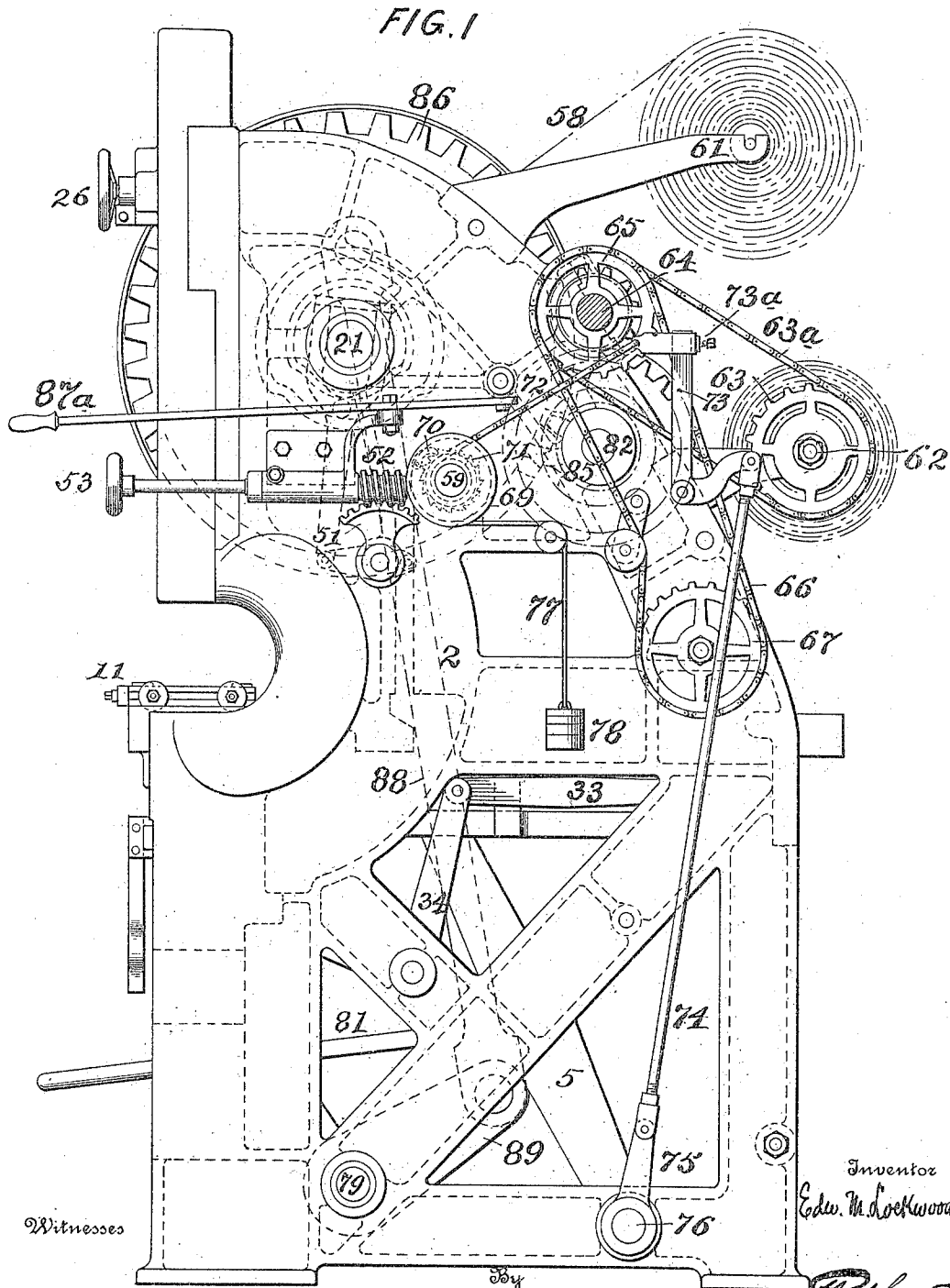


E. M. LOCKWOOD.
EMBOSSING AND PRINTING PRESS.
APPLICATION FILED JUNE 17, 1907.

951,481.

Patented Mar. 8, 1910.

6 SHEETS—SHEET 1.



Witnesses

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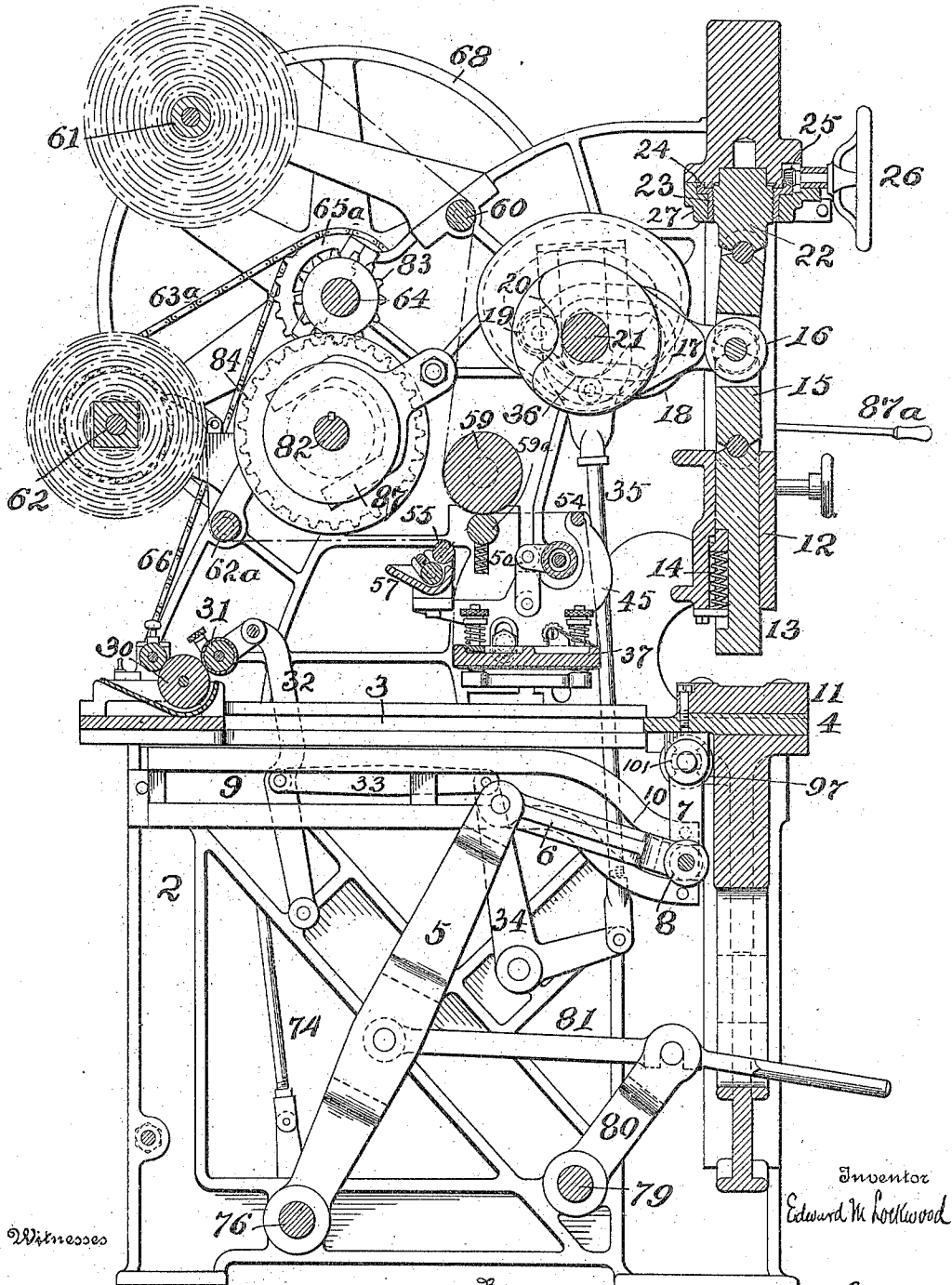
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6 SHEETS—SHEET 2.

