps are tongued blocks 18 and 19. When the gaps are continuous, as in the construction shown, these blocks can be simply shifted from side to side of the cylinder as desired—that is to say, when the direction of the cylinder is reversed from that indicated in Fig. 1 the block 18 will be slid across to the side of the cylinder opposite to that which it is shown as now occupying in the drawings, and the block 19 will be similarly shifted.

Any suitable blanket-securing means may be employed. As shown, these means consist of pins 11 and reel-rods 12. In the preferred construction the reel-rods will extend across the machine from side to side, so that only two sets of reel-rods are employed, although, if desired, four sets of reel-rods might be employed—that is, one set for each side of each slot.

Changes and variations may be made in the construction by which the invention is carried into effect. The invention is not, therefore, to be confined to the specific construction hereinbefore described.

What is claimed is—

1. The combination with a cylinder of a width adapted to provide two impression-surfaces, said cylinder having a gap which may form the head of either surface, and a gap located in advance of the first gap which may also form the head of either surface, of means for filling a part of each gap, substantially as described.

2. The combination with a cylinder of a width adapted to provide two impression-surfaces, said cylinder having a gap extending entirely across it which may form the head of either surface, and a gap extending entirely across the cylinder located in front of the first-named gap which may also form the head of either surface, of means for filling a part of each gap, substantially as described.

3. The combination with a cylinder of a width adapted to provide two impression-surfaces, said cylinder having a gap which extends entirely across it and which may form the head of either surface, and a gap extending entirely across the cylinder located in advance of the first-named gap which may also form the head of either surface, of sliding blocks located in the gaps, said blocks being adapted to fill parts of the gaps, substantially as described.

4. The combination with a cylinder of a width adapted to provide two impression-surfaces, said cylinder having a gap which may form the head of either surface, and a gap located in advance of the first gap which may also form the head of either surface, of means for filling a part of each gap, and blanket-securing means located adjacent to the gaps, substantially as described.

5. The combination with a cylinder of a width adapted to provide two impression-surfaces, said cylinder having a gap extending entirely across it which may form the head of either surface, and a gap extending entirely across the cylinder located in front of the first-named gap which may also form the head of either surface, of means for filling a part of each gap, and blanket-securing means adjacent the gaps and extending across the cylinder from side to side, substantially as described.

6. The combination with a cylinder of a width adapted to provide two impression-surfaces, said cylinder having a gap which extends entirely across it and which may form the head of either surface, and a gap extending entirely across the cylinder located in advance of the first-named gap which may also form the head of either surface, of sliding blocks located in the gaps, said blocks being adapted to fill parts of the gaps, and blanket-securing reels located adjacent the gaps and extending across the cylinder from side to side, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

OSCAR ROESEN.

Witnesses:

OTTO L. RAABE,  
P. P. CHEWS.