

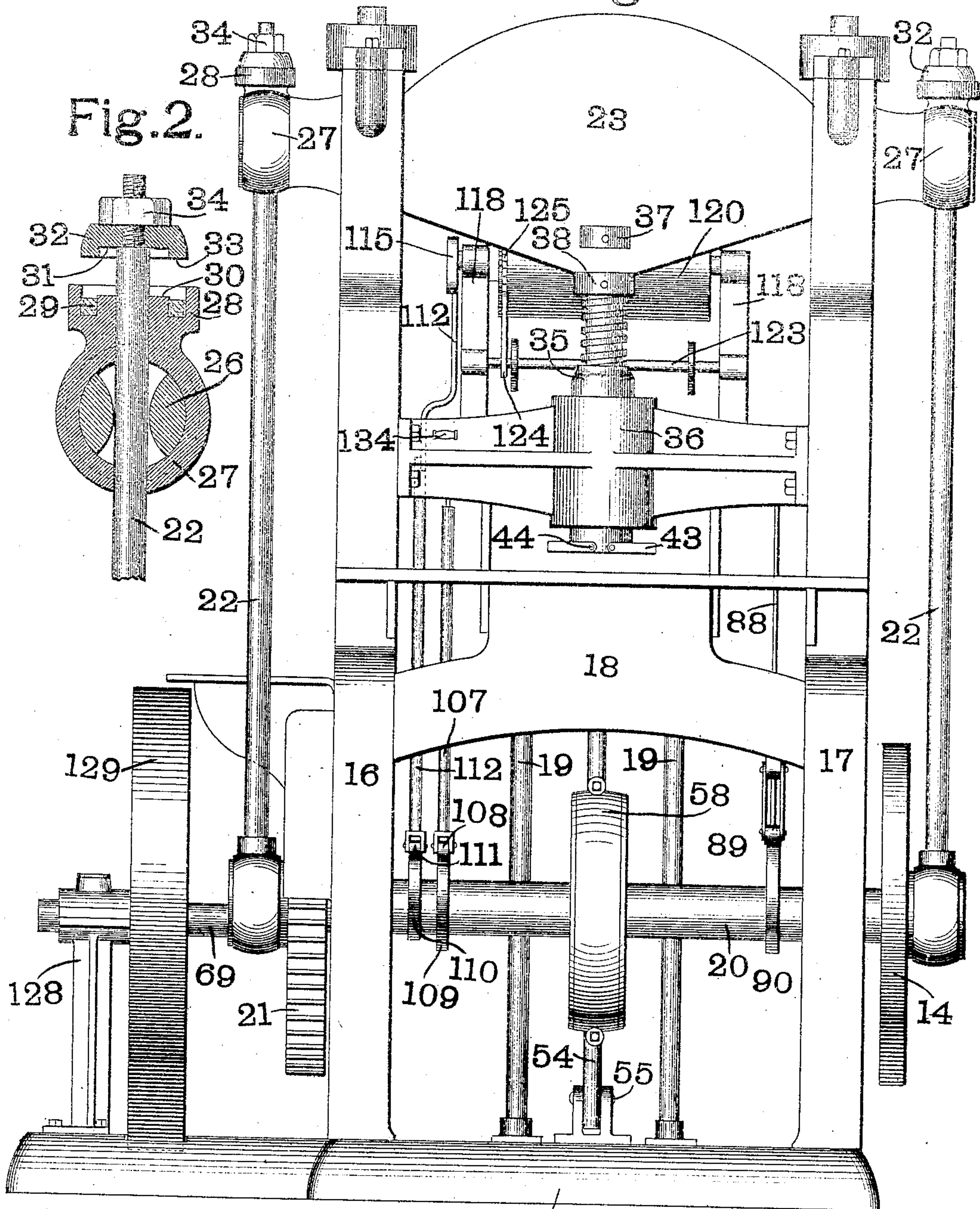
No. 779,912.

PATENTED JAN. 10, 1905.

S. CURTIS.
EMBOSSING PRESS.
APPLICATION FILED MAY 18, 1904.

4 SHEETS—SHEET 1.

Fig. 1.



Witnesses

W. A. Alexander.

Fred Hecke.

15

Inventor

Samuel Curtis.

By Attorneys *Lowell & Benson.*

No. 779,912.

