

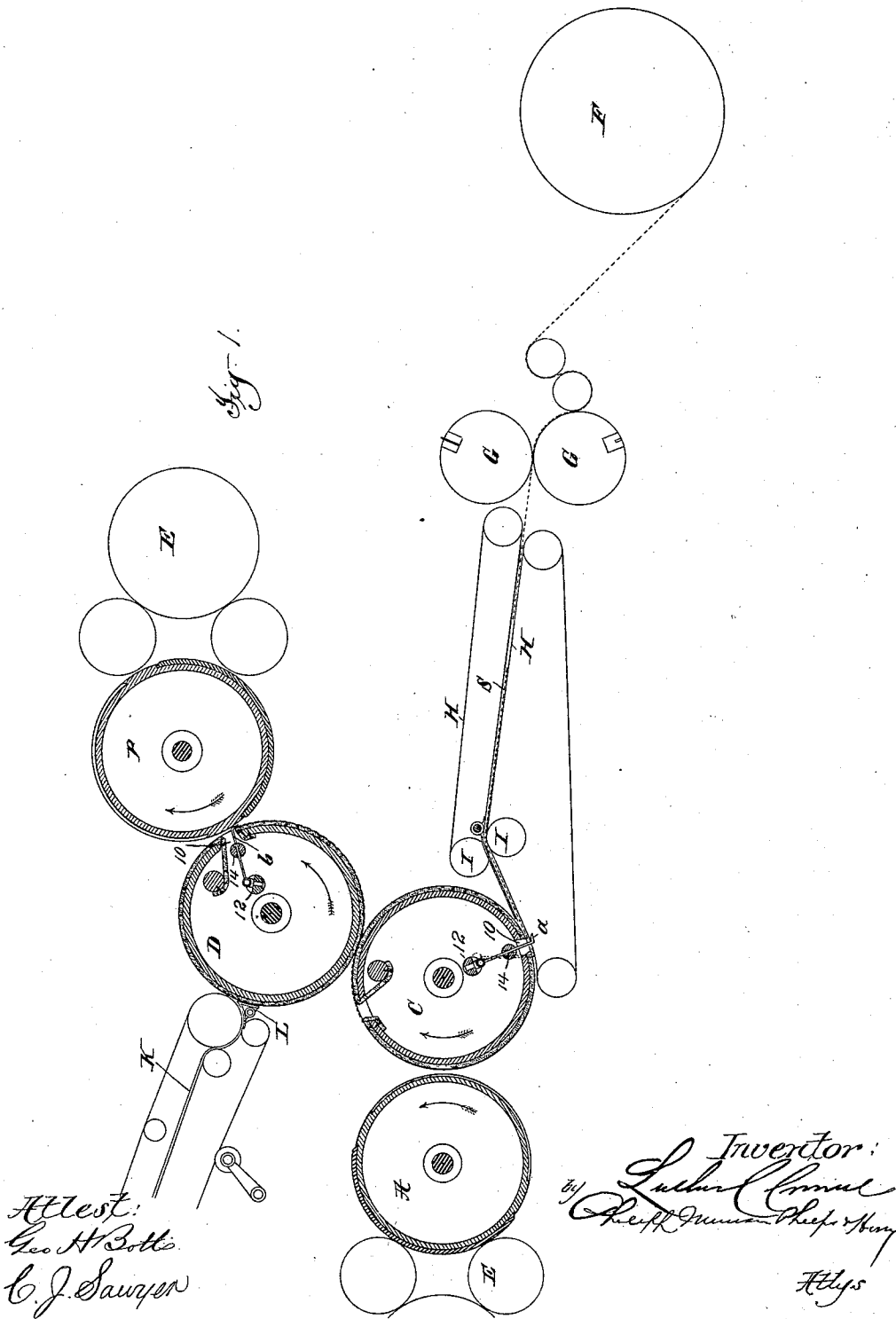
(No Model.)

7 Sheets—Sheet 1.

L. C. CROWELL.
FEEDING MECHANISM.

No. 484,141.

Patented Oct. 11, 1892.



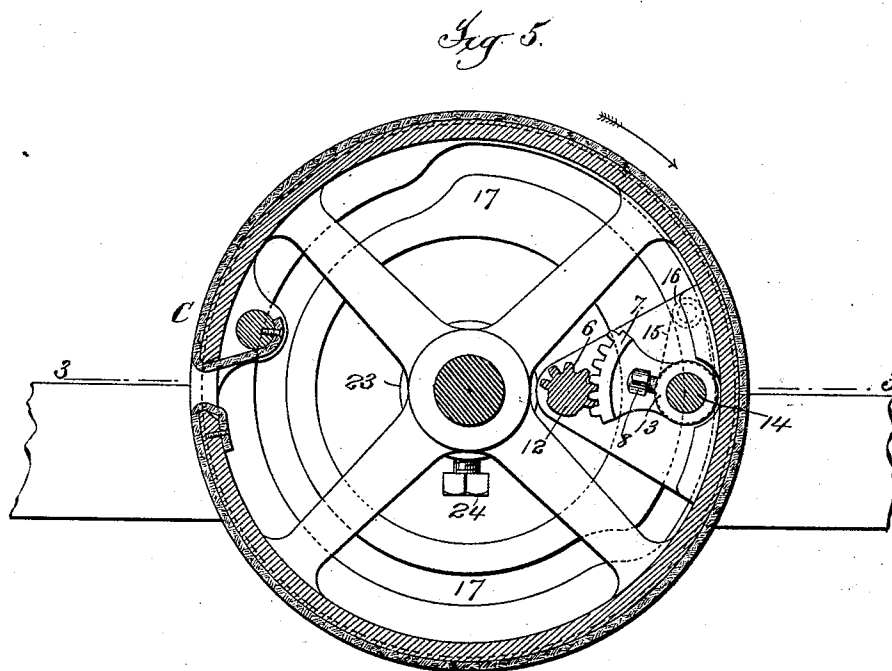
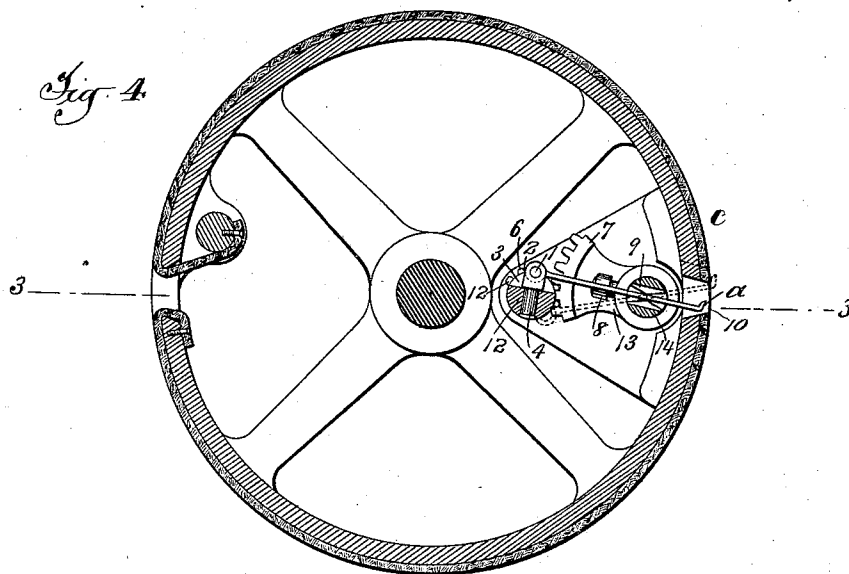
(No Model.)

