

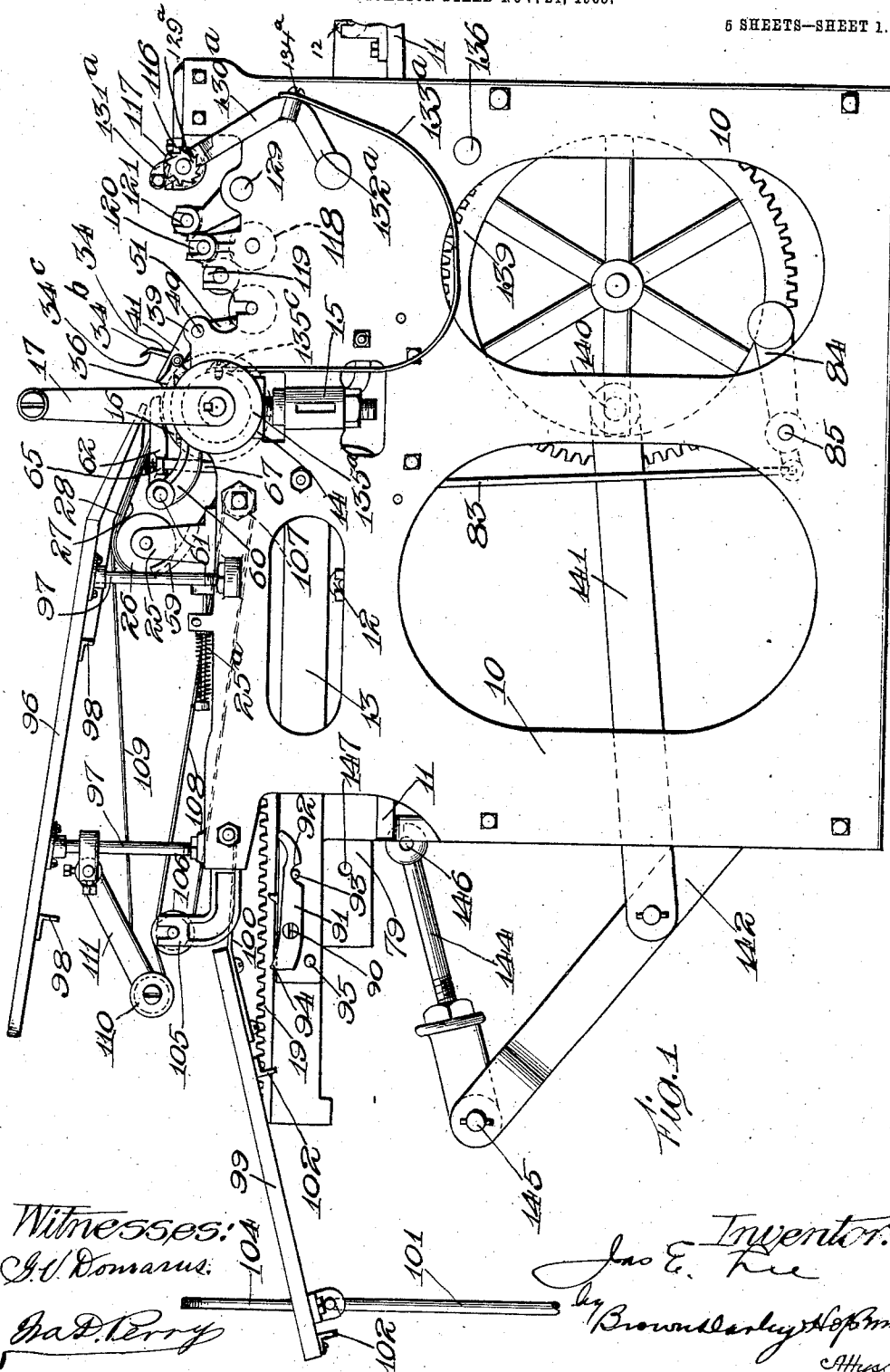
No. 845,797.

PATENTED MAR. 5, 1907.

J. E. LEE.  
PRINTING PRESS.

APPLICATION FILED NOV. 24, 1905.