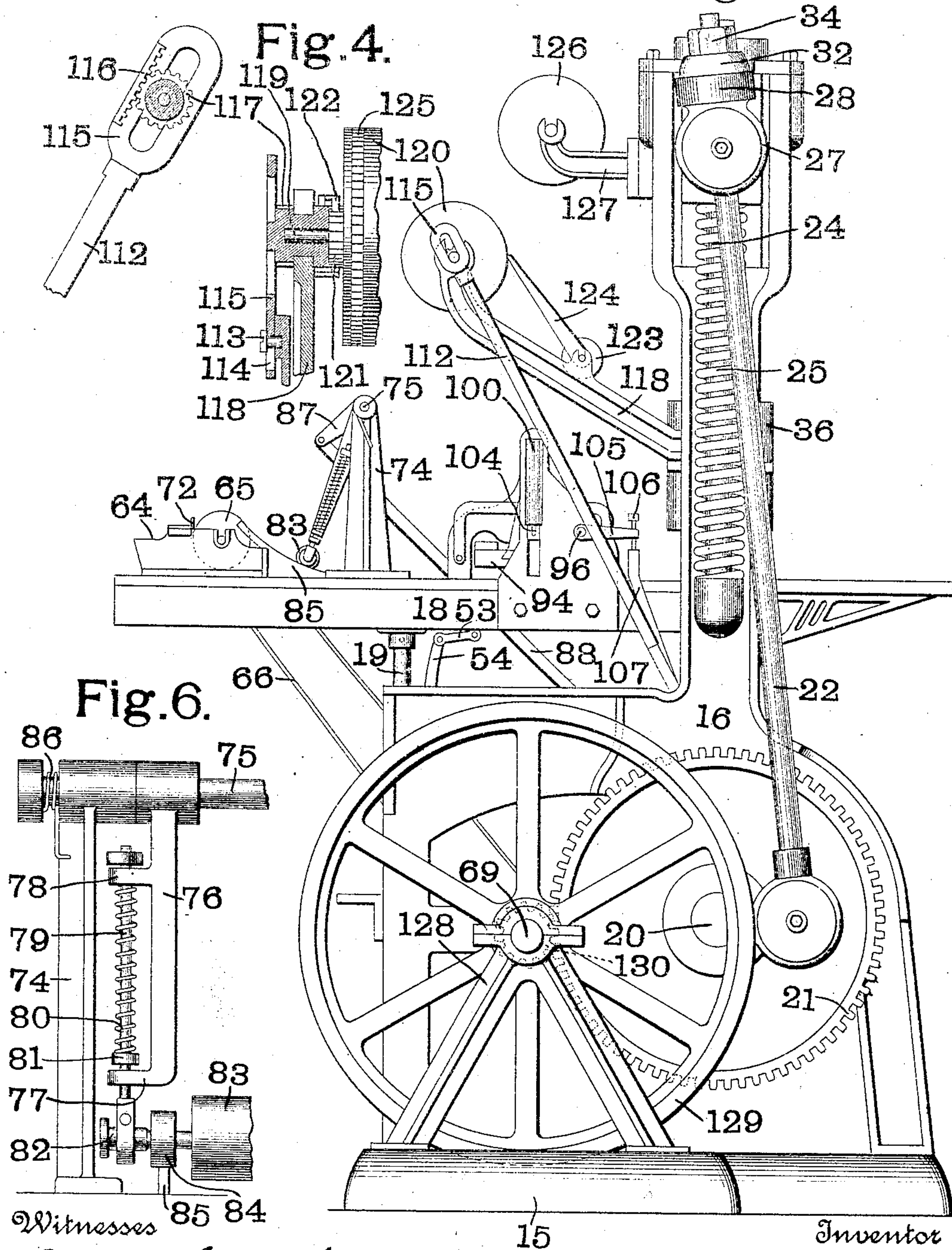
PATENTED JAN. 10, 1905.

S. CURTIS.
EMBOSSING PRESS.
APPLICATION FILED MAY 19, 1904.

4 SHEETS--SHEET 2.

Fig. 3.

Fig.5.



Witnesses

W. A. Alexander

Fred Heuck.

Inventor

Samuel Curtis.