7 Sheets—Sheet 3.

L. C. CROWELL.
FEEDING MECHANISM.

No. 484,141.

Patented Oct. 11, 1892.



Attest:
Geo. H. Potts.
C. J. Sawyer

Inventor:
Luther C. Crowell
by *Philip H. Hony*
Attys

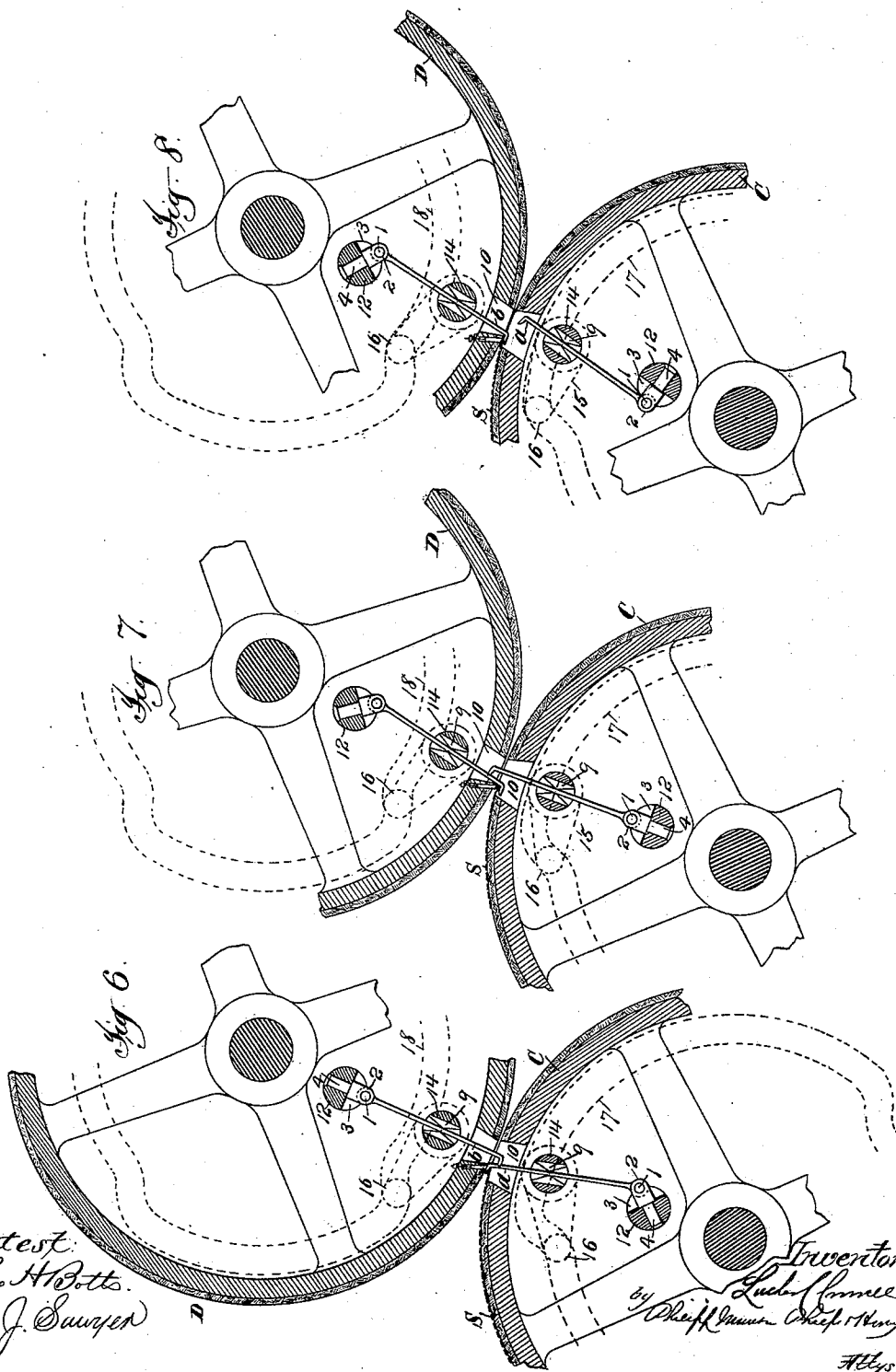
(No Model.)

7 Sheets—Sheet 4.

L. C. CROWELL.
FEEDING MECHANISM.

No. 484,141.

Patented Oct. 11, 1892.



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Fig. 9.