6 SHEETS—SHEET 1.







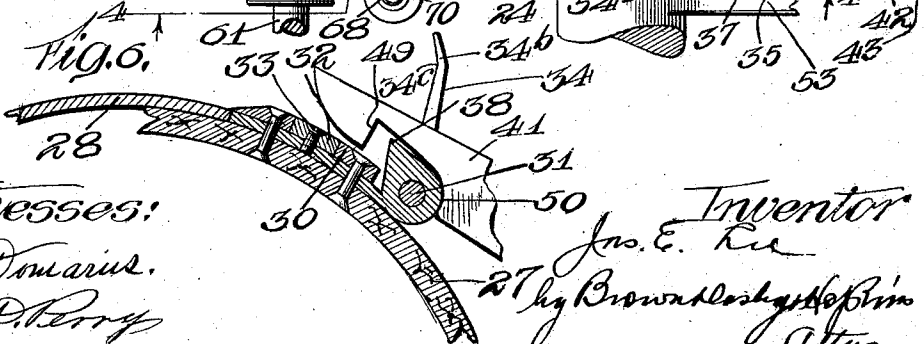
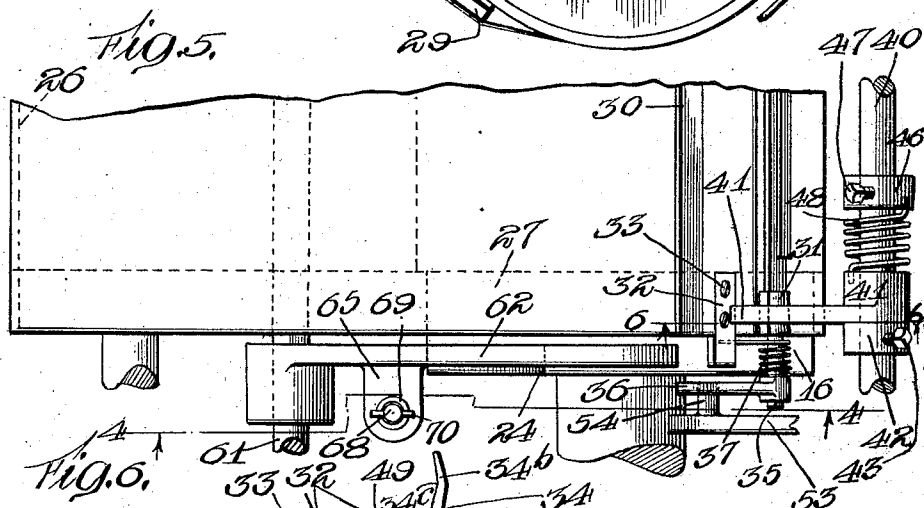
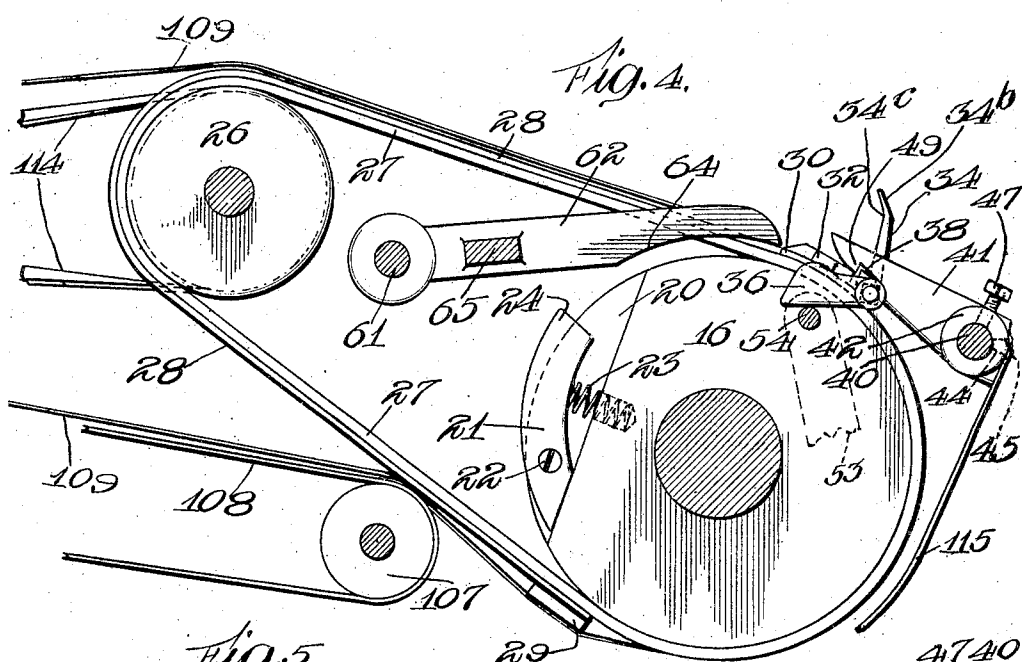
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5 SHEETS—SHEET 4.



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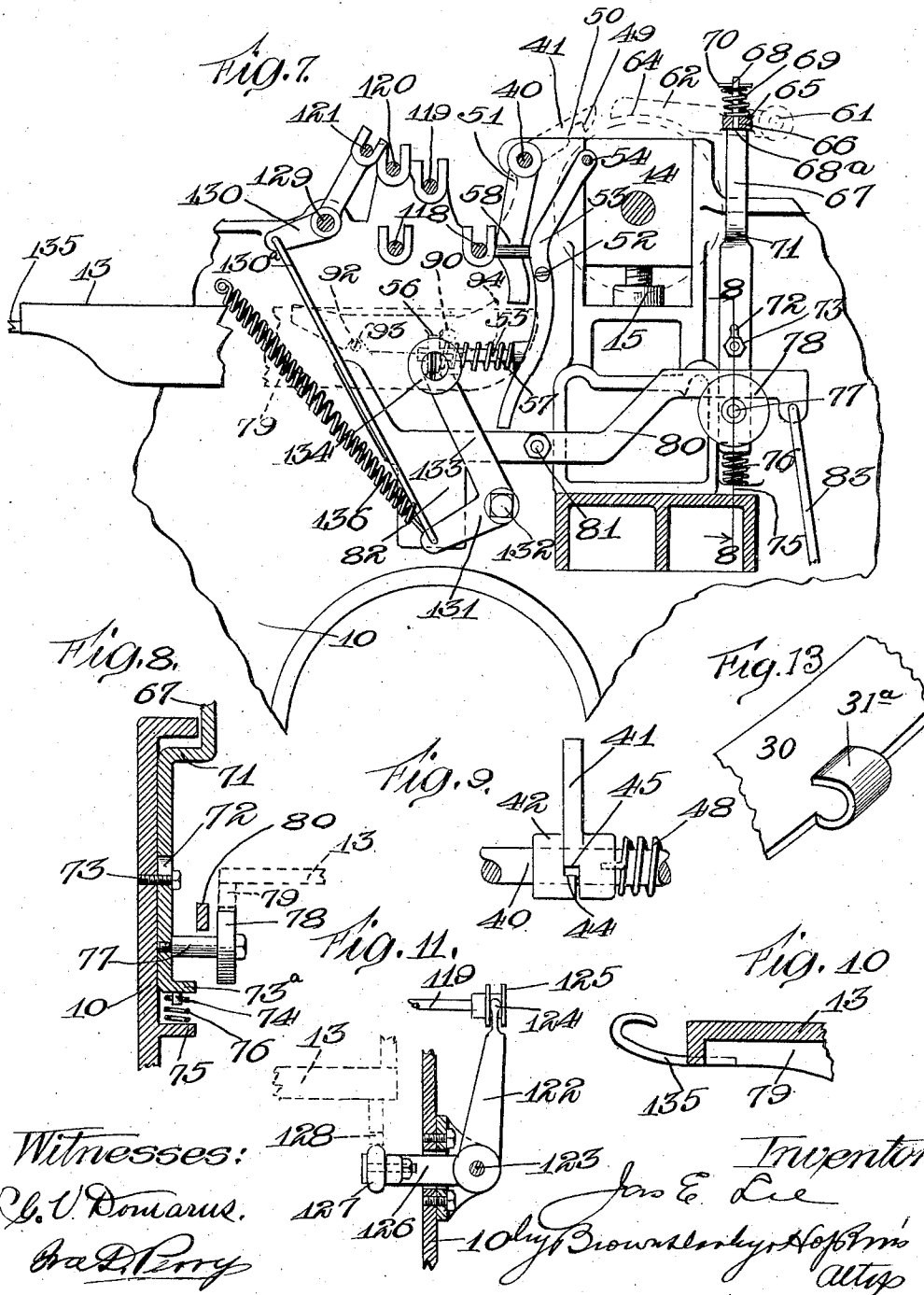
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5 SHEETS—SHEET 5.