FIG. 2



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6 SHEETS—SHEET 3.

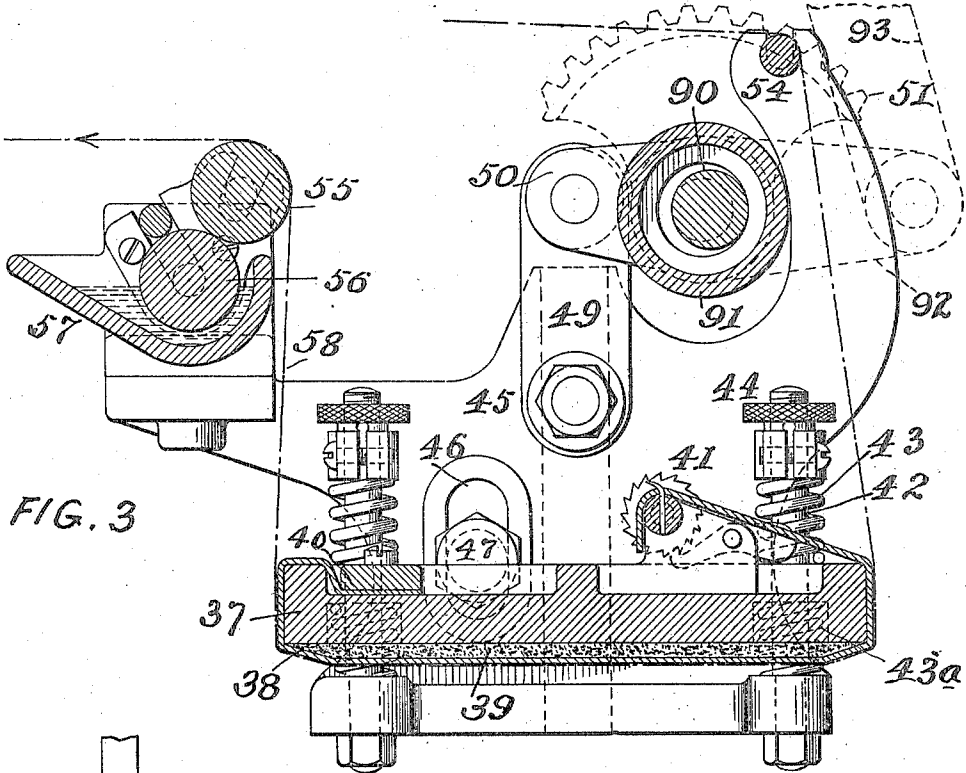
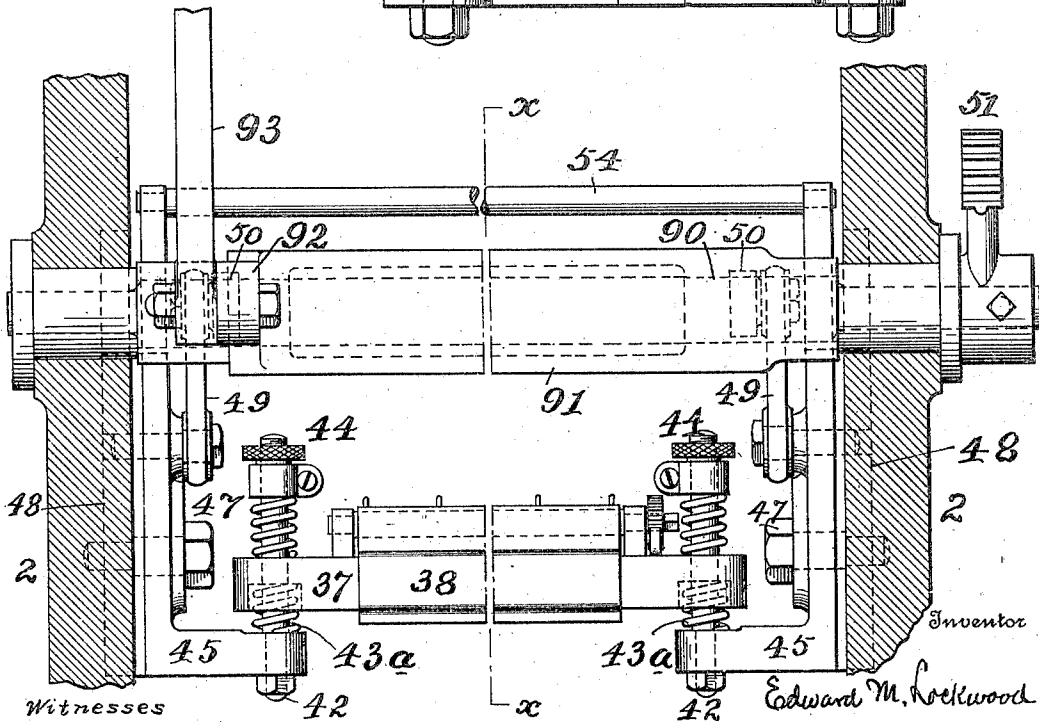


FIG. 3



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6 SHEETS—SHEET 4.