By Attorneys

Messrs *Forbes & Bryson*
 100 Nassau Street
 New York City

S. CURTIS.
EMBOSSING PRESS.
APPLICATION FILED MAY 19, 1904.

4 SHEETS—SHEET 3.

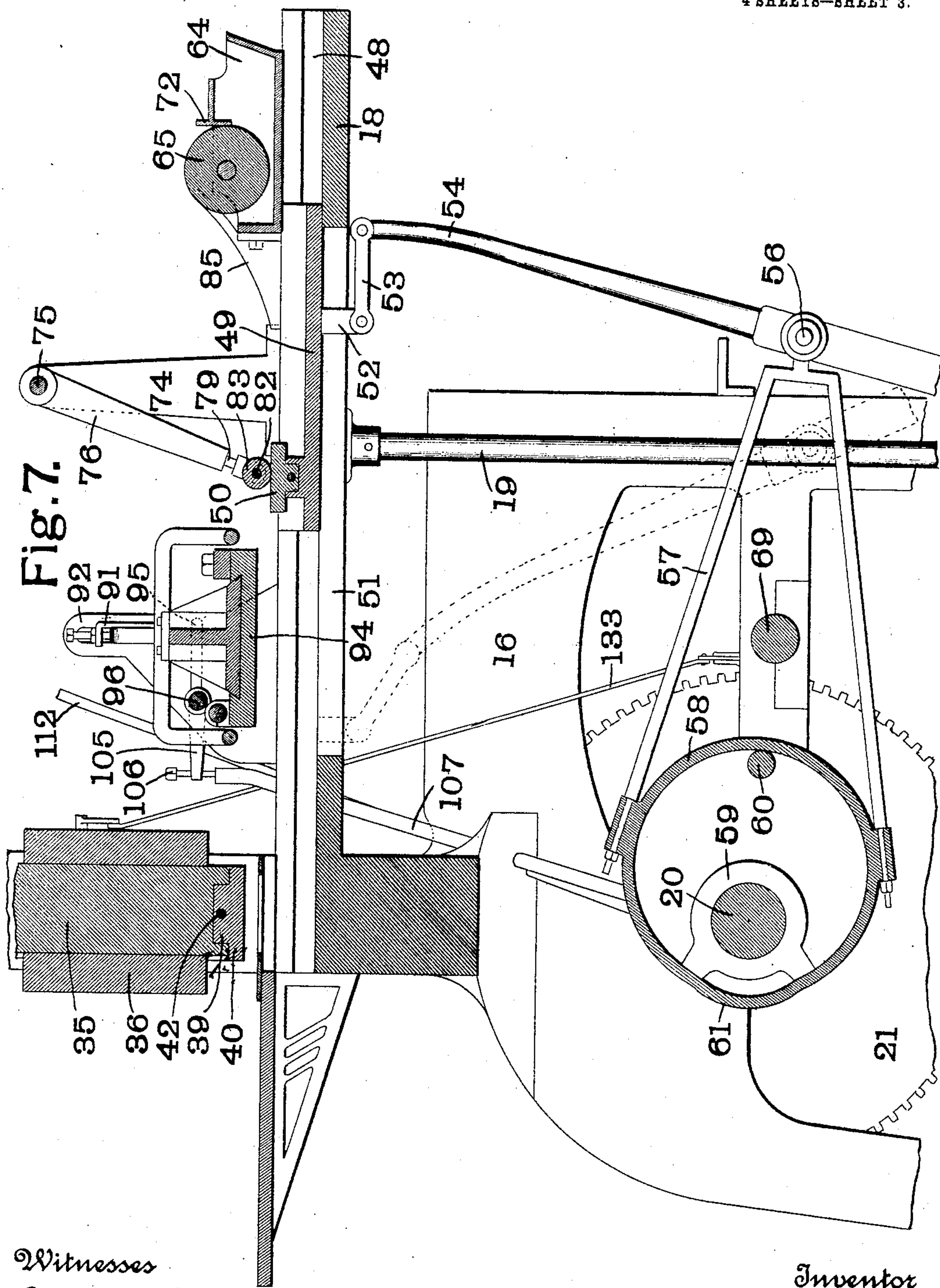


Fig. 7.

Witnesses

W. A. Alexander

Fred Hecker

Inventor

Samuel Curtis.

By Attorneys *Lorch & Bypore*

S. CURTIS.
EMBOSSING PRESS.
APPLICATION FILED MAY 19, 1904.

4 SHEETS—SHEET 4.

Fig. 8.

