

(No Model.)

3 Sheets—Sheet 1.

M. L. W. HALLENBECK.
PRINTING PRESS.

Patented Mar. 31, 1896.

No. 557,381.

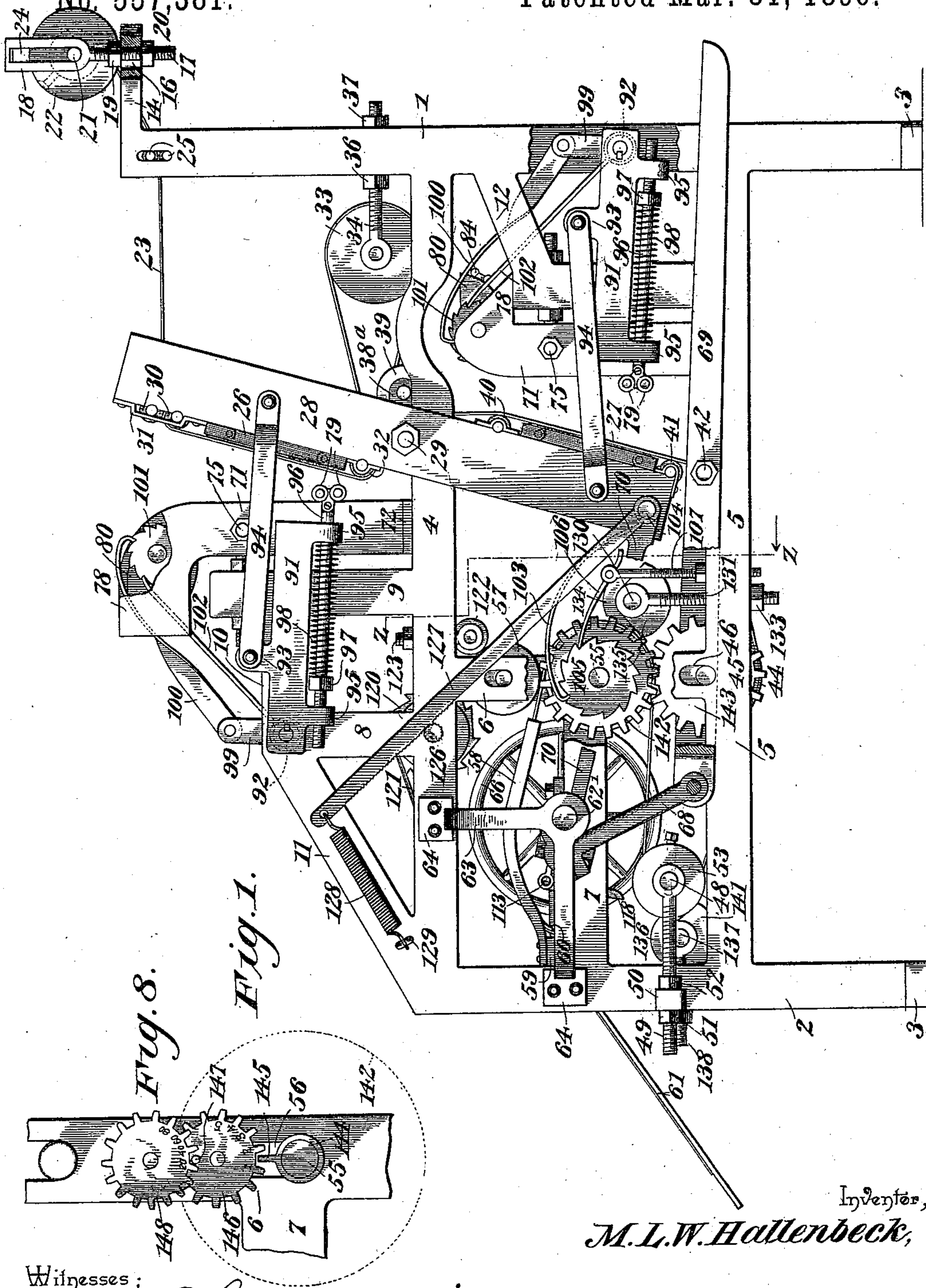


Fig. 1.

Fig. 8.

Witnesses;

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R. M. Smith.

By *his* Attorneys,

C. A. Snow & Co.

Inventor,
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(No Model.)

3 Sheets—Sheet 2.

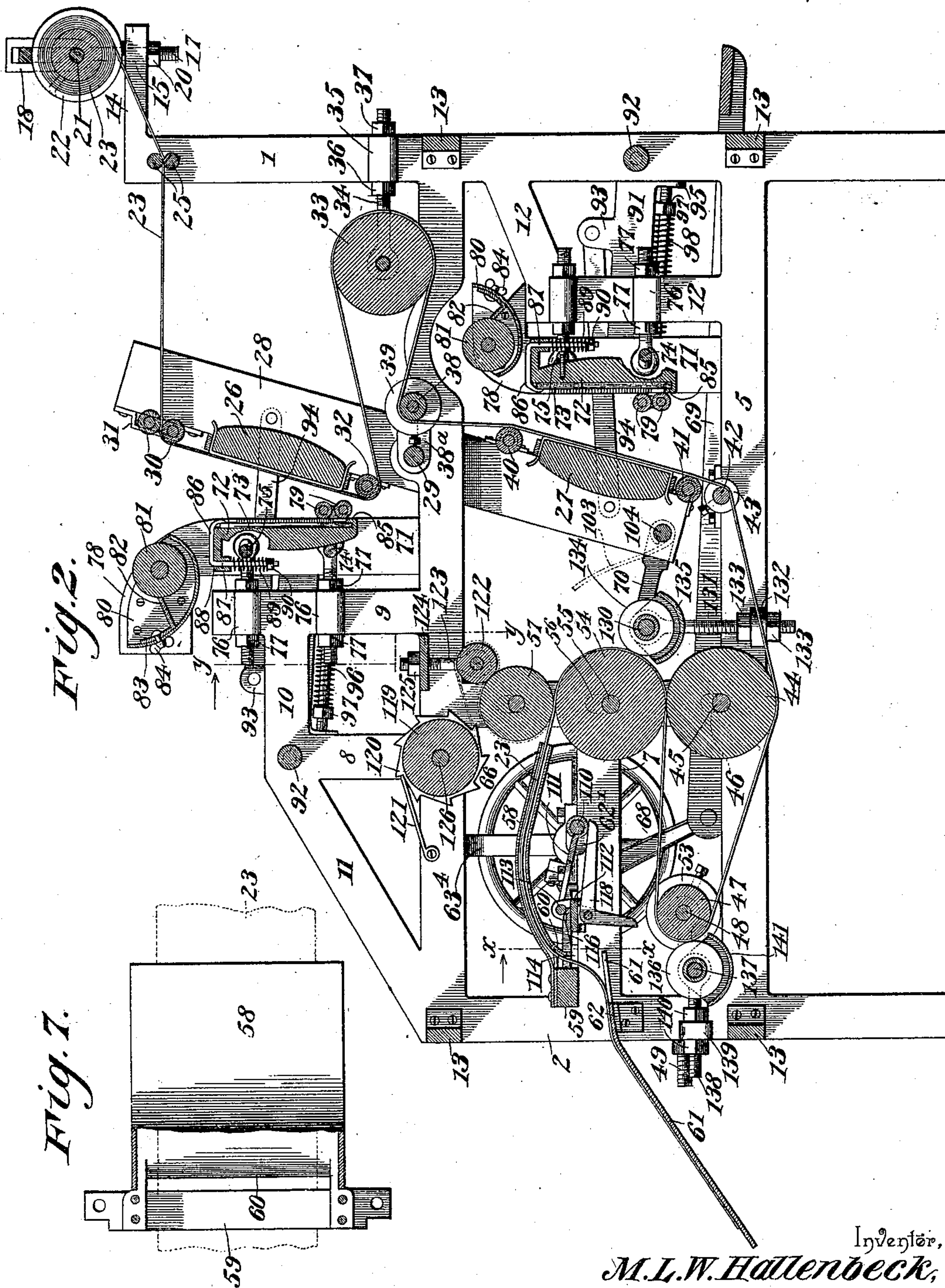
M. L. W. HALLENBECK
PRINTING PRESS.