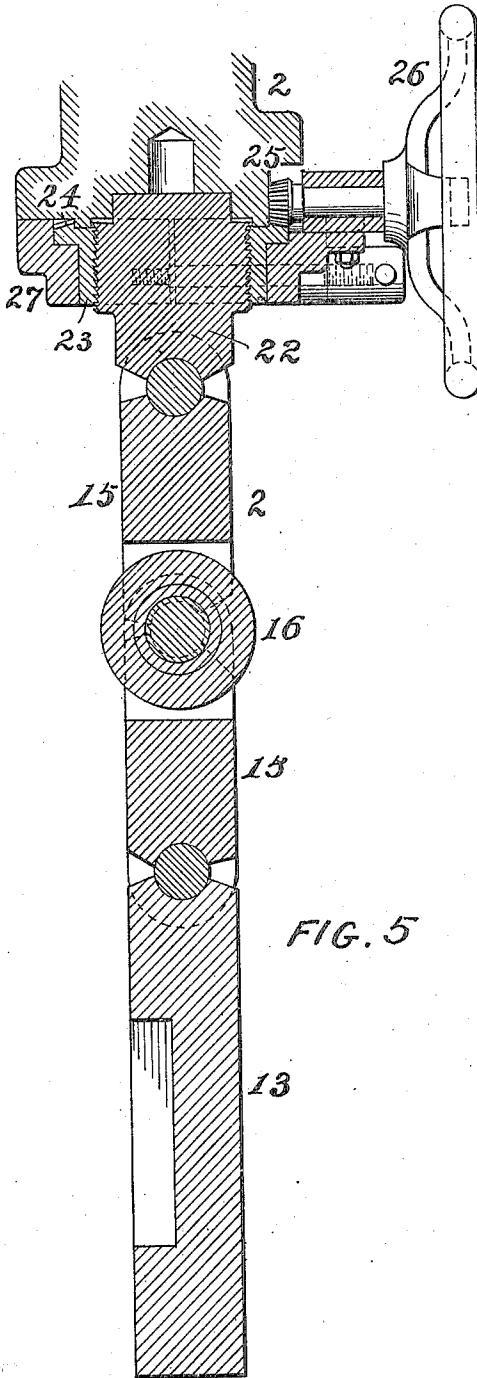


FIG. 5

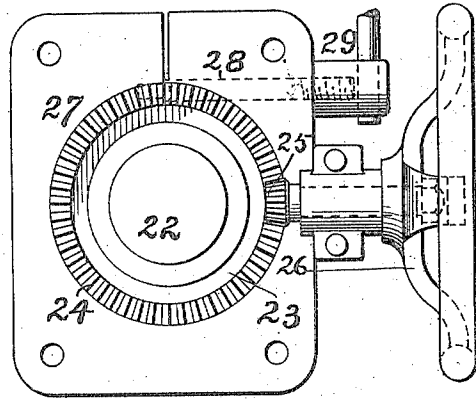


FIG. 6

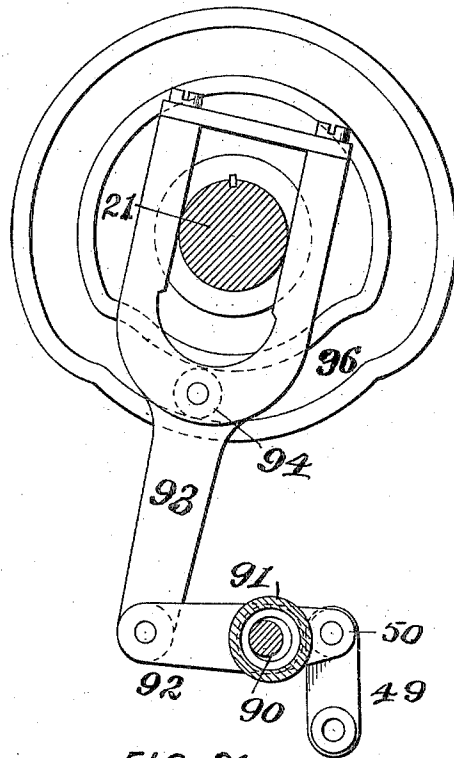


FIG. 7

Witnesses

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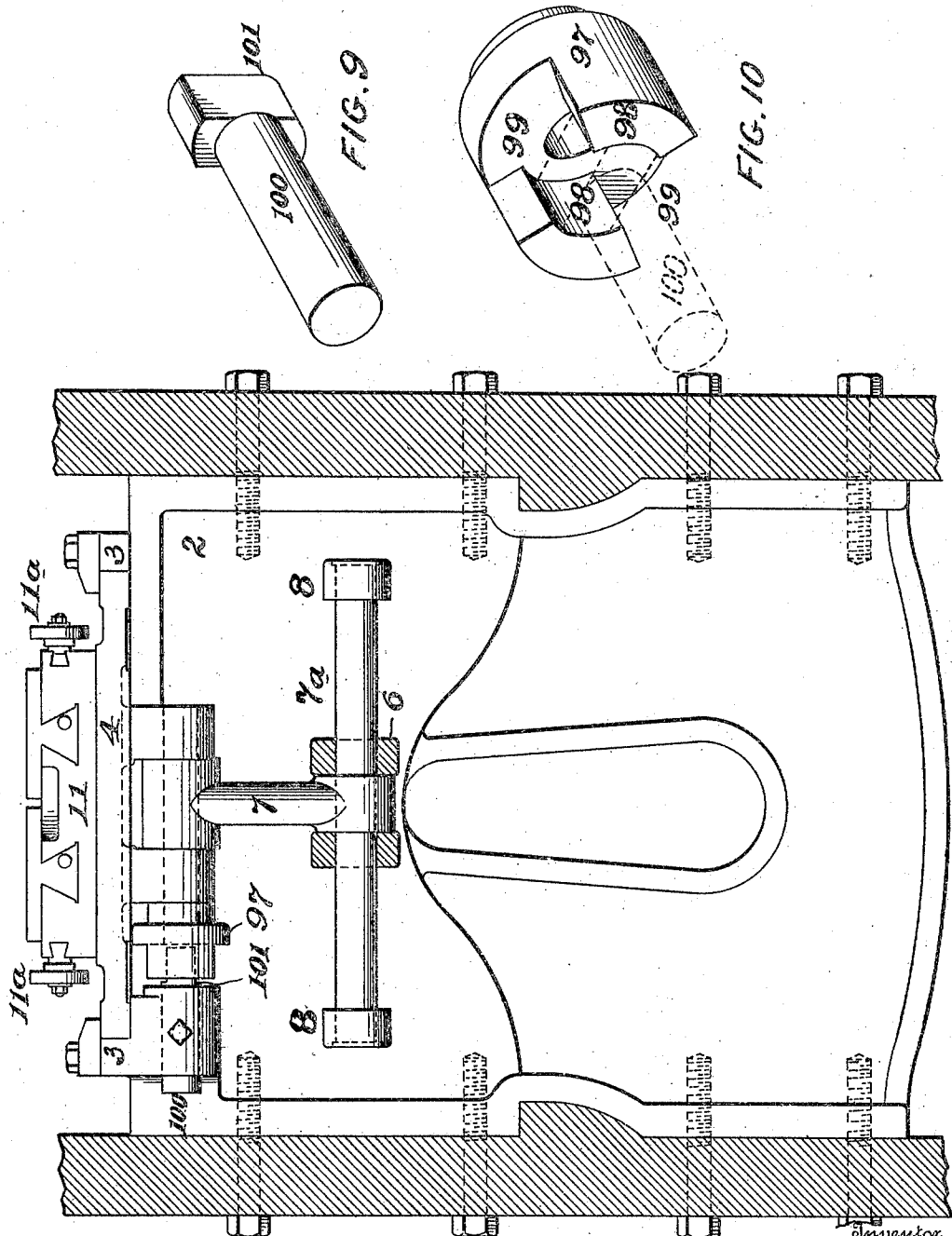
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951,481.