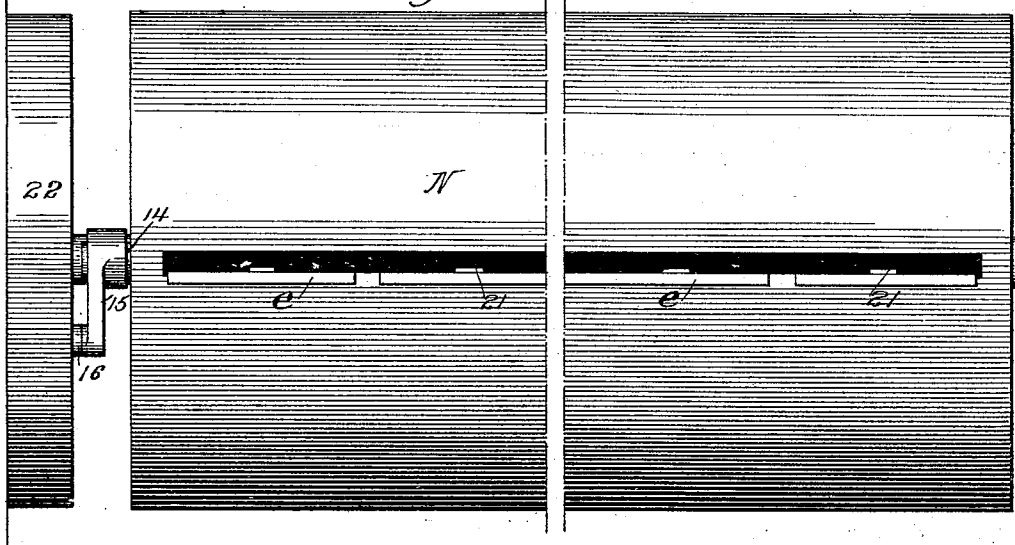
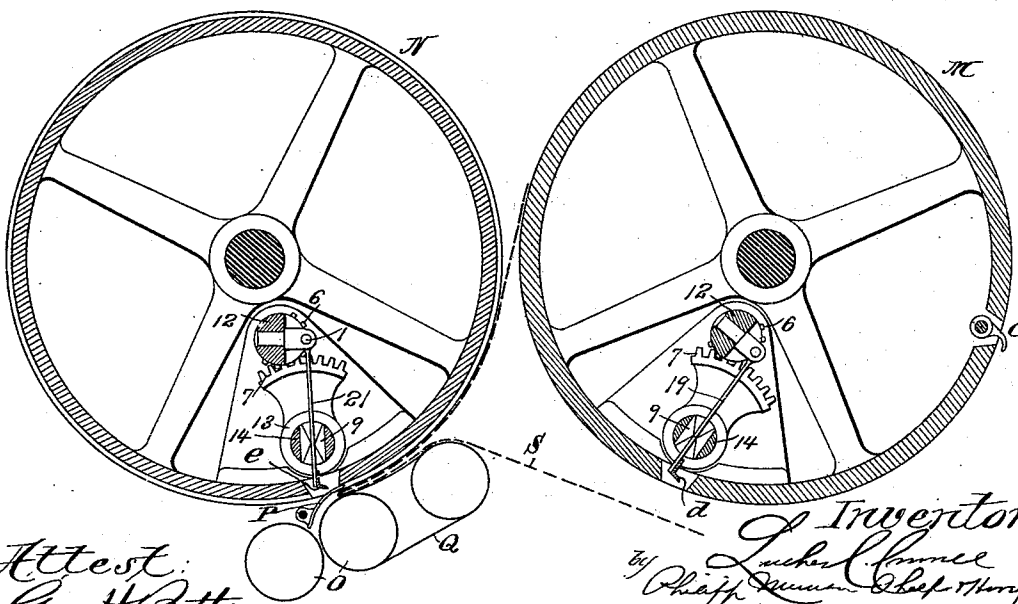


Fig. 12.



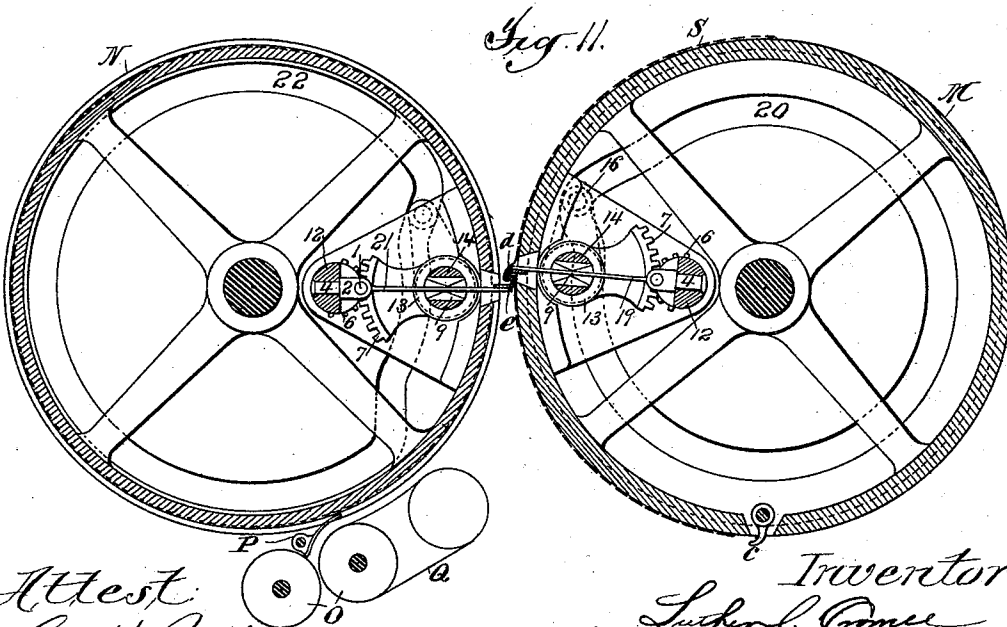
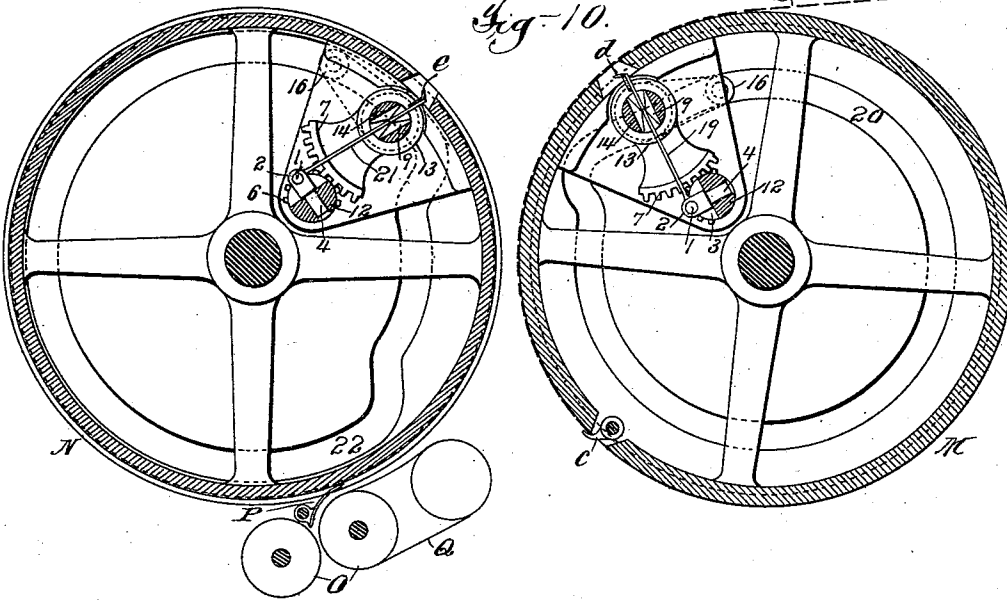
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L. C. CROWELL.
FEEDING MECHANISM.