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Fig. 2.

Fig. 1.



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(No Model.)

3 Sheets—Sheet 3.

M. L. W. HALLENBECK.
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Fig. 4.

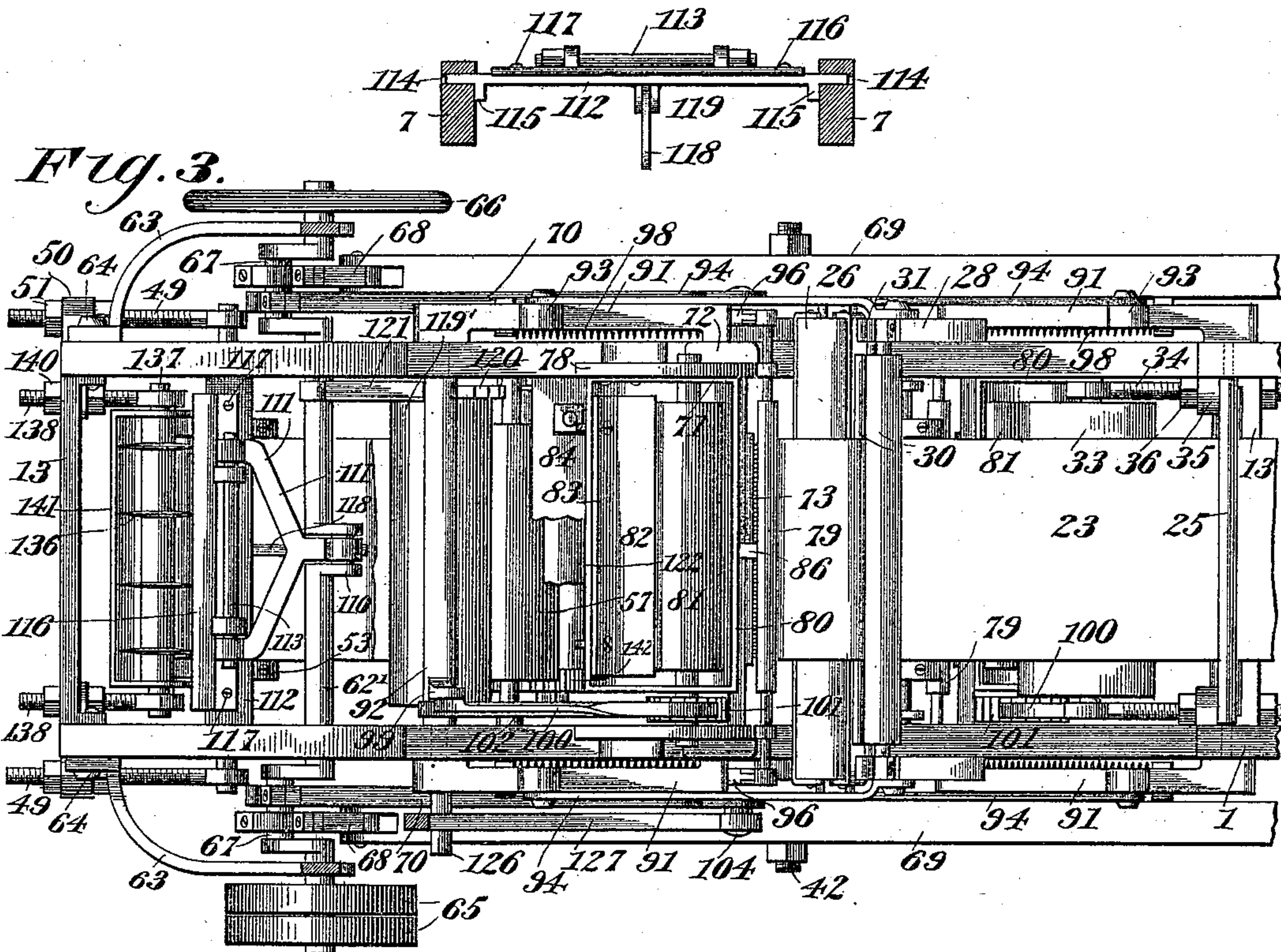


Fig. 5.