# UNITED STATES PATENT OFFICE.

JAMES E. LEE, OF GRAND HAVEN, MICHIGAN.

## PRINTING-PRESS.

No. 845,797.

Specification of Letters Patent.

Patented March 5, 1907.

Application filed November 24, 1905. Serial No. 288,941.

*To all whom it may concern:*

Be it known that I, JAMES E. LEE, a citizen of the United States, residing at Grand Haven, in the county of Ottawa and State of Michigan, have invented certain new and useful Improvements in Printing - Presses, of which the following is a full, clear, and exact specification.

This invention relates to improvements in printing-presses in which is employed a reciprocating type-bed and a rotary platen or impression-cylinder and in which the paper is fed upon a rotary blanket or apron, which is driven for a portion of its travel by frictional contact with the platen or impression-cylinder.

The object of the same is to provide improved means for locking and holding the blanket or apron against movement during a portion of the rotation of the cylinder or platen.

A further object is to provide improved means for unlocking or releasing the apron or blanket to permit its rotation.

A further object is to construct an improved machine of this character in which the paper may be fed to the machine in such a manner that each sheet will exactly register with the type and in which the blanket or apron may move in unison with the type-bed, causing an impression to be made on each sheet in exactly the same position.

A further object is to provide an improved throw-off or safety device.

A further object is to provide an improved construction of apron or blanket.

A further object is to provide an improved means for gripping and releasing the paper; and a still further object is to construct an improved machine of this character which will be simple and durable in construction, cheap to manufacture, and efficient and positive in operation.

To the attainment of these ends and the accomplishment of other new and useful objects as will appear, the invention consists in the features of novelty in the construction, combination, and arrangement of the several parts hereinafter more fully set forth and claimed, and shown in the accompanying drawings, illustrating an exemplification of the invention, in which—

Figure 1 is an elevation of the left-hand side of a machine constructed in accordance

with the principles of this invention. Fig. 2 is an elevation of the right-hand side of the machine. Fig. 3 is a top plan view. Fig. 4 is an enlarged detail end elevation taken on the line 4 4 of Fig. 5, showing the cylinder or platen, the paper-feeding blanket or apron, the locking means, and the means for starting the blanket or apron. Fig. 5 is a top plan view of one side of the blanket and its associated parts. Fig. 6 is a section on the line 6 6 of Fig. 5. Fig. 7 is an enlarged detail view, partly in section, taken just inside of the framework on the left-hand side of the machine, showing the various levers in elevation. Fig. 8 is a longitudinal section on the line 8 8 of Fig. 7. Fig. 9 is an enlarged detail plan view of the gripper or blanket-latch. Fig. 10 is an enlarged detail of one corner of the type-bed, showing the operating means for the inking conductor-roller. Fig. 11 is a detail view of the inking vibrator-roller. Fig. 12 is a detail perspective view of the gripper plate or finger. Fig. 13 is a detail view of the open bearing for the gripper plate or finger.

Referring more particularly to the drawings, and in which the same reference characters designate similar parts throughout the several views, the numeral 10 designates a supporting-frame having mounted thereon suitable guides 11, provided with antifriction or supporting rollers 12, upon which moves a reciprocating carriage or type-bed 13.

Mounted in the frame 10 above the type-bed and in guideways are bearings 14, each of which is provided with suitable adjusting devices 15. Journaled in these bearings and extending transversely of the type-bed 13 is a cylinder or platen 16, and 17 designates a crank or handle secured to said cylinder, preferably on the left-hand end thereof. A gear-wheel 18 is carried by the other end of the cylinder, and said gear-wheel meshes with a rack 19, carried by the type-bed 13, by means of which the type-bed is reciprocated when the cylinder 16 is rotated by the handle 17, a suitable stop (not shown) being provided to limit the movement of the bed and to prevent displacement thereof.