No. 484,141.

Patented Oct. 11, 1892.



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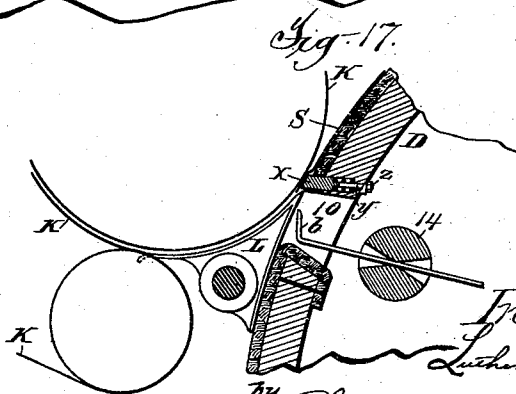
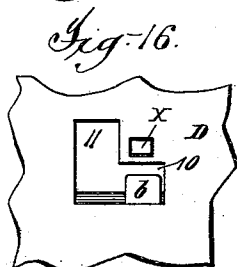
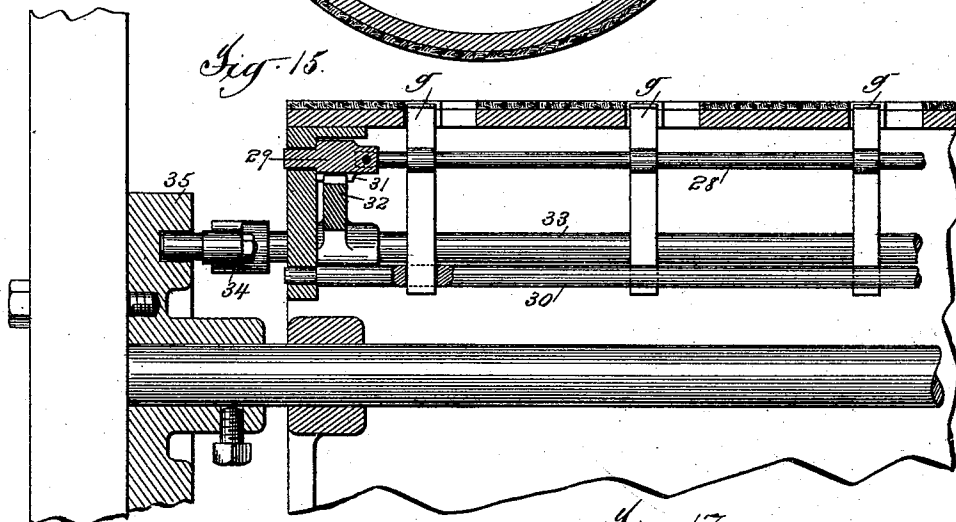
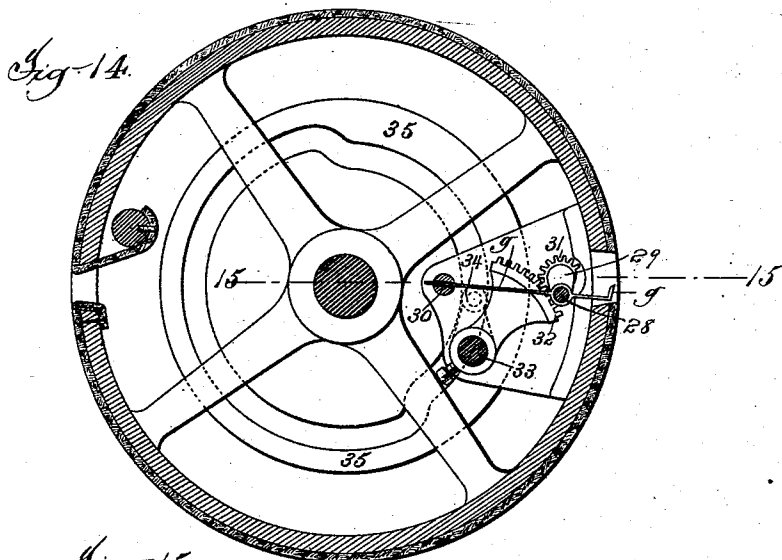
(No Model.)