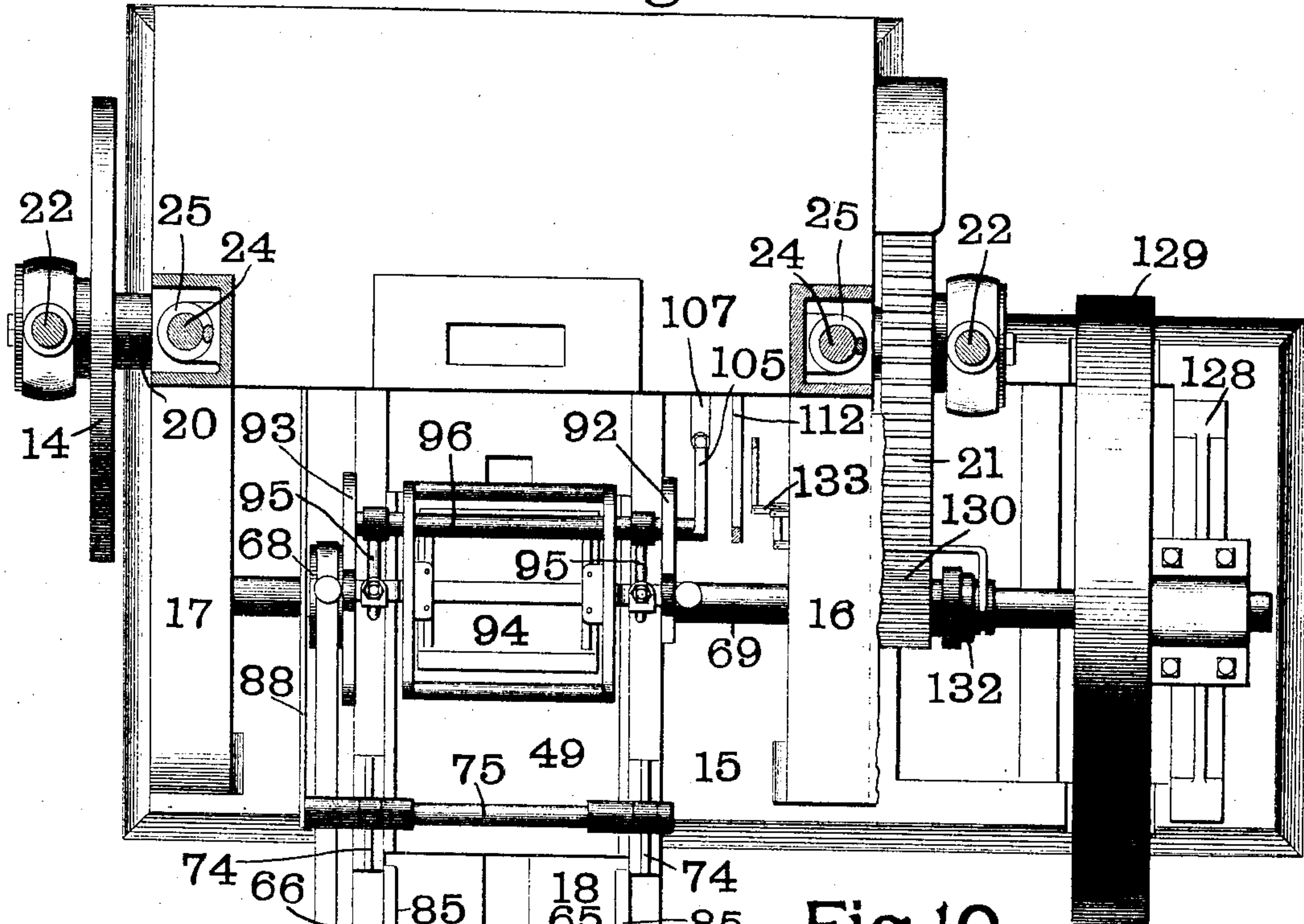


Fig. 9.

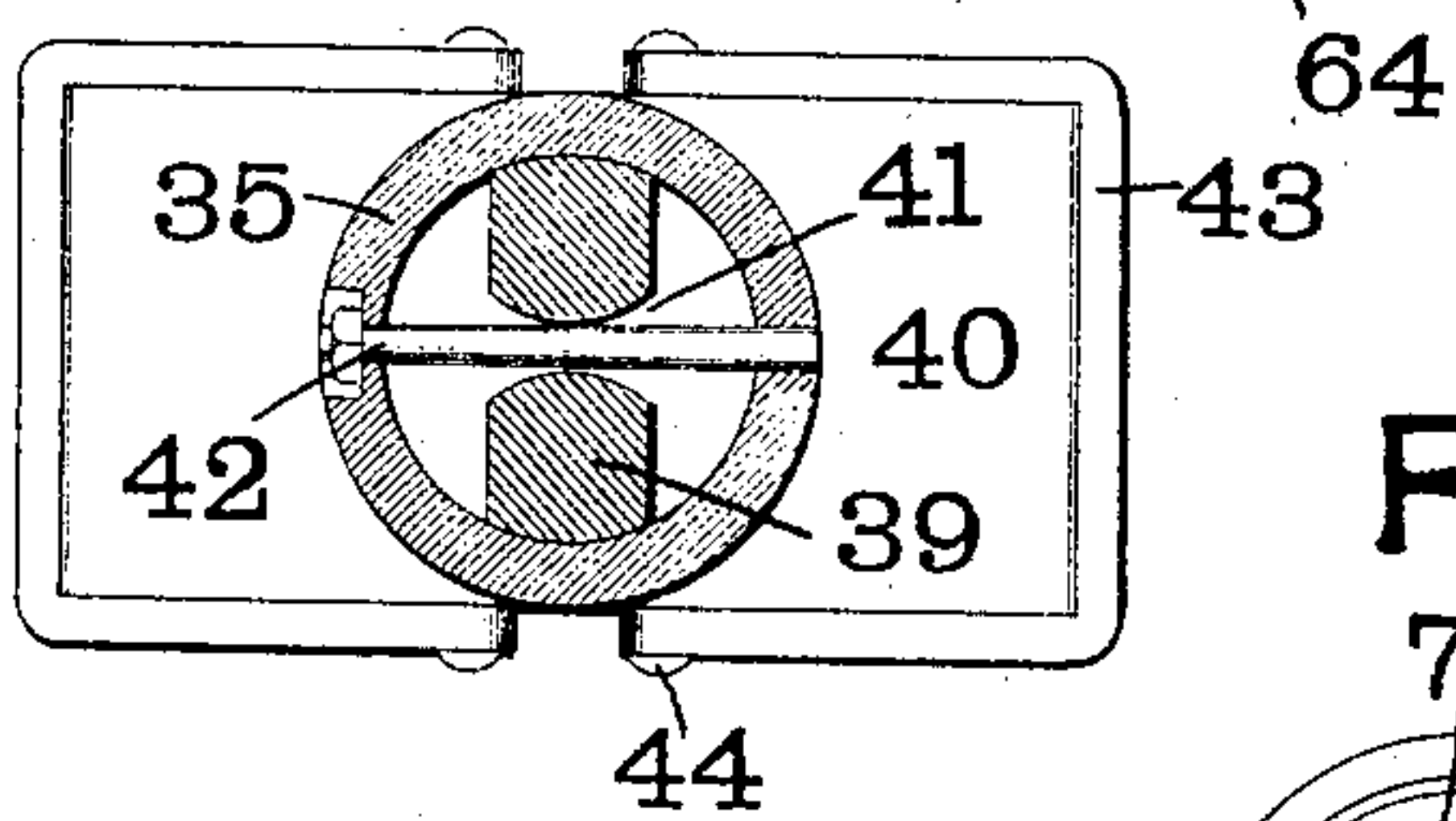


Fig. 10.