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6 SHEETS—SHEET 5.



Witnesses

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FIG. 8

By

Edward M. Lockwood

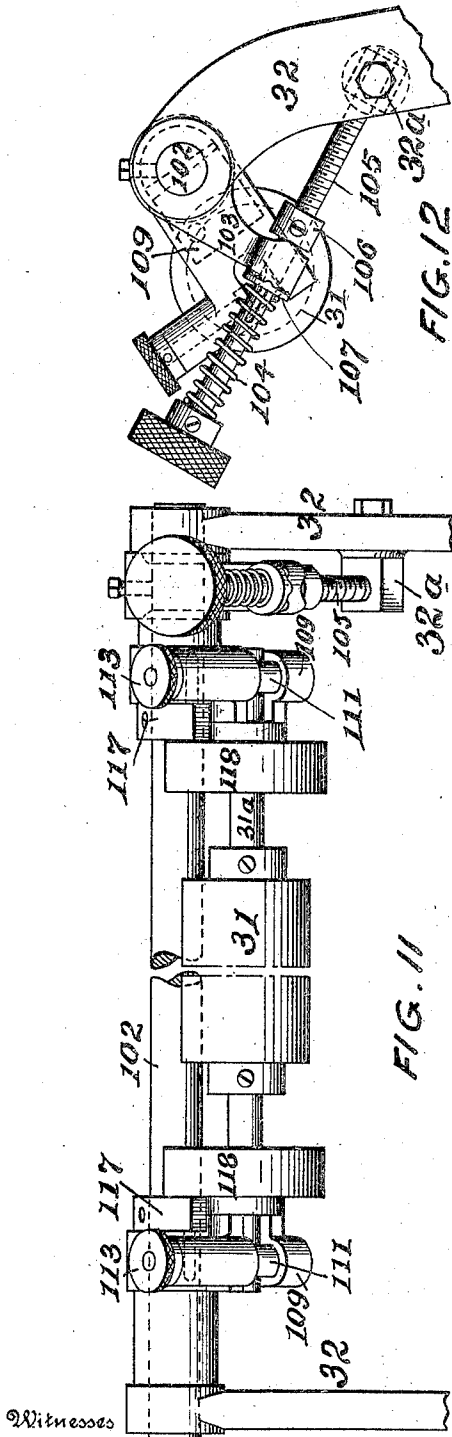
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Attorney

951,481.

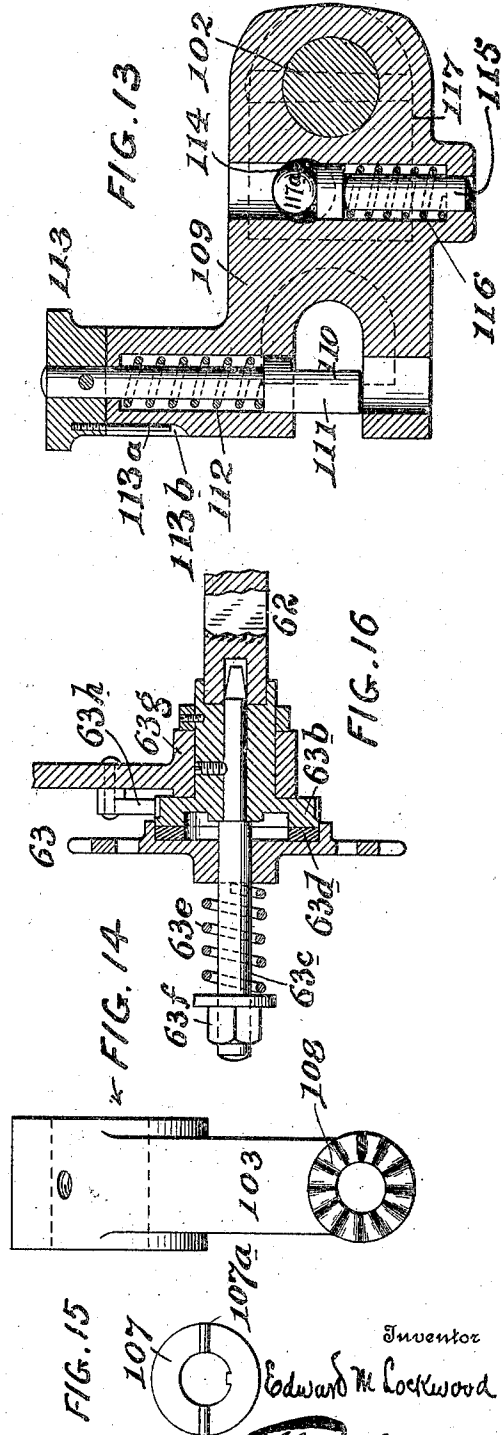
E. M. LOCKWOOD.
EMBOSSING AND PRINTING PRESS.
APPLICATION FILED JUNE 17, 1907.

Patented Mar. 8, 1910.
6 SHEETS—SHEET 6.



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FIG. 15

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UNITED STATES PATENT OFFICE.

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EMBOSSING AND PRINTING PRESS.

951,481.

Specification of Letters Patent.

Patented Mar. 8, 1910.

Application filed June 17, 1907. Serial No. 379,385.

To all whom it may concern:

Be it known that I, EDWARD M. LOCKWOOD, of the city and county of Philadelphia and State of Pennsylvania, have invented an Improvement in Embossing and Printing Presses, of which the following is a specification.

My invention has reference to embossing and printing presses, and consists of certain improvements which are fully set forth in the following specification and shown in the accompanying drawings, which form a part thereof.

The object of my invention is to provide an organized machine adapted to embossing and printing, driven by power, whereby speed, accuracy, and perfection of work may be accomplished.

More specifically, my object is to provide such features of construction as will enable the machine to be accurate in the movement of its operative parts, adjustable to meet all material requirements, and durable in construction.