7 Sheets—Sheet 7.

L. C. CROWELL.
FEEDING MECHANISM.

No. 484,141.

Patented Oct. 11, 1892.



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Geo. H. Botts
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Inventor:
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Atty

UNITED STATES PATENT OFFICE.

LUTHER C. CROWELL, OF BROOKLYN, ASSIGNOR TO ROBERT HOE, STEPHEN D. TUCKER, THEODORE H. MEAD, AND CHARLES W. CARPENTER, OF NEW YORK, N. Y.

FEEDING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 484,141, dated October 11, 1892.

Application filed August 4, 1891. Serial No. 401,652. (No model.)

To all whom it may concern:

Be it known that I, LUTHER C. CROWELL, a citizen of the United States, residing at Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Feeding Mechanism, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to the sheet-retaining devices employed in printing and other arts to seize the leading end of a sheet or web and hold it in position upon a cylinder while the sheet or web is fed forward thereby. One form of such sheet-retaining devices now in use is that of oscillating gripping-fingers, or, as they are commonly known, "grippers," which are being alternately rocked inward against the outer surface of the cylinder to seize and hold a sheet as it is fed within the range of their movement and outward from the cylinder to release the sheet, these grippers being commonly operated by means of cams or equivalent devices properly timed for the special gripper movement desired.

The object of the present invention is to improve the construction of this class of sheet-retaining devices; and to this end my invention consists in various improved constructions and combinations of parts, all of which will be more particularly described hereinafter in connection with constructions embodying the invention, and specifically pointed out in the claims.

My invention may be applied in various ways, and the constructions embodying the same will vary with the character of the work which the grippers are intended to perform. In order to illustrate fully the principle of my invention, therefore, I have shown in the accompanying drawings the preferred forms of construction embodying my invention as applied in the three operations of sheet transferring, delivering, and sheet-folding, and from a description of these constructions and their operation the constructions required for other applications of the invention will be apparent to those skilled in the art.

Referring to said drawings, Figure 1 is a sectional diagram showing my invention as

applied to sheet-transferring in a printing mechanism. Fig. 2 is a plan of the first gripper-cylinder. Fig. 3 is a longitudinal section on the line 3 3 of Figs. 4 and 5, showing one end of the gripper-cylinder on an enlarged scale. Fig. 4 is a section on the line 4 4 of Fig. 3, looking to the right. Fig. 5 is a section on the line 5 5 of Fig. 3, looking to the left. Figs. 6, 7, and 8 are detail sections showing the two gripper-cylinders in three different positions during the transfer of a sheet. Fig. 9 is a plan view of a gripper-cylinder provided with my improved grippers, as constructed for folding. Figs. 10, 11, and 12 are sections showing a pair of gripper-cylinders in three positions during the operation of folding, and Figs. 13, 14, and 15 show modifications. Figs. 16 and 17 are details herein-after referred to.

In Fig. 1 A B are the first and second type-cylinders, and C D the corresponding impression-cylinders, of an ordinary printing mechanism, the type-cylinders being provided with the usual inking mechanism E. The sheets S from the web-roll F are partially severed by the perforators G and fed forward by tapes H to the breaking-rolls I, by which they are fully severed, and thence to the first impression-cylinder C, where they receive the first impression, and by which they are transferred to the second impression cylinder D, where they receive their second or perfecting impression, and from which they are delivered to the tapes K over switch L. It will be understood that this particular arrangement forms no part of my invention, but is only one of the common forms of mechanism employing cylinders for transferring sheets and shown as well adapted to illustrate my invention.

Referring now to the parts embodying my invention, the first gripper-cylinder C is provided with a series of openings 10, arranged longitudinally of the cylinder, through which the grippers *a* operate, these openings 10 being of sufficient length for the play of the grippers. The cylinder is provided, also, with a second series of openings 11, through which the grippers on the co-operating second gripper-cylinder D enter cylinder C for receiving

the sheet. These openings are shown as continuations of openings 10, and this construction is preferable on account of cheapness of manufacture and because in certain cases it is desirable that all grippers should act at certain points of the printed sheets; but it will be understood that the construction is equally efficient with the grippers of the second cylinder entering the first cylinder at other points longitudinally of the cylinder. As it is necessary that the grippers of the second cylinder D should seize the sheet from within the cylinder C and grip it against the surface of cylinder D on the same line as grippers *a*, the openings 11 extend slightly behind the openings 10, as shown clearly in Fig. 2, and are of sufficient length for the play of the grippers of cylinder D within the cylinder. The grippers *a*, as shown, consist of short fingers acting to grip the sheet against the outer surface of the cylinder and having stems entering the cylinder and pivotally mounted at their inner ends on a rock-shaft 12, extending longitudinally through the cylinder and forming a rocking support for the grippers. The grippers may be pivotally mounted on the rock-shaft in any suitable manner. As shown, the grippers are loosely mounted on the pivot-pins 1, carried by blocks 2, having stems 4 riveted or otherwise secured to the shaft in recesses 3, which are formed by cutting away shaft 12 on one side, this construction being compact while giving free movement for the inner ends of the gripper-stems transversely to the shaft. The rock-shaft 12 is pivoted in the two heads of the cylinder and is preferably supported between the heads, as by supports 5, formed by screws tapped into the cylinder, as shown, or in any other suitable manner.

For the purpose of controlling the movement of the grippers *a* during the rocking of shaft 12 it is necessary to provide guides between which the stems of the grippers move longitudinally, and to secure the proper action of the grippers it is desirable that the guides should be as close together as is consistent with free movement of the grippers. To prevent the binding of the grippers in the guides, therefore, I prefer to employ narrow guides which rock with the rock-shaft 12 and grippers *a*. These guides may be constructed and actuated in any suitable manner; but in order to secure the proper relative movement of the guides and grippers I prefer to form the guides by slots in a second rock-shaft mounted in the cylinder outside the rock-shaft 12, and to connect the two rock-shafts so as to actuate one from the other.