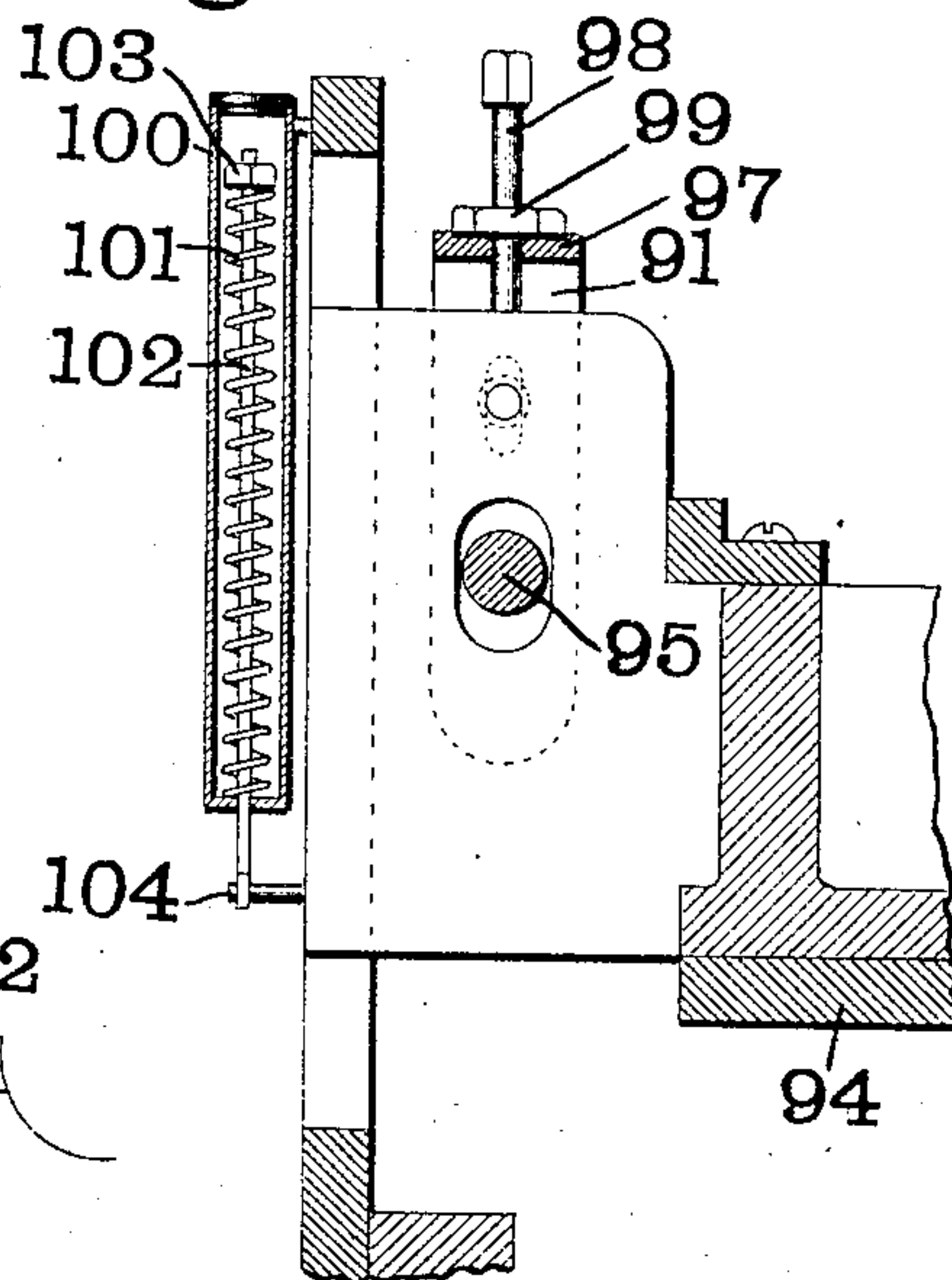
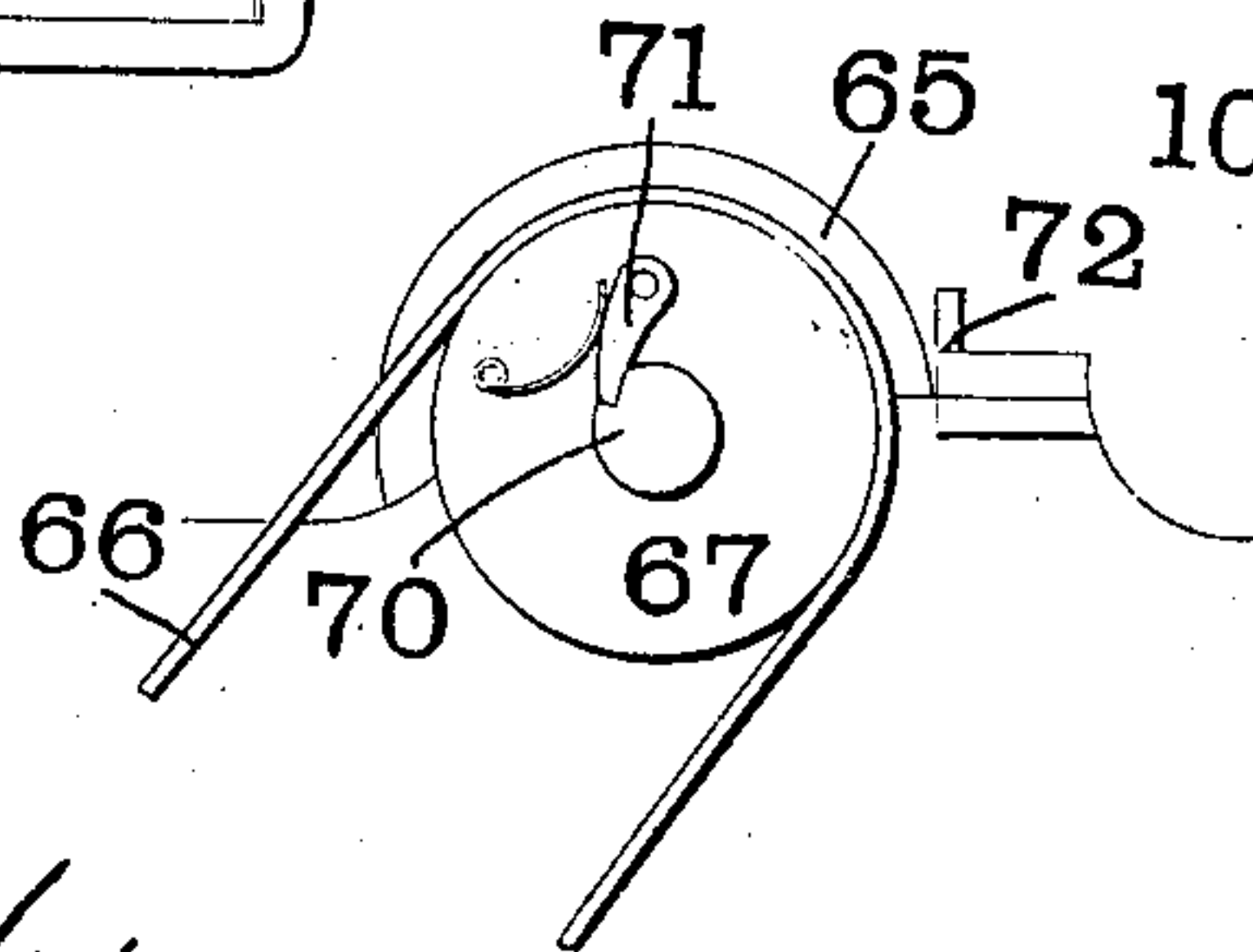