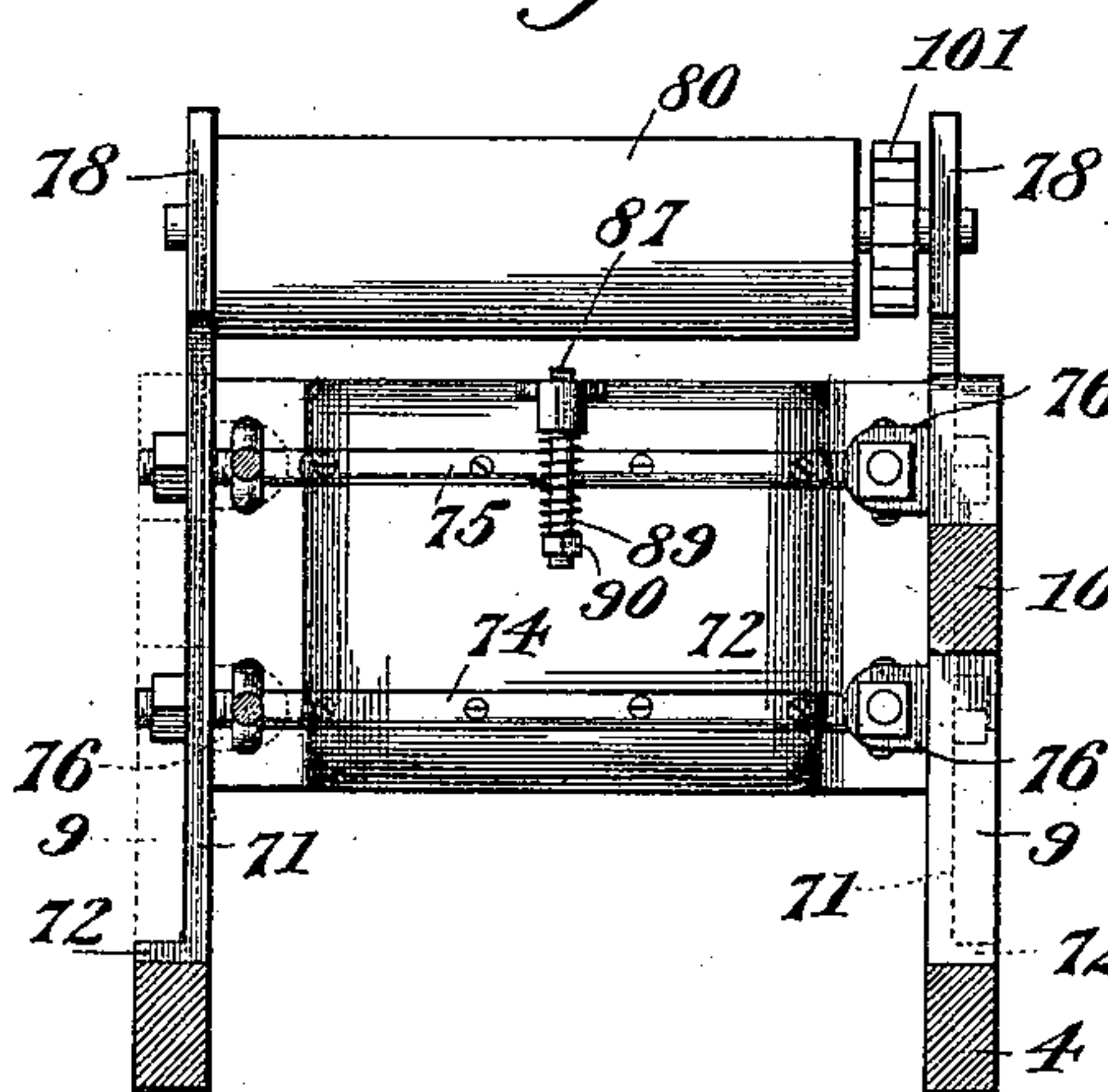
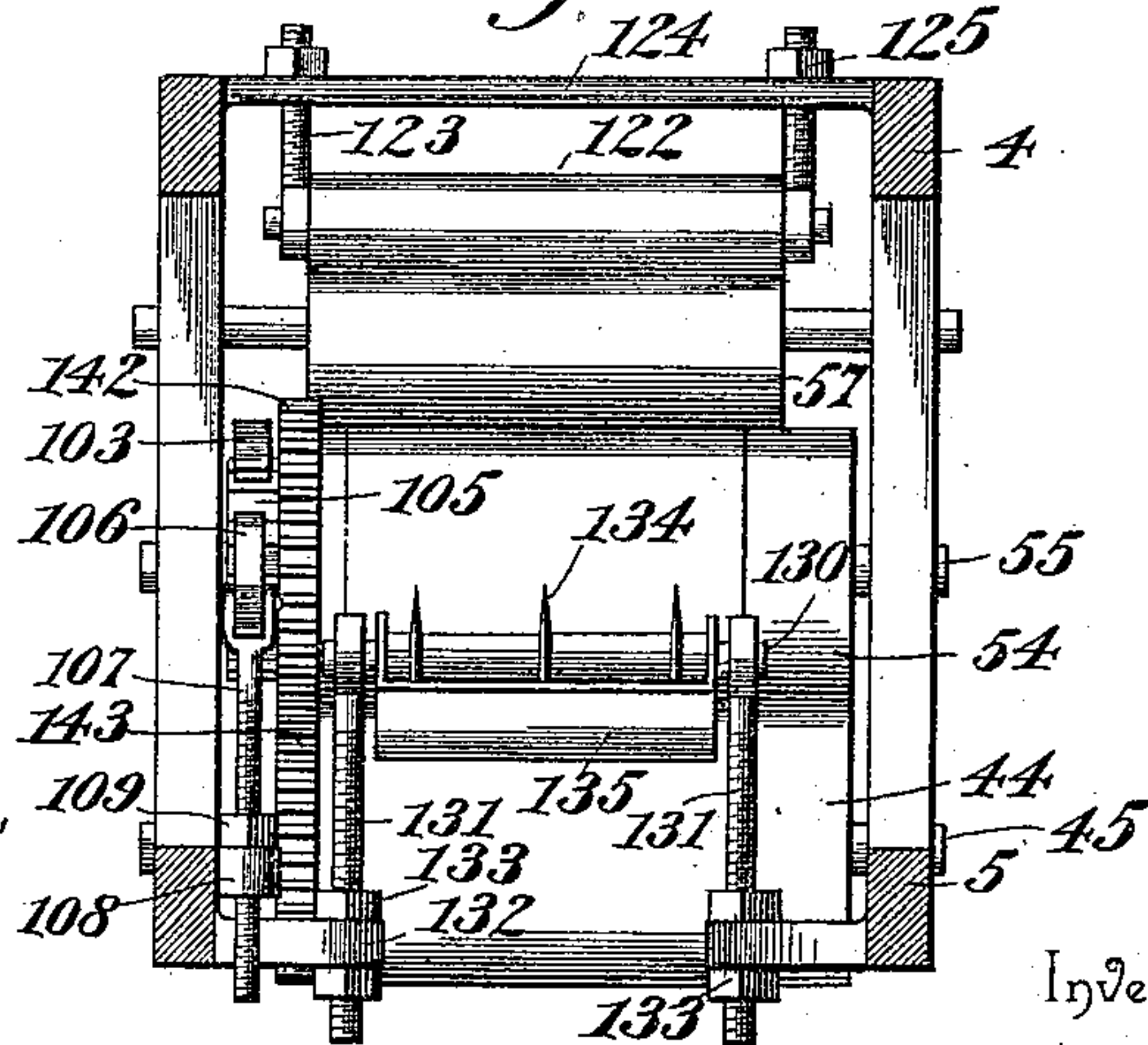


Fig. 6.