My invention consists of an embossing and printing press containing the following features of construction: first, a toggle operated plunger for giving the impression to the dies having an adjustable abutment, combined with an adjustable bushing between the abutment and the main frame of the machine whereby the rotation of the bushing causes an adjustment of the abutment in the direction of the thrust of the plunger; second, a vertically reciprocating wiper, combined with hand controlled adjusting devices for adjusting the reciprocation, whereby the bottom of the wiper may be caused to move to different levels to suit the level of the die of the reciprocating carriage; third, in combination with a web of wiping material and the wiper therefor, of means operating upon the inked surface of said web for applying a solvent thereto before the same is wound upon a mandrel; fourth, an inking roller combined with means for giving to it a reciprocating movement over the carriage and the die thereon, combined with means for spring pressing the inking roller toward it and hand controlled devices for regulating the spring controlled means, whereby the roller may be adjusted normally to vary its elevation with respect to the carriage upon which the die

is clamped; fifth, a locking device for locking the carriage under the plunger at time of giving the impression which comprises locking projections on a swinging link which engage a fixed stud during the time the lever is traveling after the beginning of the dwell or stationary period of the carriage takes place, and which disengage the stud when the link is swung upward into the position for propelling the carriage; sixth, means for feeding the wiping web from one mandrel to another, which consists of a continually rotating mandrel to wind up the web and an intermittently feeding roller for controlling the supply of the web to the continuously rotating mandrel, and power devices for intermittently rotating the feeding roller operated by the shaft from which power is derived for operating the carriage, plunger, inking devices, and wiper of the machine.

My invention also embodies details of construction which, together with the features above specified, will be better understood by reference to the drawings, in which:

Figure 1 is a side elevation of my improved embossing and printing machine; Fig. 2 is a sectional side elevation of the same; Fig. 3 is a sectional elevation on line *x-x* of Fig. 4 showing my improved wiping devices; Fig. 4 is a plan view of the same; Fig. 5 is a sectional elevation of the reciprocating embossing die plunger and means for operating and adjusting it; Fig. 6 is a plan view of the same; Fig. 7 is a cross sectional view showing a detail of the power devices for vertically reciprocating the wiper; Fig. 8 is a front elevation of the lower portion of the machine, with part in section, showing the locking means for the die carriage; Figs. 9 and 10 are perspective views of the locking devices shown in Fig. 8; Fig. 11 is an elevation of the ink applying roller and its supporting devices; Fig. 12 is a side elevation of the same; Fig. 13 is a sectional elevation of a portion of the same; and Figs. 14 and 15 are plan views of details of the same.

2 is the main frame of the machine and as shown consists of two side frames connected at intervals by cross frames. This main frame may be of any suitable construction.

3 are two guides arranged horizontally

and adapted to guide the reciprocating carriage 4 which is provided with the adjustable die clamp 11. This carriage 4 is connected with a rocking lever 5 by means of links 6 and 7 which are hinged together upon a transverse shaft 7^a forming in effect a toggle. The ends of the shaft 7^a are provided with rollers 8 which run in guide-ways 9 and 10, the part 9 thereof being horizontal, whereas the part 10 is curved and concentric with the axis of the hinge joint of link 7 with the carriage 4. By this means, when the carriage is in the position shown in Fig. 2, the backward movement of the lever 5 will first cause the link 7 to swing backward and upward without disturbing the carriage, and subsequently when the rollers 8 pass above the curved part 10 of the guides, the links 7 and 6 will have straightened to approximate alinement and a further movement of the lever 5 will cause the carriage 4 to be moved backward under the wiper and toward the ink-well.

Power is applied to reciprocate the lever 5 from the band wheel 68 as follows: The band wheel 68 rotates the shaft 64 and this, through a pinion 83 and gear 84, rotates a shaft 82. By means of a clutch 87, this shaft 82 rotates, through the medium of pinion 85 and gear 86, a cam shaft 21. At one end of the cam shaft is a crank which, by the link 88, operates rocker arm 89 secured to a rock shaft 79 upon which the rocker arm 80 is secured. A link 81, hinged to the lever 5 and forming a detachable connection with the rocker arm 80, enables the lever 5 to be rocked synchronously with the rocking of the arm 80.

Arranged at the front and upper portion of the machine at 12 is a guide for a vertical die carrying plunger 13. This plunger is forced upward normally by a spring 14. It is connected at the top with an adjustable abutment block 22 by means of a toggle 15 having the roller 16 at its hinge. This toggle is straightened by means of a cam 17 on the shaft 21 operating in connection with the roller 16, and this is the operation that takes place when the impression is being made by the embossing die. To raise the plunger 13, a link 18 is provided from the hinge of the toggle and this is furnished with a roller 19 which is operated by a cam 20 also carried by the cam shaft 21. By this mechanism, the hinge of the toggle is moved to the left in Fig. 2 and therefore draws the plunger 13 upward. Ordinarily, two such links 18, rollers 19, and cams 20 are employed where great strength is required, one being preferably arranged upon each side of the central embossing cam 17.

The abutment block 22 is more clearly shown in Figs. 5 and 6. It is circular in plan and is screw-threaded, so as to be adjustably held within a bushing 23 which is

carried by a frame 27 and held between it and the main frame 2 above. This bushing 23 is provided with gear teeth 24 with which engage a pinion 25 adapted to be rotated by a hand wheel 26. It will be seen that by rotating the hand wheel 26, the bushing 23 will be rotated, and as the abutment block 22 cannot rotate, it is caused to be raised or lowered according to the direction of rotation of the bushing. This enables a very accurate adjustment of the plunger 13 to suit the thickness of the dies and to enable exactly the right pressure to be applied without danger of injury to any of the working parts or to the dies. When the adjustment is made, the bushing may be clamped against movement by the following means:—The plate or frame 27 is split at one side and is provided with a stud 28 upon which a clamping nut 29 is screwed. By turning the nut 29, the plate 27 grips the bushing and prevents it being turned either accidentally or by the action of the machine during the printing operation.

When the carriage 4 with the die clamp 90 thereon is moved backward, the ink is applied to the surface of the die by means of the ink applying roller 31 which is preferably made with a plush surface, so that the ink may enter the recesses in the die. This ink applying roller receives the ink from a rotating ink roller 30 revolving in an ink well, it being driven by means of a sprocket wheel 67 and a sprocket chain 66 receiving power from a sprocket wheel 65 on the driving shaft 64, as shown in Fig. 1. The ink applying roller 31 is flexibly carried on the upper end of the rocker arms 32, and these are rocked by links 33, bell cranks 34, rod 35, and cam 36 which is secured to the cam shaft 21. This cam is so timed as to its action that the ink applying roller 31 has been moved forward and held stationary at the time the carriage 4 is being moved backward and forward under it.

When the carriage 4 is moved backward, the wiper 37 is raised so as not to be in contact with the die during its travel to position to receive the ink, but when the carriage is moved forward toward its printing position, the wiper 37 is lowered for the purpose of wiping the surplus ink away from the surface of the die before the embossing and printing take place.