Fig. 11.



Witnesses

W. A. Alexander

Fred Hanks

Inventor

Samuel Curtis.

By Attorneys

Forster & Bynoe

UNITED STATES PATENT OFFICE.

SAMUEL CURTIS, OF KIRKWOOD, MISSOURI.

EMBOSSING-PRESS.

SPECIFICATION forming part of Letters Patent No. 779,912, dated January 10, 1905.

Application filed May 19, 1904. Serial No. 208,712.

To all whom it may concern:

Be it known that I, SAMUEL CURTIS, a citizen of the United States, residing at Kirkwood, in the county of St. Louis and State of Missouri, have invented a certain new and useful Embossing-Press, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to improvements in that form of embossing-press shown and described in Letters Patent No. 695,542, granted to me March 18, 1902.

The object of my invention is to simplify and improve the general construction of the press and also to render the operation of the various parts positive and to provide for their adjustment.

In the accompanying drawings, which illustrate one form of embossing-press made in accordance with my invention, Figure 1 is a front elevation. Fig. 2 is an enlarged section, showing a detail of construction. Figs. 3 and 4 are detail views showing the mechanism for actuating the paper-feed. Fig. 5 is a side elevation. Fig. 6 is an enlarged detail view. Fig. 7 is an enlarged central vertical section through the main part of the machine. Fig. 8 is partly a top plan view and partly a section. Fig. 9 is a sectional view showing a detail of construction. Fig. 10 is an enlarged sectional view through one end of the wiping-block, and Fig. 11 is an enlarged end view of the ink-supplying roll.

Like marks of reference refer to similar parts in the several views of the drawings.

15 is the base of the machine. Carried on the base 15 are side frames 16 and 17.

18 is the bed of the machine, the forward end of which is secured between the side frames 16 and 17. The rear end of the bed 18 is supported by uprights 19, resting on the base 15.

20 is the main shaft of the machine. This shaft 20 is journaled in the side frames 16 and 17 and has secured to it a disk 14 and a gear-wheel 21. The disk 14 and gear-wheel 21

are each provided with a wrist-pin on which are journaled the lower ends of pitman-rods 22.

23 is a cross-piece carried by guide-rods 24, supported in the side frames 16 and 17. The rods 24 are surrounded by coil-springs 25, which normally hold the cross-piece 23 in its raised position. The ends of the cross-piece 23 project through openings in the top of the side frames and are provided with bearing-pins 26, through which the pitman-rods 22 pass. The openings in the bearing-pins 26 are formed as shown in Fig. 2, so as to allow for the lateral movement of the pitman-rods 22. Surrounding the pins 26 are caps 27, having upwardly-extending annular pieces 28. Each of these annular pieces 28 is provided with an annular groove in which is placed a ring 29, of rubber or other resilient material. Within the ring 29 is a bearing-surface 30, which is adapted to come in contact with a bearing-surface 31, formed in an annular stop 32, secured on the upper end of the pitman-rod 22 by means of a nut 34. Surrounding the bearing-surface 31 is a bearing-surface 33, which is adapted to come in contact with the ring 29.