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UNITED STATES PATENT OFFICE.

MATTHEW L. W. HALLENBECK, OF THORNTON, TEXAS.

PRINTING-PRESS.

SPECIFICATION forming part of Letters Patent No. 557,381, dated March 31, 1896.

Application filed March 28, 1895. Serial No. 543,561. (No model.)

To all whom it may concern:

Be it known that I, MATTHEW L. W. HALLENBECK, a citizen of the United States, residing at Thornton, in the county of Limestone and State of Texas, have invented a new and useful Printing-Press, of which the following is a specification.

This invention relates to an improvement in printing-presses, and is designed for use also as a ruling and cutting press.

The object of the present invention is to provide a simple and durable printing-press of novel construction which shall print both sides of a sheet in the progress of the paper through the machine.

Another object is to provide the press with adjustable guards for guiding and directing a roll of paper of any width.

A further object of the invention is to provide means for regulating the feed of the machine for adapting it to print short or long sections or a newspaper as well as a small tract.

A further object of the invention is to provide two oppositely-facing platens so arranged that the weight of one will counterbalance the weight of the other and give double printing capacity.

Another object is to provide a novel construction of inking devices for supplying the ink in any desired quantity to the ink-rollers.

A further object is to provide a series of endless markers, rulers, or cutters, and suitable adjustable troughs for supplying the ink thereto; also, in the combination with the ink-troughs of adjustable scrapers for removing surplus ink from the ink-drums.

A further object of the invention is to provide a novel form of knife-bar and kicker and operating mechanism therefor for insuring accurate cutting and delivery of the sheets from the machine.

Another object is to provide a novel device for winding up the uncut paper upon a suitable roller in case it is preferred not to cut the paper into separate sheets.

A further object is to provide an adjusting and regulating drying-cylinder for properly spacing or timing the delivery of the paper to the platens and for insuring work which is free from blurs.

Other objects and advantages of this invention will appear in the ensuing description and claims.

To accomplish the several objects herein-

above enumerated, the invention consists in certain novel features, combinations, and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and pointed out in the several claims hereto annexed.

In the accompanying drawings, Figure 1 is a side elevation of an improved printing-press constructed in accordance with my invention, with parts broken away to better show the general arrangement and operation. Fig. 2 is a vertical longitudinal section taken near the center of the press. Fig. 3 is a plan view of the press with the paper-directing flume omitted to show the knife-bar, its operating mechanism, and the form of the main driving-shaft from which motion is imparted to the various parts of the press. Fig. 4 is a vertical transverse section on the line *x x* of Fig. 2, showing the manner in which the knife-bar is mounted and the kicker carried thereby. Fig. 5 is a vertical transverse section on the line *y y* of Fig. 2, showing the back of one of the chase-beds and the manner of supporting and adjusting the same. Fig. 6 is a vertical transverse section on the line *z z* of Fig. 1, showing the manner of adjusting one of the shafts on which the endless cutters, markers, or rulers are mounted, showing also the manner of adjusting the pawl for preventing retrograde movement of the main driving-cylinder. Fig. 7 is a plan view of the flume and its supporting-bar detached. Fig. 8 is a detail view showing the construction and operation of the indicator or counter.

Similar numerals of reference indicate corresponding parts in the several figures of the drawings.

Referring to the drawings, the general framework of the press is made in two equal and similar oppositely-disposed sections or castings spaced a sufficient distance apart to admit of the introduction of the various parts which go to make up the complete press. Each section is composed of a front and rear vertical post or standard 1 and 2, respectively, each provided with an outwardly-extending perforated foot 3, by means of which the press is secured to the floor. The vertical posts or standards 1 and 2 are spaced a considerable distance apart, and are connected by an upper horizontal bar 4 and a lower bar 5 parallel thereto and connected therewith by a vertical post or bar 6, from which a short hori-

horizontal bar 7 extends rearwardly to and connects with the rear post or standard 2. Above the upper horizontal beam 4 are arranged several vertically-extending posts 8 and 9, a short horizontal bar 10, and an inclined brace 11. Between the horizontal beams 4 and 5 and extending rearwardly from the front standard 1 is a bracket 12, the purpose of which will appear. The various portions above enumerated are formed integrally, preferably in a single casting, and the two castings or half-frames made, as above described, are arranged a suitable distance apart and connected by a series of horizontal cross-bars 13 secured thereto in any preferred manner, and at suitable or convenient points.

Forwardly-extending arms 14 at the upper ends of the front posts or standards 1 are provided, one with a vertical perforation 15 and the other with a slot 16, which are adapted to receive the downwardly-extending threaded shanks 17 of two yokes 18, in which is mounted the transversely-extending shaft, on which an unprinted roll of paper is placed preparatory to starting the press. The yokes 18 may be adjusted vertically by means of nuts 19 above the arms 15 surrounding said shank 17, and the yokes are held against turning by means of clamp-nuts 20 engaging the shank 17 beneath the supporting-arms 15. The transversely-extending shaft 21 is mounted at either end in said yokes and is provided with removable collars or disks 22, between which is placed the roll of paper 23. The collars or disks 22 are furnished with set-screws, by means of which the positions of the collars or disks may be regulated for holding a roll of paper of any desired width in the proper position. The shaft 21 and the roll of paper carried thereby may be raised or lowered by means of the adjusting-nuts 19. A bar or weight 24 bearing upon the peripheries of the disks or collars 22 serves to prevent too rapid unwinding of the roll of paper.

The paper 23, after it leaves the roll, passes between a pair of small horizontal rollers 25 extending across between and journaled in the upper ends of the posts or standards 1, said rollers serving to prevent slack paper from passing inward to the platens. By means of the slot 16 referred to the roll of paper 23 may be accurately adjusted into parallel relation with the platens hereinafter described, for directing said paper properly thereto.