I will now describe the construction and operation of the wiping devices, referring more particularly to Figs. 2, 3, 4 and 7.

At each side of the machine, there is a frame 45 which is guided vertically in guides 48 on the main frame 2 so that said frames may be reciprocated vertically. These frames are also provided with vertical slots 46 through which retaining bolts 47 pass for holding them in position upon the main frame 2 and also for sustaining them when

the machine is being dismantled from any cause. These frames 45 are each provided with two vertical studs 42. Sustained and guided upon these studs is the wiper plate 37, said plate resting upon springs 43^a and held downward by springs 43, the tension of these springs being adjusted by hand nuts 44 provided with clamping devices to hold them in their adjusted positions. By this means, the wiper is permitted to adapt itself to the die.

38 is a heavy cloth, one end of which is clamped at 40 to the top of the wiper plate 37, and which cloth extends under the wiper plate and over the opposite end, and is put under tension by a rotary shaft having prongs and provided with a locking device as shown at 41 in Fig. 3. Interposed between the said cloth or web 38 and the bottom of the wiper plate 37 is a filling 39 of ground cork or other elastic substance. This pad, formed by the parts 38 and 39, has its ends tapering and more particularly the rear end so as to permit the passage of the die while applying a considerable pressure.

61 is a supporting shaft having a roll of paper in the form of a web, and this web, indicated at 58, is guided over the rod 60, thence between the feeding rollers 59, 59^a, thence over a roller 54, thence under the forward end of the wiper pad, thence under said wiper pad, thence upward over the lubricating roller 55, thence backward around the rod 62^a to the winding shaft 62. The tendency of the winding shaft 62 is to continually wind up the paper, but the feeding of the paper web is intermittently performed by means of the feed roller 59 which is given an intermittent rotary motion, there being enough paper fed at each operation to present enough clean surface to insure the wiping of the die to the requisite degree. The roller 59 is provided with a ratchet wheel 71 (Fig. 1) and this is rotated intermittently by a pawl 70 carried by a wheel 69 having a rotary reciprocating motion. This wheel 69 is rotated in one direction by the counterweight 78 and band 77, and in the other direction by means of the chain 72, the bell crank 73, the rod 74, and the rocking arm 75, which latter is secured to the rock shaft 76 receiving its rocking motion from the lever 5 as described. The connection of the chain 72 with the bell crank lever 73 is vertically adjustable upon the long arm of said bell crank so as to vary the extent of throw of the lever. This is shown at 73^a and it is evident that by adjusting this connection with the chain nearer to the pivot point of the bell crank lever, the smaller will be the rotation of the feeding roller 59, and consequently, the shorter will be the length of the paper web 58, which is fed under the wiper at each inking operation of the die. It is evident that various

other means for causing a rotary reciprocating motion may be employed for operating this feeding roller in lieu of that shown.

As the paper web takes up a great deal of surplus ink from the die, it is desirable to prevent the said ink causing the paper web to adhere to the guides leading it to the winding mandrel 62. For this purpose, I provide a guide roller 55, over which the paper web passes immediately after leaving the wiper, and this roller is caused to run in contact with a roller 56 rotating in a well 57 in which an oil or other solvent for the ink may be placed. If oil is employed, the paper is thoroughly oiled before passing to the winding mandrel and in this manner the several layers of the web are also prevented from adhering to each other when being wound upon the mandrel.

The winding mandrel receives its power by means of a sprocket chain 63^a, driven from a sprocket wheel 65^a and driving a sprocket wheel 63, frictionally carried by the mandrel 62 in any suitable manner so that there is always a tendency for the mandrel to rotate to take up all surplus paper, but the winding capacity of which is controlled by the operation of the feeding roller 59. Winding mandrels of this character are well known and any suitable device of this nature may be employed.

I have heretofore referred to the vertical reciprocation of the wiper so as to clear the die when the carriage is traveling backward to receive the ink and to be depressed into contact with the die after the inking and on its way to the forward part of the machine under the reciprocating plunger 13, and I will now describe the means which I employ for accomplishing this result. A sleeve 91 is provided with lateral arms 50 at each end which are connected by means of links 49 with the frames 45. By rocking the sleeve 91, it is evident that the wiper will be reciprocated vertically. The sleeve is provided with an arm 92 (Figs. 4 and 7) which is connected to a link 93 extending upward and guided by the cam shaft 21. This link is provided with a roller 94 that works in a cam 96, said cam being secured to the shaft 21. When the cam shaft 21 is rotated, it is evident that the sleeve 91 will be rocked; and therefore, by properly proportioning the cam, the vertical reciprocations of the wiper will be commensurate with and equal in number to the reciprocations of the carriage, and so that as the carriage moves toward the inking devices, the wiper will be elevated, and when it moves from the inking devices, the wiper will be depressed into wiping position. As the ordinary height of the die may vary with different dies, it becomes necessary to provide suitable means for automatically adjusting the location of

the wiper so that in its reciprocations it will always properly cooperate with the die. To accomplish this, I provide an eccentric shaft 90 which is journaled in the main frame 2 and supports the sleeve 91 on its eccentric portion. This shaft 90 is secured at one end to a segmental gear 51, which engages a worm 52, controlled by a hand wheel 53. By turning the worm, the eccentric shaft may be adjusted into different positions, the position shown in Figs. 3 and 4 being the intermediate one. Looking at Fig. 3, if the eccentric shaft is rotated to the right, then the reciprocation of the wiper will take place at a lower level. If on the other hand, the eccentric shaft is turned to the left, then the reciprocation of the wiper will take place at a higher level. It is therefore evident that while the extent of reciprocation is substantially the same for all adjustments, the maximum point of depression may be made to vary through a wide range, and consequently compensate for all sizes or thicknesses of dies which may be secured to the carriage 4. It is evident that while this particular mode of adjusting the reciprocating devices is well suited to the purposes of the invention, other means may be employed for accomplishing the same results in substantially the same manner.

Referring now to the means for flexibly supporting the inking roller 31, I will refer more specifically to Figs. 11 to 15. The shaft 102 is loosely journaled in the ends of the rocking arms 32. Secured to this shaft 102 is an arm 103 having a hole near its end. Extending through this hole is a screw-threaded rod 105 which screws into a pivoted nut 32^a on one of the arms 32. Rod 105 is provided with a rigid collar 106 against which the arm 103 rests and upon which it is spring pressed by a coiled spring 104 on the upper extension of the screw-threaded rod 105. By turning the rod 105 it is screwed into the nut 32^a and therefore will cause the shaft 102 to take different positions of adjustment. To lock the rod 105 against accidental unscrewing, I provide a collar 107 having one or more teeth 107^a which may engage one or more of the recesses 108 on the arm 103. The collar furthermore is carried on the rod by a spline connection, so that it does not turn on the rod, but will rotate with it and has capacity for longitudinal adjustment.