The particular form of connections used between the shafts and the actuating means may be varied widely, but I have shown a simple construction which I have found efficient. The shaft 12 is provided at the end, just inside the cylinder, with a segmental gear 6, formed, preferably, by teeth cut in the circumference of the shaft, as shown, although

this gear may be provided in any other suitable manner, and this gear is engaged by a segmental gear 7, oscillated by shaft 14, mounted in the heads of the cylinder outside the shaft 12, the segmental gear being preferably carried by arm 13, adjustably secured upon the shaft 14 by a set-screw 8, or in any other suitable manner. Outside the cylinder the shaft 14 carries a crank-arm 15, preferably adjustably secured thereto by means of a set-screw 8, this crank-arm being provided with a bowl 16, which runs in a fixed cam 17, secured to the frame of the machine, as shown in Fig. 3, or mounted in any other suitable manner. The form of this cam 17 will be modified in accordance with the work which the gripper is to perform. As shown, the cam is of such form as to close the grippers *a* on the receipt of the sheet from the tapes H and hold it during the first impression and until the sheet is carried into position to be delivered to the grippers on cylinder D, when the cam operates to open the grippers and release the sheet. The guides for the grippers are formed by slots 9, through which the stems of the grippers pass, these guides being preferably guiding-edges, which are formed, preferably, by beveling the slots inwardly from opposite sides of the shaft, so that the gripper is engaged only on a single line on each side, and the gripper is free to oscillate on the pivot thus formed while being positively guided and controlled thereby as it slides through the shaft. It will be understood that the crank-arm and bowl may be carried by either rock-shaft; but I prefer to actuate the inner shaft from the outer, as shown. The cylinder D is provided, also, with grippers *b*, operated by means of a cam 18. As the construction of these grippers and their supporting and operating parts is identical with that just described in connection with cylinder C, the same reference-letters may be used for corresponding parts in the two cylinders and no detailed description need be given thereof in connection with cylinder D. The cylinder D also has openings 10 11, corresponding to those of cylinder C, and as the grippers *a* enter the cylinder D behind the line on which the grippers *b* engage the sheet, as shown in Figs. 6 and 7, the openings 11 are extended behind the openings 10, as in cylinder C, and as shown in the detail, Fig. 16. The cam 18 is of the same general construction as the cam 17, by which the grippers *a* of the cylinder C are operated; but its detailed form is varied and the timing of the parts changed, so that the grippers *a* release the sheet and the grippers *b* simultaneously or immediately thereafter seize the leading end of the sheet and hold it during the second impression, and are then operated to release the sheet at switch L over which the sheet passes to the delivery-tapes K.

The sheet may be taken from the cylinder D by pins or grippers on the release of the grippers *b*, as is common with other grippers;

but I prefer to provide the cylinder D with means for throwing the end of the sheet off the cylinder as it reaches the switch, so that the sheet may be delivered by a switch and tapes or other feeding mechanism, as shown, without the use of receiving pins or grippers. For this purpose I use the following means: (Shown in Figs. 6, 7, and 8 and in detail in Figs. 16 and 17.) The cylinder D is recessed beneath each of the gripper-fingers, and in the recesses are mounted small spring-cushions x , which form a part of the surface engaged by the grippers. The spring-cushions may be formed in any suitable manner so as to normally project slightly from the surface of the cylinder and may consist simply of elastic blocks set in the cylinder or flat springs mounted therein. In the preferred construction shown the cushions x are carried by stems y , sliding through the shell of the cylinder and pressed by coiled springs, as shown, being held against the tension of the springs by nuts z on the stems pressing against the inner surface of the shell, this construction enabling the cushions to be adjusted, as desired, to secure their proper action. The spring-cushions not only perform the function of throwing off the leading end of the sheet for delivery, but co-operate with the grippers b in the operation of taking a sheet by transferring from another cylinder or otherwise, as the sheet is gripped by the cushions and grippers early in the gripping movement of the grippers, and thus held in position until the grippers engage the surface of the cylinder.

The operation of the grippers in transferring a sheet will be understood from Figs. 6, 7, and 8, which show the gripper-cylinders and grippers in three positions. In Fig. 6 the sheet S is just being advanced by the cylinder C into position to be transferred to cylinder D, the cam 17 is just about to operate the grippers a to release the sheet, and the grippers b are open and in their central position within the cylinder A and just about to be closed by cam 18. In Fig. 7 the grippers a have been opened by cam 17 and are just about to be withdrawn within the cylinder and the grippers b are just being closed by the cam 18 to grip the sheet S to the cylinder D. As the cylinder is advanced from the position shown in Fig. 7 the sheet is carried forward by cylinder D and the grippers a are withdrawn within the cylinder C out of the line of movement of the sheet, this position of the parts being shown clearly in Fig. 8. While the transfer will be accomplished by the grippers a b , as just described, and the construction is complete and operative practically without the cushions, it will be seen from Fig. 7 that the cushions aid in securing the correct taking of the sheets by grippers b by depressing the sheet into the opening 10 in cylinder C and coacting with grippers b to grasp the sheet before the grippers reach the surface of the cylinders.

The operation of delivering the sheet from

cylinder D over the switch L to tapes K will be understood from Fig. 17, the operation of the grippers b at this point being substantially the same as that of the grippers a in transferring the sheet to cylinder D, as just described, the grippers b opening as they reach the switch L and permitting the sheet to be thrown off the cylinder by the spring-cushions x , so that its leading end passes over the point of the switch and to the delivery-tapes.