The upper platen 26 and the lower platen 27 are both secured at either end to a pair of parallel rocking arms or beams 28 arranged in parallel relation to each other and outside of the horizontal bars 4 of the supporting-frame. The bars 28 are mounted upon opposite ends of a transverse horizontal shaft 29, having its bearings in the bars 4. The upper platen 26 is secured to the rear edges of the bars 28, extending across and connecting the same and the lower platen 27 is simi-

larly arranged upon the forward edges of said bars, thus forming a stout platen-frame, which is centrally pivoted on the transverse shaft 29. The paper 23, after it leaves the rollers 25, passes between a pair of rollers 30, extending across the platen-frame just above the upper platen 26 and mounted in suitable elongated or slotted brackets 31 secured to the rear face of said platen-frame. From said rollers 30 the paper passes over the rear face of the platen 26 and around a transverse roller 32, located beneath said platen and mounted in bearings at the rear side of the platen-frame. From thence the paper travels toward the front of the machine and passes over a drying-cylinder 33, which serves to absorb surplus ink and insure a copy free from blurs.

The drying-cylinder 33 also serves as a regulating device for the paper in this manner, viz: The cylinder or roller 33 is mounted at its ends in a pair of oppositely-disposed eye-bolts 34, which extend forwardly through perforated lugs 35 on the vertical posts or standards 1, being secured in place therein by means of adjusting-nuts 36 and 37 arranged upon opposite sides of the posts 1. By the aid of these nuts the cylinder or roller 33 may be adjusted toward and away from the platen-frame, the object of such adjustment being to regulate the length of paper between the upper and lower platens for the purpose of properly spacing said paper and bringing the reverse side thereof into the desired position with relation to the lower platen 27.

After leaving the drying and regulating cylinder 33 the paper passes over a roller 38, mounted in the forward ends of links 38^a hinged to the shaft 29 and provided with adjustable guards in the form of disks or collars 39 having set-screws for retaining them in the desired position upon said roller 38. The paper then passes downward over a roller 40 mounted in bearings on the forward side of the platen-frame and located just above the lower platen 27, after which the paper extends across the face of the lower platen and then over a roller 41 located beneath said platen in bearings attached to the lower corner of the platen-frame at its front edge.

After leaving the platen-frame the paper passes beneath a transverse shaft 42, upon which the operating-treadle frame is mounted, said shaft being mounted in bearings secured to the lower horizontal frame-bars 5 and provided with laterally-adjustable guard disks or collars 43 held in place by set-screws. From thence the paper passes beneath the lower cylinder 44, extending transversely across between the lower horizontal bars 5 of the frame and mounted on a vertically-movable shaft 45 working in vertically-elongated slots or bearings 46 in the lower ends of the short vertical posts 6. The paper then extends rearwardly and passes over a regulating-roller 47 located at the rear of the machine, the shaft 48 of said roller being mount-

ed at its ends in a pair of oppositely-disposed screw-eyes 49, extending horizontally through perforated ears or lugs 50, extending from the inner adjacent faces of the rear posts or standards 2. The screw-eyes 49 are threaded and adapted to receive nuts 51 and 52 upon either side of the supporting-lugs, by means of which the regulating-roller 47 may be adjusted toward and away from the center of the machine for the purpose of regulating the length of the paper between said roller and the knife. The roller 47 is also provided with laterally-adjustable guard disks or collars 53 held in place by means of set-screws. It may be here stated that the guard disks or collars 53, 43, 39, and 22 are provided and made laterally adjustable upon their several shafts by means of set-screws for the purpose of properly guiding and directing paper of any width in its passage over and around the several rollers referred to, thus keeping said paper in line and presenting it properly to the type-form and also to the cutters, markers, rulers, and knife hereinafter described.

The paper 23, after leaving the regulating-roll 47, passes between the lower Babbitt cylinder 44 and the main driving paper-feed cylinder 54, the latter being mounted upon a transverse shaft 55, journaled at its ends in the short upright posts 6 of the main frame and adapted to move and adjust itself vertically in elongated slots or bearings 56, by means of which close contact and frictional engagement are preserved between the cylinders 54 and 44. By means of the Babbitt cylinder 54, which is driven positively, as will be presently described, the paper 23 is drawn or fed through the machine. The paper passes around the cylinder 54, and between it and a vertically-sliding roller 57, and thence through a flume 58, at the end of which it is acted upon by the knife. The flume 58 is made in the form of a shallow curved metallic case projecting at one end in close proximity to the cylinder 54 and the roll 57, and supported at its rear end upon a transverse wooden beam 59, against which the knife operates. The lower wall of the flume is curved downwardly, as indicated at 60, to form a mouth or exit through which the paper is directed. After passing through the flume the paper falls upon an inclined table 61, extending outwardly from the rear end of the machine and supported thereon by means of suitable brackets 62, whereby the printed cut sheets are delivered from the press.

The main driving-shaft 62' extends transversely across the rear end of the machine and is mounted in suitable bearings attached to the short horizontal bars 7 of the main frame, being also further supported at its outer ends in suitable brackets 63 arranged upon opposite sides of the machine and secured to the frame, as shown at 64. The shaft 62' is provided at one end with one or more band-pulleys 65 and at its other or opposite end with a fly-wheel 66 for giving an

even and uniform rotation to said shaft. Upon either side of the machine-frame and within the brackets 63 the main driving-shaft 62' is provided with a double crank 67, from which a pitman 68 extends downward to and is pivotally connected with the rear end of a centrally-hinged treadle-frame 69 mounted on the shaft 42 before referred to. By means of the construction just described it will be apparent that the main driving-shaft, and consequently the press as a whole, may be operated either by foot-power applied to the treadle-frame 69 or by a belt from any suitable motor passing around pulley 65.

The platen-frame 28 is driven by means of suitable connecting-rods or pitmen 70 interposed between the lower end of said platen-frame and the cranks 67 on the main driving-shaft. These connecting-rods or pitmen are of such length that when the platen is thrown into a vertical position or into contact with the type-form in the chase-bed said connecting-rods and their operating-crank on the main driving-shaft will just be in line with each other, thus giving the greatest pressure at the moment of the impression and thereby economizing power and rendering the machine easy in operation.