The ends of the cylinder 16 are each provided with cut-away portions 20, and 21 designates a dog or pawl pivoted in each of said cut-away portions by means of a pin or bolt 22. A suitably-seated spring 23 en-

gages said pawls or dogs at a point beyond their pivot, so as to cause the end 24 thereof to normally project beyond the periphery of said cylinder for a purpose to be hereinafter set forth.

Journalled in bearings 25 and provided with suitable adjustments 25<sup>a</sup>, carried by the framework, is a drum or cylinder 26, which extends transversely of the frame and parallel with the platen or cylinder 16. This cylinder is preferably smaller than the platen or impression-cylinder 16 and is located in the frame 10 at a point somewhat higher than the cylinder 16. Surrounding these cylinders and preferably adjacent the ends thereof are endless bands 27, which are preferably constructed of leather or any other strong and durable material which will form a frictional contact with the peripheries of the cylinders, whereby the belts or bands may be driven. A blanket or apron 28 is secured to these bands or belts 27 in any desired manner, and said blanket is preferably of such a length as not to engage the bands for their entire length, but so arranged that their ends terminate considerably short of each other. Secured in any desirable manner across one of the ends of the blanket or apron is a binding or reinforcing strip 29, preferably of metal, and secured adjacent the other end thereof is a strip 30, also preferably of metal. Projecting bearings 31 are also secured to said plate 30, and a laterally-projecting lug 32 is recessed into said strip on each side of the blanket or apron, which are held in any suitable manner, preferably by screws or bolts 33, and said lugs project beyond the edges of the blanket or apron 28 and into the path of the movement of the end 24 of the dogs or pawls 21. Any desired number of bearings 31 may be provided, and journaled therein are the gripper fingers or plates 34. The plate 34 is preferably somewhat thicker at its lower edge 34<sup>a</sup> and tapers toward its upper edge 34<sup>b</sup> and is bent at a slight angle at 34<sup>c</sup> so as to cause the edge to firmly engage the paper. If desired, suitable pieces of rubber 34<sup>d</sup> may be secured along the edge 34<sup>b</sup>. The thickened edge 34<sup>a</sup> is reduced, as at 34<sup>f</sup>, to form journals, which are adapted to enter the bearings 31, and said plate may be bifurcated, as at 34<sup>e</sup>, to form a journal midway of its length. The bearing 31<sup>a</sup> at the edge of the blanket or apron 28 at the point adjacent the bifurcated portion 34<sup>e</sup> must be an open bearing to receive said journal. The journal at one end of said fingers or plates projects beyond the side of the blanket or apron 27, as at 35. Secured to said projecting end is an arm or dog 36, and disposed between this arm or dog and the side of the blanket or belt 28 and surrounding the projection 35 is a spring 37, one end of which engages said arm or projection and the other end the lower face of the lug 32 and tends nor-

mally to hold the gripper fingers or plate 34 closed or against the plate or strip 30. The bearings 31 adjacent the sides of the blanket or apron 28 are preferably tapered or reduced to produce an ear or projection 38.

Journalled transversely across the frame in suitable bearings 39 and adjacent the impression-cylinder or platen 16 is a rock-shaft 40, and loosely sleeved thereon are a plurality of independent catches or latches 41. Sleeves or collars 42 are secured to said shaft adjacent the catches or latches 41, which are preferably held in position by means of the screws or bolts 43, and said collars are provided with shoulders 44, the under side of which are adapted to be engaged by the under side of shoulders 45 on the bearings of the catches or latches 41 to permit a separate and independent movement of said catches or latches, and also serve as a means for raising said catches. Carried by the shaft 40 are additional collars or sleeves 46, which are also preferably secured thereto by screws or bolts 47, and disposed between each of the catches 41 and the collars 46 is a coil-spring 48, which normally tends to depress the catches 41 into engagement with the ears or projections 38, carried by the strip 30, when said strip is in a proper position, said catches 41 being provided with a depending nose or hook 49 for that purpose and a shoulder 50, against which the bearing 31 contacts for a purpose to be set forth. Rigidly secured to the shaft 40, preferably near the left-hand end thereof, is a depending arm 51 for rocking said shaft to disengage the catches from the ears 38 in a manner to be set forth.

Pivoted to the framework, as at 52, is a lever 53, and said lever is provided with a laterally-projecting lug or pin 54, which normally stands within the path of movement of the arm or dog 36 for engaging the same to open the gripper fingers or plate 34 when said dog or arm contacts therewith. This lever 53 has secured thereto at a point preferably between its pivot and the projecting lug or pin 54 a bar or rod 55, which extends through a suitable projection or boss 56, carried by the framework and disposed between the said boss or projection and the lever, and around the rod is an expansion-spring 57 for holding the pin 54 in its proper position. A lug 58 is carried by the lever, preferably above its pivot-point, which serves as a guide or stop for said lever, as will be understood. A guide or projection 59 (see Fig. 1) is also carried by the framework and stands within the path of movement of the arm or dog 36 given thereto by the blanket or apron 28 for opening the gripper fingers or plates 34 to release the paper after an impression has been made, as will be more fully set forth.