It will be seen that my invention provides a very positive and efficient gripper construction and reduces largely the movement of the grippers and the space required therefor without reducing their capacity. By the peculiar construction of the grippers and their operating devices a quick movement of the grippers is secured with an easy cam, and, as the gripping and release of the whole surface of the sheet engaged by the gripper are simultaneous, the actual gripping and release of the sheet may be instantaneous. It is thus possible to make a gripper the movement of which is much quicker than those heretofore in use and by which the transfer of sheets from one cylinder to another is greatly facilitated and all danger of injury to the sheet avoided. The spring-cushions insure correct action in taking a sheet, especially in the operation of transferring and from a very simple delivery device. It will be understood that the use of these cushions is not limited to combination with my improved grippers, but that they are of general application in gripper constructions and thus claimed by me. By my invention, moreover, I provide grippers adapted to uses for which the grippers now in common use cannot be employed and render this class of retaining devices of more general use than heretofore. Thus in Figs. 9 to 12 I have shown a sheet-folding mechanism employing my improved grippers. This folding mechanism in the simple form shown consists of two cylinders M N and folding-rolls O, to which the sheet is guided from the cylinder M by the switch P, carrying-tapes Q being provided for advancing the sheet after it is released by the grippers. The cylinder M, carrying the sheet to be folded, is provided with grippers c of any suitable construction, by which the leading end of the sheet is seized and carried about the cylinder, and this cylinder carries, also, a folding-blade d , which is formed of my improved grippers. The blade may be formed of a series of separate wide grippers similar to grippers a or b of the construction previously described, but preferably consists of a single plate extending the full width of the sheet to be folded and secured to the ends of the gripper-stems 19. The blade d is placed at such a distance from the grippers c as to be opposite the line upon which the sheet is to be folded, and is operated by fixed cam 20. The cylinder N, to which the sheet is folded from cylinder M, carries grippers e of the same construction as grippers a or b , previously described, except that the grippers preferably

extend substantially the full width of the sheet to be folded. A single plate may be used, as in the preferred construction of cylinder M; but in the construction employing switch P the plate is cut away opposite the fingers of the switch, as shown in Fig. 9, being mounted upon the gripper-bars 21 and operated by fixed cam 22.

As the construction and operation of the devices by which the blade *d* and grippers *e* are supported and actuated from the cams is identical with that previously described in connection with the cylinders C D, the same letters will be used for corresponding parts in these figures and further description thereof is unnecessary.

The operation of the folding mechanism will be readily understood from the following brief description in connection with Figs. 10, 11, and 12, which show the parts in three different positions during the folding of a sheet.

The cams 20 22, as will be seen by reference to these figures, are somewhat different in form, the cam 20 of cylinder M being so formed as to give the blade *d* an outward movement and quick return for the purpose of forcing the sheet into the grasp of grippers *e*, and the cam 22 being of substantially the same form as cams 17 18, previously described, so as to close gripper *e* upon the sheet as it is received from the blade *d* and carry the sheet forward to the tapes Q and switch P, where it is released and by which it is guided to the folding-rolls O. In Fig. 10 the blade and grippers are shown as approaching the folding-point and both are withdrawn within the cylinders. In Fig. 11 the blade and grippers have been moved outward from the cylinders by the cams and blade *d* has forced the sheet S out from the cylinder on the fold-line and into position to be seized by the grippers *e*, and the grippers *e* are in their central position outside of the cylinder in position to receive the sheet from the blade and just about to be withdrawn to grip the sheet against the outside of the cylinder, the sheet having been released by the grippers *c*. The sheet is then gripped upon the fold-line by the grippers *e* and carried forward by cylinder N to the switch P, where the grippers *e* are opened by the cam to release the sheet, which is then guided by the switch P to the folding-rolls O, by which the fold is completed, as shown in Fig. 12. It will be understood that, if desired, the cylinder N may be provided with a folding-blade behind the grippers *e*, folding the sheet off in the usual manner, the cylinder N thus imparting two folds to the sheet.

It will be seen that my improved gripper construction is well adapted for use in folding mechanisms and that by it the simplicity of such mechanisms is greatly increased, while the improvement will be found very efficient in use.

The grippers have been described only in connection with means by which they are operated at each revolution of the cylinders. It

will be understood, however, that the constructions common in connection with grippers of other forms may be used with my improved grippers, so as to cause them to operate only at certain revolutions of the cylinders. Moreover, any of the common constructions for throwing the grippers out of operation may be used. Thus, while I have described the cams 17 18 in the construction shown in Figs. 1 to 8 as fixed, and they may be permanently secured to the frame, I prefer to use the construction shown in Fig. 3, the cam 17 being carried by a sleeve 23, mounted loosely upon the shaft of the cylinder and adapted to be secured thereto by a bolt 24, this bolt being loosened and the cam secured to the frame by bolts 25 when the grippers are to be operated. In throwing the grippers out of operation the cam will be moved upon the shaft until the grippers are withdrawn within the cylinder, as shown in Fig. 4, and then secured in position upon the shaft, the grippers thus being held withdrawn and inoperative during the rotation of the cylinder.

While I have shown the grippers as operated positively in both directions by a closed cam, it will be understood that other means may be used for actuating the grippers, and that the constructions common with grippers of other forms are applicable, also, to my improved grippers. Thus I have shown in Fig. 13 a common construction, in which the shaft 14, carrying the cam-operated bowl 16 is provided with a second crank-arm 26 on the opposite side of the shaft from the bowl 16 and pivotally connected to a spring-pressed rod 27, sliding in supports in the cylinder, the gripper thus being opened by the cam and closed by spring-pressure.

While I prefer to mount the rocking support by which the grippers are carried inside the guides, as the movement of the grippers transversely to the cylinder may thus be reduced largely below the in-and-out movement, and a large capacity with very small transverse movement be thus secured, it is evident that the support may be located outside the guides, and many of the advantages of the preferred construction be obtained.

In Figs 14 and 15 I have shown transverse and longitudinal sections of a construction in which the stems of grippers *g* are provided with openings by which they are mounted loosely on a crank-rod 28, carried by short shafts 29, mounted in the heads of the gripper-cylinder, preferably as near the circumference as possible, to reduce the transverse movement. The inner ends of the grippers pass through slots in a rod 30, mounted loosely in the heads of the cylinder inside the crank-rod, the rod 30 thus forming guides for the grippers by which they are controlled, friction being avoided by the free rocking of the rod with the stems. It will be seen that the rod is a rock-shaft corresponding to the shaft 14. The grippers may be operated from a

cam by a crank and bowl carried by a short shaft 29; but it will be found preferable to use the construction shown, in which the shafts 29 are provided with gears 31, engaged by segmental gears 32, carried by a shaft 33, mounted in the heads of the cylinder and carrying on one end the crank-arm and bowl 34, by which it is actuated from the cam-groove 35. The proper movement of the grippers is thus secured with a small cam movement. The operation of this construction is substantially the same as previously described in connection with the preferred construction, and will be understood without further description.