The upper and lower chase-beds are each composed of two oppositely-disposed vertically-extending frame-bars 71 provided with feet 72' at their lower ends adapted to rest upon the horizontal bars of the supporting-frame and spaced a suitable distance apart, adapting them to receive a heavy bed-plate 72, which is flat upon its front face, adapting it to receive the usual chase 73, and convex upon its rear face for giving it the required strength. Transversely-extending curved cross-bars 74 and 75 pass behind the chase-beds and through the side bars 71 thereof. Suitable threaded eyebolts surround the opposite ends of these cross-bars 74 and 75 just within the side bars 71, the shanks of said eyebolts extending thence horizontally through perforated lugs or ears 76 on the supporting-frame and provided with nuts 77 upon opposite ends of said perforated lugs. By means of this construction it will be apparent that the chase-beds may be adjusted horizontally for bringing them into the desired position with relation to the rocking platen-frame for giving the desired impression. At their upper ends the side bars 71 are provided with curved extensions 78 extending away from the platen-frame and forming tracks upon which the rollers or casters of the inking-rollers 79 travel. Interposed between the curved extensions 78 is a cup 80 extending entirely across the space and provided with an internally-arranged revolving inking-drum 81, which is adapted to take up the ink deposited in the base of the cup and furnish the same to the inking-rollers 79 as they pass over said drum.

An adjustable scraper 82 is provided within the ink-cup, said scraper being provided with

an upward extension or angular portion 83 and with a thumb-screw and bolt 84 passing through a slot in the wall of the ink-cup, by means of which said scraper 82 may be adjusted to any desired position for removing the surplus ink from the ink-drum 81. The upper and lower chase-beds are similarly constructed and adjustably supported and are each provided with the ink-cup, ink-drums, and adjustable scrapers just described. Suitable hook or lips 85 at the lower end of each chase-bed receive the chase, and the upper end of the chase is held in place by means of a spring-actuated clip 86, the shank 87 of which passes through a vertical perforation in a rearwardly-extending lug 88 at the upper end of the chase-bed, beneath which a spiral spring 89 is disposed around the shank of said clip, and a nut 90 threaded thereon serves to regulate the tension of the spring and the force with which the clip grasps the upper end of the chase.

The ink-roller carriages 91 consist of two similar oppositely-disposed bars located upon opposite sides of the supporting-frame outside thereof, being keyed to a common transverse shaft 92 mounted in bearings in the upper end of the machine-frame. The oppositely-disposed bars 91 are provided upon one side each with a lug 93, from which a pivoted arm or link 94 extends to and is pivoted upon the outer face of the platen-frame. The opposite side of each bar 91 is provided with a pair of perforated lugs 95, in which is mounted a sliding rod 96 provided at one end beyond the end of the bar 91 with a socket-plate for the reception of one end of the inking-rollers. The other end of the sliding rod 96 is screw-threaded to receive a nut 97, between which and the lug 95 at the outer swinging end of the bar 91 is located a spiral spring 98 disposed around the rod 96 and adapted by its tension to assist in holding the inking-rollers to their work. When necessary, the tension of the spring 98 may be regulated by the nut 97.

By the construction just described it will be seen that as the platens 26 and 27 are moved toward their respective chase-beds for making an impression the links 94 will operate upon the ink-roller carriages in such manner as to cause the ink-rollers to pass up out of the way and over the ink-drums 81, where they will obtain a fresh supply of ink to be applied to the type-form on the next downward movement. The shafts 92 are each provided with a crank-arm 99, from which a pawl 100 extends to and engages a ratchet-disk 101 upon the end of the ink-drum shaft. It will be apparent that as the ink-roller carriages are moved upward the shafts 92 will be rocked, thereby operating, through the crank-arm 99, to withdraw the pawl 100 past the teeth of the ratchet-disk 101. In order to prevent the ink-drum from turning backward, a second pawl 102 is secured around the shaft 92 and engages the ratchet-disk 101 beneath the pawl. As the ink-roller carriages descend the pawl

100 engages the ratchet-disk and revolves the ink-drum. The arrangement is the same with both of the ink-drums.

The feeding-cylinder 54 is driven from the platen-frame by means of an interposed pawl 103, secured at one end around a transverse bar 104 extending across the lower end of the platen-frame, the opposite end of the pawl engaging the ratchet-disk 105 at one end of and keyed to the shaft of said feed-roller 54. As the platen-frame vibrates the pawl 103 is thrust rearwardly and caused to operate upon the ratchet-disk 105 for driving the feed-roller. Another pawl 106, pivotally mounted in the upper end of a vertically-adjustable threaded post 107, prevents retrograde movement of the ratchet-disk. The post 107 passes through a perforated ear or lug 108 on the supporting-frame and is adjusted up and down by means of a nut 109. By means of the construction just described the feeding-cylinder 54 may be revolved any desired distance, according to the size of the page or sheet which is being printed. When the lower pawl is adjusted downward, the pawl 103 will engage a greater number of teeth on the ratchet-disk 105 and revolve the feeding-cylinder a considerable distance, but when the pawl 106 is elevated it will cover a portion of the teeth of the ratchet-disk, and the pawl 103 will slide during a portion of its stroke upon the top of the lower pawl 106 and will revolve the feeding-cylinder a comparatively short distance. By this means the distance circumferentially which the feeding-cylinder moves can be accurately adjusted and the slack paper which has just received an impression can be taken up as the platens recede.

After an impression has been made and the platens recede from the forms slack is established in both loops of the web or those portions of the web which lie adjacent to the platens. This slack is immediately taken up by the feed-cylinders 44 and 54, in the operation of which the web is drawn across the faces of both platens. By reason of the said cylinders being prevented from turning in a reverse direction as the platens are again advanced toward the forms the web will be held by the cylinders and the movement of the platens will cause the web to travel across the faces of both platens, the additional paper required in this operation being drawn from the supply-roll 23.

The main driving-shaft 62' is provided with a centrally-arranged double crank 110, which receives the forward end of a yoke 111, which extends rearward to a knife-bar 112, being pivoted thereto at either end upon a transversely-extending shaft 113. The knife-bar 112 is mounted at its ends and adapted to slide longitudinally in grooves 114 in the main frame, and is provided with stops 115 bearing against the inner faces of the short horizontal bars 7 of the supporting-frame. As the shaft 62' revolves the knife-bar 112 is thrust rearwardly, and the knife 116, which is detach-

ably secured thereto by screws 117, passes beneath the downwardly-opening mouth of the flume 58 and cuts off the paper 23, which falls upon the inclined table 61 and is delivered from the machine. The crank 110 is arranged opposite to the cranks 67, so that the cutting of the paper will be accomplished simultaneously with an impression. An L-shaped kicker 118 is pivoted at its elbow between a pair of pendent lugs 119 formed integrally with and projecting downwardly from the lower face of the knife-bar 112. The horizontal arm of this kicker underlies the crank 110, and is operated upon thereby for throwing the lower end of the vertical arm of said kicker forward, adapting it to strike against and beneath the outflowing sheet of paper for directing the same onto the inclined table 61.