Pivoted in suitable bearings 60, located adjacent to and parallel with the impression-

cylinder or platen 16 and extending across the frame, is a shaft 61, and secured thereto in any desired manner near its ends are arms or levers 62 and 63, each of which is provided with a cut-out or recessed portion 64 to conform to the contour of the periphery of the said impression-cylinder or platen 16. These arms or levers are so located as to normally stand directly above the path of movement of the dogs or pawls 21. The arm or lever 62 is provided with a radial projection or ear 65, which is provided with an aperture 66. A bar or rod 67 is provided with a reduced portion or stem 68, forming a shoulder 68<sup>a</sup>, and the reduced portion 68 passes through the aperture 66, while the shoulder 68<sup>a</sup> engages the lower face thereof, and a coil-spring 69 surrounds the stem or reduced portion 68 above the ear or lug 65, held from displacement in any desired manner, preferably by a cotter-pin 70, passing through said stem or reduced portion 68. The body of the bar or rod 67 is preferably bent, as at 71, to conform to the shape of the frame 10 and is provided with a slot 72, through which a headed bolt 73 passes, engaging the frame, and said bolt serves as a means for holding the bar in position and acts as a guide therefor. The lower extremity of this bar is preferably provided with a flange 73<sup>a</sup> and pin 74, which cooperates with a projection 75 on the frame 10. Interposed between the flange 73 and projection 75 and with one end surrounding the pin 74 is a coil-spring 76, which serves to raise the bar or rod 67, thereby causing the shoulder 68<sup>a</sup> thereon to elevate the lever or arm 62 and hold the same out of engagement with the periphery of the impression-cylinder or platen 16. A radially-projecting axle 77 is also secured to the bar or rod 67 in any desired manner, and carried thereby and spaced from the frame is an antifriction-roller 78, which stands within the path of movement of the beveled or inclined edge 79 of the type-bed 13 for a purpose hereinafter to be set forth.

A lever 80 is pivoted, as at 81, to the frame with one end thereof resting upon the axle 77 between the frame 10 and the roller 78 and with its other end weighted, as at 82. Loosely connected to the forward end thereof adjacent the point of its engagement with the axle 79 is a link or rod 83, the other end of which is connected to a weighted arm 84, connected to a shaft 85, which is pivoted in the base of the frame 10. Connected to said shaft 85 is a foot lever or treadle 86, which is controlled by a spring 87, one end of which is secured thereto and the other end to the frame, as at 88, and 89 is a stop carried by the free end of the lever to limit its movement.

Pivoted to the side of the type-bed or carriage 13, as at 90, is a gravity dog or latch 91,

which is provided with a cut-out portion or recess 92, adapted to engage a lug or pin 93, also carried by the side of the type-bed or carriage 13, (see Figs. 1 and 7,) and said pin or lug 93 is located at such a point that when the recess or notch 92 engages therewith the tip or point 94 of the latch will stand above the top of the type-bed or carriage 13. Upon the backward movement of the bed or carriage 13 the face of the projecting end 94 will engage the rear of the depending arm 51, which stands within the path of movement of said end, and will cause the dog or latch 91 to turn upon its pivot 90 until the bed or carriage has advanced far enough to cause the arm 51 and projection 94 to become disengaged, at which time said latch or dog 91 will assume its normal position on the other side of the arm 58, as shown in Fig. 7 in dotted lines, for a purpose to be set forth. Said bed or carriage is also provided with a radially-projecting pin or lug 95, arranged to engage the end of the lever 53 for a purpose also to be set forth. A suitable feeding-table 96, supported by standards 97 and braced by bars 98, may be provided for supplying paper to the machine. A table 99, provided with arms 100, removably engaging the frame 10 and supported by a standard 101, may also be arranged adjacent the discharge end of the machine, upon which the sheets may be delivered. Said table is preferably braced by the bars 102 and provided with a plurality of slots 183, by means of which the stop-board 104 may be adjusted to accommodate papers of different sizes.

Journalled in suitable bearings 105 is a drum 106. A similar drum 107 is journalled in the frame 10, and passing around these two drums is an endless carrier-apron 108, the cylinder or drum 107 being located adjacent the blanket or apron 28 at a point in proximity to the point at which the arm or projection 36 engages the guide or projection 59, which latter opens the grippers 34 and releases and delivers the paper onto the belt or carrier 108, by means of which it is carried onto the delivery-table 99.

A suitable endless guiding tape or cord 109 passes around the impression-cylinder or platen 16 and around a pulley 110, supported by an adjustable bracket 111, preferably secured to one of the standards 97 and above the belt or carrier 108 for guiding and holding the paper to prevent it from following the impression-cylinder or platen 16 when released by the grippers 34 and after an impression has been made. Surrounding suitable pulleys 112 and 113, carried, respectively, by the drums 26 and 106, is an endless cross-belt 114 for transmitting motion to the carrier or belt 108 and for causing said carrier to move in the proper direction. (Clearly shown in Fig. 3.) A suitable guide



or shield 115 may be secured in advance of the impression-cylinder or platen for protecting the paper as it passes upon the type.

The type may be inked in any desired manner; but there is shown a simple construction for accomplishing this purpose comprising an ordinary fountain 116 and delivery-roller 117, distributing-rollers 118, vibrator-roller 119, ductor-roller 120, and conductor-roller 121. The vibrator-roller is given motion by means of a bell-crank lever 122, pivoted at 123 to the frame, having a fork or yoke 124, engaging a collar 125 on said roller. The arm 126 of said lever projects into the frame and is provided with an antifriction-roller 127, which stands within the path of movement of the inclined edge 128 of the type-bed or carriage 13 and is adapted to be depressed, thereby causing the vibrator-roller 119 to move backward and forward. The conductor-roller is also mounted upon a bearing pivoted, as at 129, having an arm 130, which is connected by a rod or bar 130<sup>a</sup> to one end of a bell-crank 131, pivoted at 132 to the frame. The end 133 thereof carries a roller 134, which is adapted to be engaged by a projection 135 on the type-bed or carriage 13, which causes said lever and roller to be rocked backward and forward on its pivot and against the tension of the spring 136 for conveying ink from the roller 117 to the ductor-roller 120, as will be understood.