35 is a plunger, which works in a guide 36, carried between the side frames 16 and 17. The upper end of this plunger is screw-threaded and passes into an opening in the cross-piece 23. The plunger 35 can be adjusted by means of a nut 37 and is rigidly secured by means of a lock-nut 38. The lower end of the plunger 35 is provided with an opening adapted to receive a short cylindrical stem 39 on a platen 40, which is adapted to make contact with the die, as will be hereinafter described. The cylindrical stem 39 is provided with an opening 41 to receive a pin 42, which secures the platen 40 to the plunger 35. This opening 41 is made in the form shown in Fig. 9, so as to allow the platen 40 to be set either straight across the machine or at an angle.

43 represents clamps pivoted to the platen 40 at 44. These clamps 43 are adapted to secure a strip of cloth or other suitable material to the platen 40.

Formed in the bed 18 are guideways 48, in which slides a bed-plate 49. This bed-plate

49 carries a die 50, which may be secured in position in the same manner as the bearing-block 40 or in any other suitable manner.

Formed in the bottom of the bed 18 is a slot 51, through which extends a downward projection 52, carried by the sliding bed-plate 49. Pivoted to this projection 52 is one end of a link 53, the opposite end of which is pivoted to an oscillating bar or arm 54. The lower end of this bar or arm 54 is pivoted at 55 to the base 15 of the machine. Pivoted to the arm 54 at 56 is one end of the yoke 57, the opposite end of which is secured to an eccentric-strap 58. This strap 58 surrounds an eccentric 59, secured on the main shaft 20. The eccentric 59 is provided with a roller 60, which bears upon the strap 58, and thus imparts movement to the arm 54. The strap 58 is provided with an enlarged portion 61, so that an idle point is formed when the bed-plate 49 is in its forward position, so that the die 50 will remain at rest while the platen 40 is making contact therewith.

64 is the ink-receptacle, in which is journaled an ink-supply roll 65. This roll 65 is driven by a belt 66, passing around a pulley 67 on the shaft of the roll and around a second pulley 68 on a driving-shaft 69. The pulley 67 is loosely mounted on the shaft 70 of the inking-roll and is provided with a dog 71, engaging with a notch in the shaft 70, so that the inking-roll will be driven in the direction of the arrow in Fig. 11 when the pulley 67 is driven in one direction, but will not rotate the roll when driven in the opposite direction.

72 is a scraping device for removing surplus ink from the roll 65.

Secured to the bed 18, immediately in front of the ink-receptacle 64, are a pair of uprights 74, in which is journaled a rock-shaft 75. This rock-shaft 75 is provided with two arms 76. These arms 76 are provided with lugs 77 and 78, through which pass rods 79. Surrounding each of these rods 79 is a coil-spring 80, the upper end of which rests against the lugs 78 and the lower end against a collar 81, secured to the rod 79. Journaled in the ends of the rods 79 is a shaft 82, carrying an inking-roll 83 and a pair of wheels 84, adapted to run upon a track 85, and thus guide the inking-roll 83 to the ink-supply roll 65, hereinbefore described.

86 is a coil-spring surrounding one end of the rock-shaft 75 and tending to move the said rock-shaft 75 so as to swing the roll 83 into contact with the roll 65. The rock-shaft 75 has rigidly secured to one end an arm 87, pivoted to an operating-rod 88. This rod 88 has secured to its lower end a roller 89, bearing on a cam 90 on the main shaft 20.

Secured to the bed 18 in front of the upright 74 are a pair of supports 92 and 93. Moving in these supports 92 and 93 is the wiping-block 94. As this wiping-block 94 is similar to that shown in my patent above referred to, it will not be described in detail.

The wiping-block 94 is actuated by means of fingers 95, carried on a rock-shaft 96. In order to secure an adjustable connection between the fingers 95 and the wiping-block 94, I provide the said wiping-block 94 with a sliding plate 91, which engages with the said finger 95. This plate 91 has an overturned edge 97, through which passes a screw 98, which bears upon the top of the wiping-block. By rotating this screw 98 the connection between the finger and the wiping-block may be adjusted. The screw 98 is secured in position by a lock-nut 99. In order to hold the wiping-block in its raised position, I secure to the guides 92 and 93 tubes 100. In each of these tubes is a spring 101, through which passes a rod 102, having at its upper end a nut 103, bearing on the top of said spring, and at its lower end being secured by a pin 104 to the wiping-block 94. In order to operate the rock-shaft 96, I provide it with an arm 105, in the end of which is a set-screw 106. This set-screw 106 bears upon the upper end of rod 107, the lower end of which is provided with a wheel 108, resting upon a cam 109 on the main shaft 20.