It may sometimes be found desirable instead of cutting off the sheet to wind the paper up upon a suitable roll. For this purpose I provide a horizontal roller 119' provided at one end with a ratchet-disk 120, with which a pivoted pawl 121 engages for preventing retrograde movement thereof. Instead of passing the paper through the flume 58 it passes up between the roller 57 and a vertically-adjustable roller 122, mounted at either end in vertically-extending eyebolts 123 passing through perforated lugs 124, or a plate extending across the frame from side to side, and above said lugs or plate the eyebolts are provided with adjusting and retaining nuts 125. The purpose of adjusting the roller 122 is to provide the necessary frictional contact for directing the paper onto the winding-roll 119'. In order to drive said winding-roller, the shaft 126 of said roller is extended outside of the horizontal frame-bar 4 in which it is mounted and roughened, and is acted upon by an inclined rod or bar 127, having its working edge or face also roughened, said bar being pivoted at its lower end to the platen-frame and perforated at its upper end to receive one end of a spiral spring 128 secured at its opposite end to an eye 129 secured to the frame at a convenient point. The spring 128 may be of any required power and its tension is exerted to force said inclined bar or rod 127 into frictional engagement with the shaft 126 of the winding-roll for revolving the latter when the platen-frame is vibrated in a manner that will be readily understood. 130 designates a transversely-arranged shaft mounted at its ends in an oppositely-disposed pair of eyebolts 131, extending downwardly through vertically-perforated lugs or ears 132, projecting inwardly from the inner adjacent faces of the lower horizontal frame-bars 5. The eyebolts 131 are held in place and the shaft 130 adjusted up and down by means of nuts 133 arranged above and below said lugs. Upon the shaft 130 is mounted a series of circular cutters, markers, or rulers 134, which are adapted to bear against the

paper 23 as it runs around the cylinder 54 with a pressure regulated by the adjustment just described. The number of circular cutters or disks 134 may be varied as desired, and they may also be provided with sharp or blunt peripheral edges for either cutting the paper 23 into narrow strips or ruling the same. When used as rulers, an ink-cup 135 is mounted on the shaft 130 underlying said disks, from which they receive their supply of ink and rule the paper. A similar series of disks or circular cutters 136 is mounted on a transverse shaft 137 just in rear of the regulating-roller 47, around which the paper passes, said shaft 137 being mounted at either end in an oppositely-disposed pair of eyebolts 138 passing horizontally through perforated ears or lugs 139, extending inwardly from the inner adjacent faces of the rear end posts 2. The eyebolts 138 are provided upon either side of the lugs 139 with nuts 140, by means of which the shaft 137 and its disks or cutters 136 may be moved into the desired engagement with the roller 47 and the paper traveling around the same. An ink-cup 141, constructed and arranged similarly to the ink-cup 135, is mounted on said shaft 137 to be used for ruling purposes when desired. Any desired number of disks or cutters may be arranged on the shaft 137, and they may be so arranged as to register or alternate with the series 134, whereby any number of lines or cuts or indentations may be provided in or on the paper as it passes through the press from end to end.

The feeding-cylinder 54 and the lower Bab-bitt cylinder 44 are provided on their adjacent ends with spur gear-wheels 142 and 143, by means of which motion is communicated from one to the other and an even feed of the paper effected.

In Fig. 8 I have shown how my improved indicator is arranged and operated. One end of the shaft 55 of the feed-roller is extended slightly beyond the short vertical frame-post 6 sufficiently to receive a collar 144, provided with a radial projection in the form of a tooth 145. The collar 144 is fast upon the shaft 55, and in each revolution of the feed-cylinder 54 the tooth 145 operates upon a toothed gear 146, moving the latter the distance of one tooth. The gear 146 is provided with a pin 147, arranged in such relation to a second gear 148 that each revolution of the gear 146 turns the gear 148 the distance of one tooth. By numbering the teeth of the gears 146 and 148 the number of impressions made by the press may be visibly indicated in a manner that will be readily understood.

The operation of the press will be understood from the foregoing description. By the construction described a complete and efficient press is produced, which is simple and durable in construction, which may be used as a ruling, cutting, or printing press, and which is adapted to print a large or small form and upon one or both sides of the paper.

Parts of the machine not hereinabove particularly described may be constructed and arranged in any usual or preferred manner.

It will be apparent that various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a printing-press, an oppositely-disposed pair of horizontally-extending arms formed integrally with the frame of the machine and provided with vertical perforations, in combination with a pair of vertically-adjustable yokes, a roll-supporting shaft journaled in said yokes, and means for adjusting both of said yokes vertically and one of said yokes horizontally for the purpose and substantially as described.

2. In a printing-press, an oppositely-disposed pair of slotted yokes mounted in perforated extensions of the machine-frame, a transverse shaft mounted therein and adapted to receive and support an unprinted roll of paper, in combination with adjusting-nuts engaging the threaded shanks of said yokes above and below said frame extensions for adjusting both of said yokes vertically and one yoke horizontally, and means for regulating the position of the roll of unprinted paper longitudinally of its shaft, substantially as described.

3. In a printing-press, the combination with a stationary frame, of a pair of oppositely-disposed slotted yokes provided with threaded shanks extending through vertical perforations in said frame, adjusting-nuts engaging said threaded shanks and bearing against the frame for regulating the height of said yokes and adjusting one of them in a horizontal direction, a transversely-extending horizontal shaft adapted to receive a roll of unprinted paper and mounted at its ends in said yokes, laterally-adjustable guard disks or collars secured upon said shaft, and a gravity brake-bar superposed above and resting in frictional contact with said disks or collars and sliding at its ends in the slotted yokes, substantially as described.

4. In a printing-press, a centrally-pivoted platen-frame mounted on a horizontal transverse shaft, the oppositely-facing platens located upon either side of said frame and upon opposite sides of the shaft on which said frame is mounted, and one or more connecting-rods interposed between said platen-frame and the main crank-shaft, substantially as described.

5. In a printing-press, the combination with the stationary frame, of a double platen-frame centrally pivoted on a transverse horizontal shaft, an upper and a lower platen secured thereto upon opposite sides of the platen-frame, one above and the other below the shaft on which the platen-frame hinges, a plurality of transverse rollers mounted in

bearings on said platen-frame and located above and below the platens in such position as to direct the paper properly across the faces of said platens, and means for vibrating said platen-frame, substantially as specified.