Secured to the shaft 102 are arms 117, and these arms are each provided with lateral projecting pins 117^a. Loosely sleeved upon the shaft 102 are two bearings 109 which are provided with transverse apertures 114 into which the lateral pins 117^a extend with freedom of considerable motion (Fig. 13). Plungers 115 carried by the bearings 109 are spring pressed upward by springs 116 so as to make a spring support

against downward thrust by the pins 117^a. The bearings 109 have notches 110 for receiving the ends of the shaft 31^a carrying the inking roller 31. The shaft 31^a is locked in position in the bearings 109 by spring bolts 111 which are pressed downward by coiled springs 112. A hand nut 113 is secured to the upper end of each bolt for raising it against the action of the spring when releasing the shaft. Pins 113^a are secured to the nuts 113 so that when the bolts are fully raised and slightly turned, they are held in such elevated position as will permit the shaft to be readily withdrawn. Furthermore, when the bolts are in locking position, the pins 113^a are received in grooves 113^b which prevent the bolts from turning and thereby maintain the flat side of the bolts presented to the shaft 31^a, as will be readily understood from Fig. 13. It will now be understood that if a pressure is applied to the roller 31 upward, the bearings 109 will rock upon the shaft 102 and this upward movement will be resisted by the coiled springs 116 so that the inking roller 31 will be elastically supported, and hence will be caused to follow any level or irregularity in the surface of the die to which it is applying ink. Moreover, the normal level of this inking roller is readily adjusted by the screw rod 105 which adjusts the shaft 102 and thereby changes the normal position of the bearings 109 with relation to the level of the die carriage. Wheels 118 may be secured to the shaft 31^a for the purpose of engaging the wheels 11^a on the side of the die clamp 11 of the carriage 4 so that the inking roller 31 will be elevated until it gets over the rear end of the die clamp and will then be lowered into inking contact with the die, and again elevated out of contact with the forward part of the die clamp, and vice versa. In this way, the ink is thoroughly applied to the die and not to any other part of the machine. The flexible supporting of the inking roller combined with the means for relatively adjusting its distance with respect to the die carrying carriage which I have here shown and described is exceedingly effective, but it is evident that the particular adjustments involved may be secured in many other modified forms of apparatus.

In the printing operation, it is most essential that the carriage 4 shall be locked in fixed position at the moment that plunger 13 is descending to give the impression, and to accomplish this in an automatic manner, I have provided mechanism shown in Figs. 2, 8, 9, 10. The link 7, heretofore described, is secured to a locking head 97 which is provided with curved segmental parts 98 separated by segmental notches 99. Engaging the space between these segmental projections 98 and adapted to work through the

segmental spaces 99 is a stud 101 having a shank 100 which is rigidly bolted to the main frame. The stud 101 is elongated in one direction, and its length is exactly equal to the distance between the segmental projections 98 of the head 97 on the line of greatest diameter, so that when the stud is in a horizontal position, as indicated in dotted lines in Fig. 2, the projections 98 are respectively in contact with its opposite ends. In this manner, the carriage 4 is rigidly locked in position under the plunger 13 when the parts are as indicated in Fig. 2. When the lever 5 is moved backward so as to swing the link 7 upward and rearward, it will turn the head 97 into a position which brings the segmental recesses 99 in horizontal alinement with the stud 101, so that a backward pull upon the carriage will cause the head to pass freely over the stud 101. In this manner, the carriage is released or unlocked whenever the link 7 is swung to approximately a horizontal position, but is always locked when the said link is in a vertical position. It is evident that this mechanism is in effect the movement of the parts 98 with the link 7 as a bolt to engage an obstruction found in the part 101. The parts 98 therefore constitute in effect curved bolts which engage opposite sides of the stud 101 when locking the carriage in position.

Heretofore, in presses of this character, considerable difficulty has been experienced in properly feeding the wiping web and I have provided special means which greatly improves the control and operation of the web. It will be evident that the downward movement of the wiper 37 would stretch and break the paper if the rollers 54 and 55 were supported in stationary bearings and this I obviate by placing these rollers upon the reciprocating frames 45 so that they move synchronously with the wiper plate. The paper web is led from the feed rolls 59 to the guide roller 54 and also from the roller 55 to the guide rod 62^a in a horizontal direction so that the vertical reciprocations of the rollers 54 and 55 do not put the web under any tension over that required for its normal feeding.

Another feature is that where, heretofore the feed rolls for the web have been caused to act upon it between the wiper and winding mandrel I place them so as to act on the paper web before it reaches the wiper and provide means to prevent the web from being pulled backward from the winding mandrel. The advantage of this lies in the fact that the feeding rollers act upon a clean portion of the web, and there is no danger of the same sticking to the roller or of being ruptured.

The preferred form of winding mandrel is shown in Fig. 16. The sprocket wheel 63

is mounted in its bearings 63^s to rotate freely. The chuck 63^b carries the square winding mandrel 62 in a detachable manner. This chuck is on a shaft 63^c extending through the hub of the sprocket wheel 63. A rubber or leather friction ring 63^d is interposed between the face of the sprocket wheel 63 and chuck 63^b and the latter is pressed into frictional contact with it by the spring 63^e surrounding its shaft 63^c and acting upon a nut 63^f which may be adjusted to vary the driving tension between the sprocket wheel 63 and chuck 63^b. For narrow webs 58 less tension is required than for wide webs, the width of the webs being changed to suit the width of the dies from which the printing is to be done. A pawl 63^h acts upon the toothed periphery of the chuck to prevent it being rotated by any pull upon the web which would tend to unwind the mandrel 62. The cause of such backward pull is the friction upon the web at the time the die is being wiped by the wiper.

While I have shown the clutch 87 as applied to the shaft 82 it is evident that it may be applied anywhere between the driving pulley and the cam shaft 21, and as this forms no part of my invention it will not be necessary to describe it in detail. It will suffice to say that, as in numerous types of machines, it is designed to be able to stop the machine after each impression if so desired.

As practically all of the operative mechanism of the press receives power from the cam shaft 21, it is only necessary to disengage said cam shaft through the driving shaft 64 to stop the operation of the printing mechanism. This is accomplished by means of the clutch 87 which may be of any suitable construction and shifted by a lever 87^a arranged on the side of the machine.

While I have shown the details of construction which I have preferred and employed in the commercial form of press embodying my improvements, I do not confine myself to these specific details, as it is evident to one skilled in the art that the same general adjustments may be accomplished by other forms of the said details without departing from the spirit of the invention involved in them.

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

1. In an embossing and printing press, the combination of the reciprocating die operating plunger, an abutment for receiving the thrust of the plunger, power devices between the plunger and abutment for reciprocating the plunger, and a rotary adjustable bushing held between upper and lower faces in the main frame so as to be held against vertical movement and mechanically

connected with the abutment for adjusting the said abutment in the direction of the movement of the plunger when the bushing is rotated in either direction.