In order to regulate and vary the feed of the roller 117, there is provided a ratchet 129<sup>a</sup>, carried by the end of the roller, preferably on the side of the machine adjacent the operating handle or lever 17, and 130<sup>a</sup> is a lever loosely carried by the axle of said roller and provided with a gravity operating-pawl 131<sup>a</sup>. Said lever is preferably of the form shown and is provided with a weighted end 132<sup>a</sup>. A strap or flexible member 133<sup>a</sup> is adjustably secured by one end, as at 134<sup>a</sup>, to said lever and, as at 135<sup>a</sup>, to a pulley 135<sup>a</sup>, carried by the end of the shaft of the impression-cylinder or platen 16. It will be seen that when the handle or lever 17 is revolved the flexible member 133<sup>a</sup> will be wound upon the pulley 135<sup>a</sup>, causing the same to engage the weighted end 132 to rock the arm or lever 130<sup>a</sup> and through the medium of the pawl 131 and ratchet 129 rotate the feed-roller 117. By adjusting this flexible member the movement of the lever 130 may be regulated.

If desired, this machine may be driven by power instead of by hand, and for that purpose there is provided a driving-shaft 136, carrying a pulley 137 and pinion 138, meshing with a gear 139, to which is connected, by means of a crank-pin 140, a link 141. Said link is connected at its other end to an arm or lever 142, pivoted to the frame, as at 143, and an adjustable link or connection

144 is pivoted at 145 to the end of the arm or lever 142. This link or connection 144 is provided in its free end with an eye 146, adapted to register with an aperture 147 in the side of the type-bed or carriage, and a pin 148 passes through the registering apertures to form a pivotal connection therewith and by means of which the bed or carriage 13 is reciprocated when the gear 139 is revolved, as will be understood.

Suitable gage-pins 149 may also be provided for the paper.

Assuming the parts to be in the position as shown in figs. 1 and 2 and the impression cylinder or platen 16 and its cooperating parts, together with the gripper-plate 34, in the position as shown in figs. 4 and 5, the operation is as follows: A sheet of paper is fed from the table 96 against the gage or stop-pins 149 with the left hand of the operator, who stands on the left-hand side of the machine, and with his right hand he turns the crank or lever 17 to the left, (if the machine is to be operated by hand-power.) This will first transmit motion to the type-bed or carriage 13, causing the same to move toward the front of the machine, where the type will be inked by the inking-rollers. During this movement of the type-bed or carriage the blanket 28 extends across the tops of the platen 16 and cylinder 26 and away from the bed or carriage, so that the bands or belts 28 are in proximity to but out of contact with the type or form, which will prevent the blanket from being inked on the forward movement of the bed as the paper is carried by and covers the blanket during its passage over the form. Just as the type-bed or carriage begins to move the edge 79 thereof contacts with the roller 78, depressing the bar 67 against the tension of the spring 76, thereby causing the arms or levers 62 and 63 to be brought into contact with the periphery of the cylinder or platen 16. These arms 62 and 63 will remain in contact with the moving periphery of the platen, thereby depressing the ends 24 of the dogs or pawls 21 as they pass thereunder until the edge 79 of the type bed or cylinder passes out of engagement or off of the roller 78, which will allow the spring 76 to force the bar or rod 67 upward, so that the shoulder 68<sup>a</sup> will move the arms or levers 62 and 63 about their pivot 61 and out of engagement with the platen. This movement will also allow the ends 24 of the dogs or pawls 21 to assume their normal position, as shown in Fig. 4. Further rotation of the handle or lever 17 causes the bed to continue to move in the same direction until the lug or projection 95 carried thereby engages and moves the lever 53 about its pivot 52 against the tension of the spring 57, which will move the pin or lug 54 out of engagement with the arm or dog 36, thereby allowing the spring 37 to close

the gripper-plate 34 against the paper and blanket or apron 28. Just before the lug 95 engages the lever 53 the end of the arm 51 passes over the top of the projecting end of the dog or latch 91, thereby depressing the same, causing said dog or latch to move about its pivot 90, which will permit the same to pass the arm 51 and drop by gravity into the position shown in dotted lines in Fig. 7 and in advance of said arm 51, at which time the type-bed or carriage 13 will have about reached its extreme movement, where it is arrested by suitable stops arranged for that purpose, the flexible member 133 during this operation having been wound upon the pulley 135<sup>a</sup>, thereby rotating the ink-feed roller 117 in the manner already set forth. The paper being gripped and the type in a position to be inked, the handle or lever 17 is now reversed and rotated in the opposite direction until the type-bed or carriage reaches the limit of its backward movement. At the beginning of this movement the projecting end 94 of the dog or latch 91 will engage the end of the arm 51, and as said dog or latch is prevented from moving by means of the stop 93 the arm 51 will be moved as the bed or carriage progresses, thereby rocking the shaft 40, causing the shoulders 44 to engage the shoulders 45 of the spring-pressed catches or latches 41, which will raise the shoulders 50 thereof out of engagement with the bearings 31, thereby unlocking the blanket or apron 28. Just as the operation is completed or at that point of movement the dogs or pawls 21, carried by the ends of the cylinder or platen, will be in a position so that their projecting ends 24 will engage the lug or projection 32, carried by the blanket or apron 28, and will move said blanket, carrying the paper around the platen 16 and against the type, when an impression is made thereon. After the dog or pawl 21 starts the blanket or apron 28 the edge 79 of the type-bed or carriage again engages the pulley 78 to draw the arms or levers 62 and 63 against the periphery of the platen 16, as just described. When the platen 16 has moved approximately one-half of its rotation, the dogs or pawls 21 and lugs 32 will become disengaged as the platen 16 and blanket or apron 28 continue to move until the blanket has made one complete revolution about the platen 16 and cylinder 26, as will be fully understood. The blanket or apron 28 is moved the remaining portion of its travel by means of the frictional engagement of the bands or tapes 27 with said cylinder or platen. Arranged within the path of the movement of and with which the arm or dog 36 engages is a guide or projection 59, which rocks the former for opening the gripper and to discharge the paper therefrom upon a carrier belt or apron 108,