Adjacent to the cam 109 is a second cam 110, coöperating with a roller 111, carried on a rod 112. This rod 112 is secured, by means of a screw 113 passing through a slot 114, to a loop 115. This loop 115 is provided with a rack 116, which engages with a gear-wheel 117. This gear-wheel 117 is journaled in one of a pair of brackets 118 and has loosely journaled in it one end of a shaft 119, carrying a paper-roll 120. The shaft 119 is also provided with a ratchet-wheel 121, which is connected with the gear-wheel 117 by means of a dog 122, so that when the said gear-wheel 117 rotates in one direction the paper-roll 120 will be rotated with it; but when it rotates in the opposite direction the roll 120 remains stationary. Journaled in the brackets 118 is a paper-guide 123. This paper-guide 123 is also provided with a pawl 124, which engages with a ratchet-wheel 125 on the paper-roll 120, so as to positively prevent any rotation of the roll in the wrong direction. 126 is a second paper-roll, which is journaled in brackets 127, carried by the side frames 16 and 17.

The driving-shaft 69, hereinbefore referred to, is journaled in the side frames 16 and 17 and also in a support 128, carried by the base 15. The said shaft has secured to it between the side frame 16 and the support 128 a belt-wheel 129, by means of which the press is driven. The shaft 69 is provided with a spur-wheel 130, which meshes with the gear-wheel 21, hereinbefore described. This spur-wheel 130 may either be secured rigidly to the shaft 96, or it may be loosely mounted thereon and secured thereto at will by means of a friction-clutch 132, as shown in Fig. 8. Extending from this friction-clutch 132 are connections

133, provided with a handle 134, Fig. 1, within reach of the operator.

The operation of my press is as follows: The ink for supplying the die 50 is placed in the ink-receptacle 64, and paper for wiping the said die is wound on the paper-roll 126 and passes thence down to the paper-guide 123 and around the wiping-block 94 to the paper-feeding roll 120. After the machine is started in operation the sliding bed-plate 49, carrying the die, is carried to the rear of the machine. The inking-roll 83 after being brought in contact with the ink-supply roll 65 transfers sufficient ink to the die 50 to completely cover the face thereof. As the die 50 passes forward the wiping-block 94 carries the strip of paper down against the face of the die, so that in its forward movement the ink is removed from the face of the die and left only in the engraved portions thereof. The bed-plate 49 is carried forward by the movement of the arm 54, and as it nears its forward limit the rear end of the link 53 drops in position, so that the movement of the bed-plate will be comparatively slow. As soon as the bed-plate has reached its extreme front position, with the die 50 directly beneath the block 40, the roller 60 will reach the enlarged portion 61 of the eccentric-strap, so that the die 50 will remain stationary, while the pitman-rods 22 draw the cross-piece 23, and consequently the block 40, downward, so that the said block comes in contact with the die to print the character engraved thereon. As the bearing-surface 33 of the cap 32 comes in contact with the ring 29 before the bearing-surfaces 30 and 31 come together, the movement of the press will be noiseless.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In an embossing-press, the combination with a reciprocating die, of a platen cooperating therewith, a rock-shaft, an arm carried by said rock-shaft, a pair of lugs on said arm, a rod slidingly mounted in said lugs, an abutment on said rod, a spring surrounding said rod between said abutment and one of said lugs, an inking-roll journaled in said rod, and a wiping device for said die.

2. In an embossing-press, the combination with a reciprocating die, of a platen cooperating therewith, a swinging inking-roll yieldingly mounted to move toward and away from its pivot, an ink-supply, a track between said roll and supply and cooperating with said roll, and a wiping device for said die.

3. In an embossing-press, the combination with a reciprocating die, of a plunger cooperating therewith, a driven shaft, and pitman-rods driven from said shaft and making sliding connection with said plunger.

4. In an embossing-press, the combination with a reciprocating die, of a plunger cooperating therewith, a driven shaft, pitman-rods driven from said shaft and making sliding connection with said plunger, and cushions of resilient material between said pitman-rods and said plunger.

5. In an embossing-press, the combination with a reciprocating die, of a plunger cooperating therewith, a driven shaft, pitman-rods driven from said shaft and making sliding connection with said plunger, and springs supporting said plunger.

6. In an embossing-press, the combination with a reciprocating die, of a plunger cooperating with said die, a cross-head carrying said plunger, guide-rods passing through said cross-head, springs surrounding said rods and supporting said cross-head, a driven shaft, and pitman-rods driven from said shaft and making sliding connection with said cross-head.

7. In an embossing-press, the combination with a reciprocating die, of a plunger cooperating therewith, an inking device for said die, a reciprocating wiping device, a rock-shaft, fingers carried by said rock-shaft, and adjustable connections between said fingers and said wiping device for varying the pressure of the latter.

8. In an embossing-press, the combination with a reciprocating die, of a platen cooperating therewith, an inking device, a reciprocating wiping device, an adjustable member carried by said wiping device, a rock-shaft, a finger carried by said rock-shaft and engaging said adjustable member, and means for operating said rock-shaft.

9. In an embossing-press, the combination with a platen, of a reciprocating die, a shaft, an eccentric on said shaft, an eccentric-strap surrounding said eccentric and provided with a recess forming an idle point, and operating connections between said eccentric-strap and die.

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

SAMUEL CURTIS. [L. s.]

Witnesses:

W. A. ALEXANDER,
FRED HENKE.