6. In a printing-press, the combination with the main frame, of a centrally-pivoted platen-frame, a pair of oppositely-facing platens secured to said frame upon opposite sides of the shaft on which said platen-frame is hinged, a series of rollers for guiding and directing the paper across the faces of said platens, and an adjustable drying and regulating cylinder secured to the main frame in approximately the same horizontal plane with the shaft on which the platen-frame hinges, substantially as and for the purpose specified.

7. In a printing-press, the combination with the stationary frame, of a double platen-frame mounted on a central shaft, the oppositely-facing platens secured to said frame upon opposite sides of the shaft on which the platen-frame is mounted, a series of guiding-rollers for directing the paper across the faces of the platen, a drying and regulating cylinder located in about the same horizontal plane with the pivotal shaft of the platen-frame, and the threaded eyebolts in which said cylinder is journaled extending through perforated lugs or ears on the stationary frame and provided with nuts for adjusting and holding said cylinder, for the purpose of increasing or diminishing the length of paper between the two platens for properly spacing the impressions, substantially as described.

8. In a printing-press, the combination with the stationary frame, of a centrally-pivoted platen-frame, oppositely-facing platens secured thereto upon opposite sides of the shaft upon which said platen-frame is hinged, the main horizontal driving-shaft provided with a double crank at or near either end, and the oppositely-disposed connecting-rods interposed between the main driving-shaft and the platen-frame and pivoted to said platen-frame at or near the lower ends of the side bars thereof, substantially as described.

9. In a printing-press, the combination with the stationary frame, of a centrally-pivoted double platen-frame, a pair of oppositely-facing platens secured thereto upon opposite sides of the pivotal shaft, a horizontal main driving-shaft mounted in the stationary frame, connecting-rods interposed between said driving-shaft and the centrally-pivoted platen-frame, a treadle-frame hinged to the stationary frame, and one or more pitmen or links interposed between the treadle-frame and the main driving-shaft, all arranged for joint operation, substantially as specified.

10. In a printing-press, an adjustable chase-bed, a series of horizontally-extending threaded eyebolts supporting said chase-bed and extending through perforated ears or lugs on the stationary frame, the regulating-nuts for adjusting the position of the chase-bed horizontally, the hooks or lips at the lower end

of the chase-bed for engaging the lower edge of the chase, a vertically-movable clip or hook at the upper end of the chase-bed for engaging and holding the top of the chase, and the spiral spring and nut on the shank of said clip or hook for regulating the tension thereof, substantially as described.

11. In a printing-press, the combination with the stationary frame, of an adjustable chase-bed, the oppositely-disposed side bars thereof provided with curved extensions at their upper portion, an ink-cup adjustable with the bed and extending across between and secured at its opposite ends to said curved extensions, a revoluble ink-drum located partially within said ink-cup, and an adjustable scraper for removing the surplus ink from said ink-drum, substantially as described.

12. In a printing-press, the combination with the stationary frame, and with a chase-bed adjustably supported thereon, of an ink cup or well located above said chase-bed and secured thereto, a positively-driven ink-drum also mounted on said chase-bed and revolving within the ink-cup, a ratchet-disk mounted on one end of said ink-drum, an actuating-pawl engaging said ratchet-disk at one end and pivotally connected at its other end to and carried by a crank-arm on the shaft of the ink-roller carriage, and a supplemental pawl engaging said ratchet-disk for preventing retrograde movement of the ink-drum, substantially as described.

13. In a printing-press, the combination with the stationary frame, of a platen pivotally mounted on a transverse axis, a pair of feeding-cylinders having their axes in parallelism to the platen-axis and adapted to engage the paper between their contiguous faces, the spur-gears mounted on the adjacent ends of the shafts of said cylinders for communicating motion from one to the other, a ratchet-wheel mounted on the shaft of one of said cylinders, a vibrating pawl pivotally connected directly with said platen-frame and resting in operative engagement with said ratchet-wheel, and means for regulating the operative throw of said pawl, substantially as described.

14. In a printing-press, the combination with the stationary frame, of a pair of feeding-cylinders mounted therein and adapted to receive the paper between them and feed the same through the machine, the intermeshing gears on the adjacent ends of said cylinder, the ratchet-wheel mounted on the end of one of said cylinders, the platen-frame, the gravity-pawl carried thereby and engaging said ratchet-wheel, a supplemental pawl also engaging said ratchet-wheel and located beneath the pawl carried by the platen-frame, and means connected with the stationary frame for adjusting the position of the supplemental pawl for the purpose of regulating the stroke of the upper pawl and thereby the distance circumferentially which the feeding-

cylinder operated upon thereby travels, substantially as described.

15. The combination with the stationary frame of a printing-press, and with the paper-feeding mechanism, and the platen, of a winding-up roller journaled in the frame and having a ratchet-wheel fast at one end, a detent for preventing backward movement of the roller, a reciprocating arm or bar pivotally connected with and actuated by the platen-frame and resting in direct operative engagement with the shaft of the winding-up roller, and a tension-spring for holding said arm or bar against the shaft of said roller, substantially as and for the purpose specified.

16. In a printing-press, the combination with the stationary frame, and with one of the feeding-cylinders, of a series of circular cutters, markers, or rulers mounted on a shaft arranged in parallel relation to the feeding-cylinder, the adjustable threaded eyebolts for supporting said shaft at its ends, an ink-cup mounted upon said shaft for supplying ink to said circular markers or rulers, and the adjusting-nuts on either side of the supporting-lugs through which said eyebolts pass for adjusting the eyebolts and the shaft carried thereby, and thereby forcing said circular cutters, markers, or rulers with any desired pressure against the paper traveling around the feeding-cylinder, substantially as specified.

17. In a printing-press, the stationary frame and the main driving-shaft mounted therein, in combination with a reciprocating knife-bar, a yoke or pitman interposed between a crank on the main driving-shaft and said knife-bar, and a kicker pivoted to the under side of said knife-bar and provided with a horizontally-extending arm underlying and adapted to be acted upon by the main driving-shaft, whereby the paper is directed onto a table and delivered from the machine, substantially as specified.

18. In a printing-press, a stationary frame, the feeding-cylinders mounted therein, the reciprocating knife, and the regulating-roller for properly spacing the paper with relation to said knife, in combination with a series of circular cutters, markers, or rulers mounted on a shaft extending parallel to the shaft of the regulating-roller, an ink-cup suspended upon the shaft of said circular markers or rulers and means substantially as described for adjusting said circular cutters, markers, or rulers toward and away from the regulating-roller and forcing the same with any desired pressure against the paper passing around said regulating-roller, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

MATTHEW L. W. HALLENBECK.

Witnesses:

H. K. PRICE,
J. L. RICH.