from which it is delivered onto the table 99, motion being transmitted thereto by the belt 114, as set forth. The blanket or apron 28 will continue to revolve until the bearings 31 carried by the plate 30 contact with the shoulders 50 of the catches or latches 41, and owing to their independent movement on the shaft 40 the noses 49 thereof will spring over the bearings and engage the ears or projections 38 thereon, thereby locking said blanket or apron against any retrograde motion which would be transmitted thereto by the rotation of the platen or impression-cylinder 16 in the opposite direction.

A very important feature of this invention is the fact that the catches or latches 41 have an independent movement of each other, thereby rendering it possible for them to engage their respective projection 38 either simultaneously or at different intervals. If the edge of the blanket or belt 28 should become stretched or twisted, thereby throwing the projections 38 out of true alignment, so that as the edge of the blanket or apron 28 advances the projections 38 would not be presented simultaneously to the catches 41, the independent movement of said catches or latches, as will be seen, will permit them to engage their respective projection at a time when the latter is in a proper position independent of and regardless of the position of the remaining projections, yet all of these catches or latches may be simultaneously released. The pin 54 at this point engages the arm or dog 36 to open the grippers 34.

An ordinary foot-lever or treadle connected to the arms or levers 62 by the rod 83 is provided as a means for quickly depressing said arms or levers 62 and 63 to hold the dogs or pawls 21 down to prevent their engagement with the lugs 32 on the blanket or apron 28 when it is desired to prevent the operation of the machine.

An important feature of this invention is the fact that the movement of the gripper is so arranged in relation to the movement of the type-bed or carrier that the paper will at all times register with the type, causing every impression to be made at the same position on each of the successive sheets. In a machine of this character there is always a time during the course of a complete forward and backward movement of the type-bed or carriage that the dogs or pawls 21 would ordinarily come against the projection or lug 32 when the blanket or apron 28 is locked with such a force, caused by a long sweep given thereto by the handle or lever 17, that the parts would become wrenched or broken. Another very important feature of this invention is the fact that the safety arms or levers 62 and 63 are so arranged and their operation so timed that this objection is overcome, as the only point at which such a

condition exists in the operation of this machine is when the said dogs or pawls are in close proximity to the lugs or projections 32, thereby making it practically impossible to exert sufficient force on the conveyer or belt to do any damage.

It is to be understood that the edges or sides 79 and 128 of the type-bed must be properly beveled or inclined, so as to permit an easy engagement and disengagement of the sides with the projections or rollers 78 and 134.

If the machine is operated by power instead of by hand, motion is transmitted to the platen or impression-cylinder from the type-bed by means of the gear 18 and rack 19 instead of from the platen or cylinder to the type-bed, as will be understood, and the reciprocation of the type-bed will rotate the platen or impression-cylinder in the proper direction according to the movement of the type-bed.

It is also to be understood that it is not desired to be limited to the exact sizes, proportions, details of construction, and arrangement of the several parts, as various changes may be made without departing from the spirit of the invention.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. In a printing-press, the combination of a movable type-bed, a rotary platen, a feeding-blanket frictionally driven with the platen, means for also positively driving the blanket with the platen, and means for throwing the positive means out of action.

2. In a printing-press, the combination of a movable type-bed, a rotary platen, a feeding-blanket frictionally driven with the platen, means also positively driving the blanket with the platen, and means operatively related to the bed for throwing the positive driving means out of action.

3. In a printing-press, the combination of a movable type-bed, a rotary platen, a feeding-blanket movable in one direction only, frictionally engaging said platen and driven thereby, and means adapted to engage the blanket to cause an independent rotation of the platen in relation to the blanket.

4. In a printing-press, the combination of a movable type-bed, a rotary platen, a feeding-blanket frictionally engaging said platen, a plurality of independent yielding locks engaging said blanket to arrest the movement thereof, and means for simultaneously releasing said locks.

5. In a printing-press, the combination of a movable type-bed, a rotary platen, a feeding-belt driven by said platen, a projection carried by the blanket, a plurality of independently-movable latches adapted to engage the projection for arresting the move-

ment of the belt, and means for simultaneously disengaging said latches and the projection.

6. In a printing-press, the combination of a movable type-bed, a rotary platen, a feeding-belt operated by said platen, a plurality of projections carried by the belt, a plurality of yielding latches located in the path of movement of and adapted to independently engage the projections, and means for simultaneously moving the latches out of engagement with the projections.

7. In a printing-press, the combination of a reciprocating type-bed, a rotary platen, a feeding-blanket, frictionally engaging said platen, a lock engaging said blanket to intermittently overcome the motion caused by the frictional contact of said blanket and platen to permit an independent rotation of said platen in either direction with respect to the blanket.

8. In a printing-press, the combination of a reciprocating type-bed, a reversible rotary platen, an endless feeding-blanket surrounding and frictionally engaging said platen, and movable only in one direction, and means for holding said blanket during a reverse rotary motion of the platen.

9. In a printing-press, the combination of a reciprocating type-bed, a rotary platen, a feeding-blanket engaging and driven by said platen and movable only in one direction, a gripper carried by one end of the blanket, means for opening said gripper, and means for interrupting the movement of the blanket.