Many modifications in the construction shown may be made without departing from my invention, and I do not mean to limit myself to the special form of any of the devices shown.

The folding mechanism above described is claimed in my application, Serial No. 418,945, filed January 22, 1892.

What I claim is—

1. The combination, with a cylinder and its grippers, of a movable support carried by said cylinder, on which the grippers are pivotally mounted, and means for simultaneously rocking said grippers and moving the support to carry the axes of the grippers to and from the surface of the cylinder, substantially as described.

2. The combination, with a cylinder and its grippers, of a rocking support carried by said cylinder, on which the grippers are pivotally mounted, and means for controlling said grippers, substantially as described.

3. The combination, with a cylinder and its grippers, of a rocking support carried by said cylinder, on which the grippers are pivotally mounted, and guides between which said grippers move, substantially as described.

4. The combination, with a cylinder and its grippers, of a rocking support carried by said cylinder, on which the grippers are pivotally mounted, and rocking guides between which said grippers move, substantially as described.

5. The combination of a cylinder, a rock-shaft mounted therein parallel with the axis of the cylinder, grippers carried by said rock-shaft and pivotally mounted thereon with their axes parallel with the axis of the shaft, and guides between which said grippers move, substantially as described.

6. The combination of a cylinder, a rock-shaft mounted therein parallel with the axis of the cylinder, grippers carried by said rock-shaft and pivotally mounted thereon with their axes parallel with the axis of the shaft, and rocking guides between which said grippers move, substantially as described.

7. The combination of a cylinder, a rock-shaft mounted therein, grippers carried by said rock-shaft and pivotally mounted thereon with their axes parallel with the axis of the shaft, and a rock-shaft mounted in said cylinder parallel with the first-mentioned shaft and provided with slots through which the

grippers pass and in which they are guided, substantially as described.

8. The combination of a cylinder, a rock-shaft mounted therein, grippers carried by said rock-shaft and pivotally mounted thereon with their axes parallel with the axis of the shaft, and a rock-shaft mounted in said cylinder parallel with and outside the first-mentioned rock-shaft and provided with slots through which the grippers pass and in which they are guided, substantially as described.

9. The combination of a cylinder, a rock-shaft mounted therein, grippers carried by said rock-shaft and pivotally mounted thereon with their axes parallel with the axis of the shaft, and a rock-shaft mounted in said cylinder parallel with and outside the first-mentioned rock-shaft and provided with slots through which the grippers pass, said slots being beveled inwardly from opposite sides of the shaft to form narrow guides for the grippers, substantially as described.

10. The combination of a cylinder, a rock-shaft mounted therein, grippers carried by said rock-shaft and pivotally mounted thereon with their axes parallel with the axis of the shaft, a rock-shaft mounted in said cylinder parallel with and outside the first-mentioned rock-shaft and provided with slots through which the grippers pass and in which the grippers are guided, driving connections between said shafts, and means for actuating one of said shafts during the rotation of the cylinder, substantially as described.

11. The combination of a cylinder, a rock-shaft mounted therein, grippers carried by said rock-shaft and pivotally mounted thereon with their axes parallel with the axis of the shaft, a rock-shaft mounted in said cylinder parallel with and outside the first-mentioned rock-shaft and provided with slots through which the grippers pass, means for actuating the outer shaft during the rotation of the cylinder, and connections between said shaft and the inner shaft for rocking the latter simultaneously, substantially as described.

12. The combination, with the cylinder C, having openings 10, of rock-shaft 12 in said cylinder, grippers *a*, having stems pivotally mounted on said shaft, rock-shaft 14, outside said shaft 12 and provided with slots through which the gripper-stems pass, and means for rocking said shafts simultaneously, substantially as described.

13. The combination, with the cylinder C, having openings 10, of rock-shaft 12 in said cylinder, grippers *a*, having stems pivotally mounted in said shaft 12, rock-shaft 14, outside said shaft 12 and provided with slots through which the gripper-stems pass, arm 13, and segmental gears 6 7, connecting said shafts, and means for rocking one of said shafts, substantially as described.

14. The combination, with cylinder C, having openings 10, of rock-shaft 12 in said cylinder, grippers *a*, having stems pivotally mounted on said shaft, rock-shaft 14, outside

said shaft 12 and provided with slots through which the gripper-stems pass, arm 13, and segmental gears 6 7, connecting said shafts, a crank-arm and bowl on one of said shafts, and a cam engaging said bowl for rocking said shafts, substantially as described.

15. The combination, with cylinders C D, each provided with openings 10 11, the openings 11 extending behind openings 10, of grippers *a b*, carried by said cylinders, rocking supports in said cylinders, on which the grippers are pivotally mounted, guides between which said grippers move, and means for rocking said supports to operate one set of grippers to release and the other set to take the sheet, whereby the sheet is transferred from one cylinder to the other, substantially as described.

16. The combination, with the cylinders C D, each provided with openings 10 11, the openings 11 extending behind openings 10, of grippers *a b*, carried by said cylinders,

rocking supports in said cylinders, on which the grippers are pivotally mounted, rocking guides between which said grippers move, and means for rocking said supports to operate one set of grippers to release and the other set to take the sheet, whereby the sheet is transferred from one cylinder to the other, substantially as described.

17. The combination, with a cylinder and its grippers, of spring-cushions on the cylinder, normally projecting outside the surface of the cylinder and forming a part of the surface of the cylinder and coacting with the grippers to seize and hold the sheets, substantially as described.

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

LUTHER C. CROWELL.

Witnesses:

M. B. PHILIPP,
A. F. ACTON.