2. In an embossing and printing press, the combination of the reciprocating die operating plunger, an abutment for receiving the thrust of the plunger, power devices between the plunger and abutment for reciprocating the plunger, a rotary adjustable bushing held between upper and lower faces in the main frame so as to be held against vertical movement and mechanically connected by a screw thread with the abutment for adjusting it in the direction of the movement of the plunger when the bushing is rotated in either direction, and hand operated means for rotating the bushing.

3. In an embossing and printing press, the combination of the reciprocating die operating plunger, an abutment for receiving the thrust of the plunger, power devices between the plunger and abutment for reciprocating the plunger, a rotary adjustable bushing held between upper and lower faces in the main frame so as to be held against vertical movement and mechanically connected with the abutment for adjusting it in the direction of the movement of the plunger when the bushing is rotated in either direction, and hand operated means for rotating the bushing consisting of gears 24, 25 and hand wheel 26.

4. In an embossing and printing press, the combination of the reciprocating die operating plunger, an abutment for receiving the thrust of the plunger, power devices between the plunger and abutment for reciprocating the plunger, a rotary adjustable bushing journaled in the main frame between upper and lower faces by which it is held against vertical movement in either direction and mechanically connected with the abutment for adjusting it in the direction of the movement of the plunger when the bushing is rotated in either direction, means for rotating the bushing, and clamping means for holding the bushing against rotation when adjusted.

5. In an embossing and printing press, the combination of the reciprocating die operating plunger, power devices to operate it, a screw-threaded abutment to receive the thrust of the plunger, a rotatable part journaled in the main frame and held between upper and lower faces so as to be held against vertical movement and screwed upon the abutment, hand power devices for rotating the rotatable part independent of said part, and means for holding the rotatable part against rotation when adjusted.

6. In an embossing and printing press, the combination of a main frame having guides, a reciprocating die carrying carriage therefor, power devices for reciprocating the car-

riage and causing it to dwell in its printing position, and a locking device for locking the carriage in its stationary position consisting of a rotary part movable with the carriage having two locking lugs, and a fixed stud adapted to be engaged between the lugs.

7. In an embossing and printing press, the combination of a main frame having guides, a reciprocating die carrying carriage therefor, power devices for reciprocating the carriage and causing it to dwell in its printing position and including a link hinged to the carriage, and a locking device for locking the carriage in its stationary position consisting of a rotary part carried and rotated by the link and movable with the carriage having two locking lugs, and a fixed stud adapted to be engaged between the lugs.

8. In an embossing and printing press, the combination of a main frame having guides, a reciprocating die carrying carriage therefor, power devices for reciprocating the carriage and causing it to dwell in its printing position, and a locking device for locking the carriage in its stationary position consisting of a fixed stud on the main frame and a rotary reciprocating locking head pivoted to the carriage, having the lateral extension 98 and spaces 99 for receiving and locking the stud between the extensions, and means for rotating the locking head when the carriage is at rest.

9. In an embossing and printing press, the combination of a reciprocating die carriage, ink applying devices, and a wiper mechanism for wiping away the surplus ink consisting of a wiper frame, power devices for reciprocating the wiper frame toward and from the carriage, and means having a hand operated part normally stationary during the printing operation of the machine and arranged to adjust the extent of movement of the wiper frame toward the die carriage during the normal printing operation of the machine.

10. In an embossing and printing press, the combination of a reciprocating die carriage, ink applying devices, and a wiper for wiping away the surplus ink consisting of a wiper frame, power devices for reciprocating the wiper frame toward and from the carriage consisting of a rock frame and cam devices to rock it, and hand controlled means for adjusting the extent of movement of the wiper frame toward the carriage consisting of an eccentric shaft upon which the rock frame is journaled, and means for adjusting the eccentric shaft.

11. In an embossing and printing press, the combination of a reciprocating die carriage, ink applying devices, and a wiper for wiping away the surplus ink consisting of a wiper frame, power devices for reciprocating the wiper frame toward and from the

carriage, a wiping web guided about and under the wiping frame, means to intermittently feed the web, a mandrel to wind up the web after wiping the die, guiding means for the web between the wiper and the mandrel and means for applying a lubricant to the web after it has left the wiping frame to prevent the web adhering to the guides leading it to the winding mandrel.

12. In an embossing and printing press, the combination of a reciprocating die carriage, ink applying devices, and a wiper for wiping away the surplus ink consisting of a wiper frame, power devices for reciprocating the wiper frame toward and from the carriage, a wiping web guided about and under the wiping frame, means to intermittently feed the web, a mandrel to wind up the web after wiping the die, guiding means for the web between the wiper and the mandrel and means for applying a lubricant to the web after it has left the wiping frame to prevent the web adhering to the guides leading it to the winding mandrel consisting of a roller over which the web travels and means for supplying to the roller a solvent to be applied to the web.

13. In an embossing and printing press, the combination of the reciprocating die carriage, vertically reciprocating frames, power devices to reciprocate the frames, normally stationary hand controlled devices acting upon the power devices for changing the normal position of the reciprocating frames with respect to the die carriage during the operation of the machine, and a wiper frame carried by the reciprocating frames.

14. In an embossing and printing press, the combination of a vertically reciprocating wiper, vertically reciprocating web guides, moving with the wiper, and relatively fixed web guides located to one side of the reciprocating web guides in a direction at right angles to the direction of reciprocation of the wiper whereby the web is not put under

tension during the reciprocation of the wiper.

15. In an embossing and printing press, the combination of a wiper having a wiping surface, means to reciprocate the wiper, means for guiding a wiping web around the wiper, feeding devices for intermittently feeding the web to the wiper, guiding means for the web in its passage between the wiper and feeding devices and carried by the wiper whereby the paper extends from the feeding devices to the guiding devices in a direction substantially parallel to the surface of the wiper so as not to put the web under undue tension during the reciprocation of the wiper, continuously acting winding means for withdrawing the web from the wiper whenever it is released by the feeding devices, and means to prevent the web from being pulled backward from the continuously acting winding means.

16. In an embossing and printing press, the combination of a reciprocating die carriage, a reciprocating die plunger, a reciprocating wiper device movable to and from the carriage, a wiping web guided around the reciprocating wiper and against its under surface, two fixedly positioned guides around which the web passes and between which it coöperates with the wiper, and guiding means for the web movable with the wiper and arranged to guide said web respectively before and after it leaves the wiping surface whereby the web between said last mentioned guides moves bodily with the wiper and the portions of the web between the last mentioned guides and the fixedly positioned guides are permitted to vibrate without putting the web under undue strain.

In testimony of which invention, I have hereunto set my hand.

E. M. LOCKWOOD.

Witnesses:

R. M. HUNTER,
R. M. KELLY.