10. In a printing-press, the combination of a reciprocating type-bed, a rotary platen, a feeding-blanket engaging and driven by said platen in one direction only, a spring-controlled gripper carried by the blanket, means for opening said gripper, and a lock engaging the blanket to permit an independent rotation of the platen in relation thereto.

11. In a printing-press, the combination of a reciprocating type-bed, a rotary platen, a feeding-blanket engaging and driven by said platen, a gripper carried by the blanket, a latch engaging said blanket to permit the platen to rotate independently of said blanket, and means for releasing said blanket, to permit a further movement thereof by said platen.

12. In a printing-press, the combination of a reciprocating type-bed, a rotary platen, a feeding-blanket frictionally driven by said platen, a gripper carried by the blanket, and having a projection thereon, a yielding latch adapted to engage the projection to produce an interval of rest to the blanket while said platen is rotating, and means for disengaging the latch, to permit a further movement of the blanket by the platen.

13. In a printing-press, the combination of a reciprocating type-bed, a rotary platen,

a feeding-blanket driven by said platen, a locking device engaging the blanket to cause an interval of rest thereof in relation to the movement of the platen, and means moving in unison with the platen for releasing the locking device, to permit the blanket to move with the platen.

14. In a printing-press, the combination of a reciprocating type-bed, a rotary platen, a feeding-blanket driven by said platen, a locking device engaging the blanket to cause an interval of rest thereof in relation to the platen, a depending arm carried by the locking device, a pivoted latch carried by the bed, said latch being adapted to be engaged by the arm when the bed is moving in one direction and to engage and rock the arm on the return of the bed, for releasing the locking device to permit the blanket to move with the platen.

15. In a printing-press, the combination of a reciprocating type-bed, a rotary platen, a feeding-blanket driven by the platen, a gripper carried by the blanket, a locking device engaging the blanket to cause an interval of rest thereof in relation to the movement of the platen, means for opening the gripper, means carried by the type-bed for operating the gripper-opener, and means also carried by the type-bed for releasing the blanket-locking device.

16. In a printing-press, the combination of a reciprocating type-bed, a rotary platen, a feeding-blanket frictionally driven by said platen, a gripper carried by the blanket, means for opening said gripper, a spring-latch engaging said blanket to produce an interval of rest thereof, means for positively engaging the latch to release the blanket, and means carried by the type-bed for engaging and moving the latch-operating means.

17. In a printing-press, the combination of a reciprocating type-bed, a rotary platen, a feeding-blanket frictionally driven thereby, a gripper carried by the blanket, an arm carried by the gripper, a pivoted lever provided with a lateral projection normally standing in the path of movement of the arm, means carried by the type-bed adapted to engage the lever to move the projection out of the path of movement of the gripper-arm to permit said gripper to close, and means for intermittently locking and releasing the blanket.

18. In a printing-press, the combination of a movable type-bed, a rotary platen, a feeding-belt frictionally engaging the platen, and means carried by the platen to positively engage the belt for initially moving the same.

19. In a printing-press, the combination of a movable type-bed, a rotary platen, a feeding-belt frictionally engaging the platen means for locking and releasing the belt, and

means carried by the platen to positively engage the belt for initially moving the same.

20. In a printing-press, the combination of a movable type-bed, a rotary platen, a feeding-belt frictionally engaging the platen, means for locking and releasing said belt to cause an interval of rest thereof, a projection carried by the belt, and a yielding dog carried by the platen, said dog being adapted to engage the projection for initially moving the belt when the latter is released.

21. In a printing-press, the combination of a movable type-bed, a rotary platen, a feeding-belt frictionally driven thereby, means engaging said belt to cause an interval of rest thereof, a projection carried by the belt, a yielding dog carried by the platen, adapted to engage the projection, for initially moving the belt, and a safety device adapted to prevent the engagement of the dog with the projection on the belt.

22. In a printing-press, the combination of a reciprocating type-bed, a rotary platen, a feeding-belt frictionally driven by the platen, means for locking said belt to cause an interval of rest thereof, a yielding dog carried by the platen and adapted to extend within the path of movement of the dog, to be engaged thereby for initially moving the belt, a safety device, and means controlled by the movement of the type-bed for operating the safety device to depress the dog to prevent its engagement with the projection when the belt is locked.

23. In a printing-press, the combination of a reciprocating type-bed, a rotary platen, a feeding-belt frictionally driven by the platen, means for locking and releasing said belt, a yielding dog carried by the platen, a projection carried by the belt and adapted to extend within the path of movement of the dog, a pivoted arm adjacent to and concentric with the path of movement of the dog, means for moving said arm out of engagement therewith, and means connected to the arm and engaged by the type-bed for causing said arm to engage and depress the dog.

24. In a printing-press, the combination of a reciprocating type-bed, a rotary platen, a feeding-belt driven by said platen, means for locking and releasing said belt, a yielding dog carried by the platen, a projection carried by the belt and adapted to stand within the path of movement of the dog, a pivoted arm adjacent to and concentric with the path of movement of the dog, a bar connected to the arm, a spring engaging said bar for holding the arm elevated, a projection carried by the bar, and means carried by the type-bed and adapted to engage the projection for lowering the arm to depress the dog and prevent the same from engaging the projection on the belt when the latter is locked.

25. In a printing-press, the combination of

a movable type-bed, a rotary platen, a feeding-belt engaging the platen and driven thereby, a gripper carried by the belt, and means for locking and releasing said belt at such  
5 intervals in respect to the movement of the type-bed, that the paper carried thereby will directly register with the type when brought into contact therewith.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 21st day of November, A. D. 1905.

JAMES E. LEE.

Witnesses:

HERMAN Z. NYLAND,  
D. H. CHRISTOPHIL.