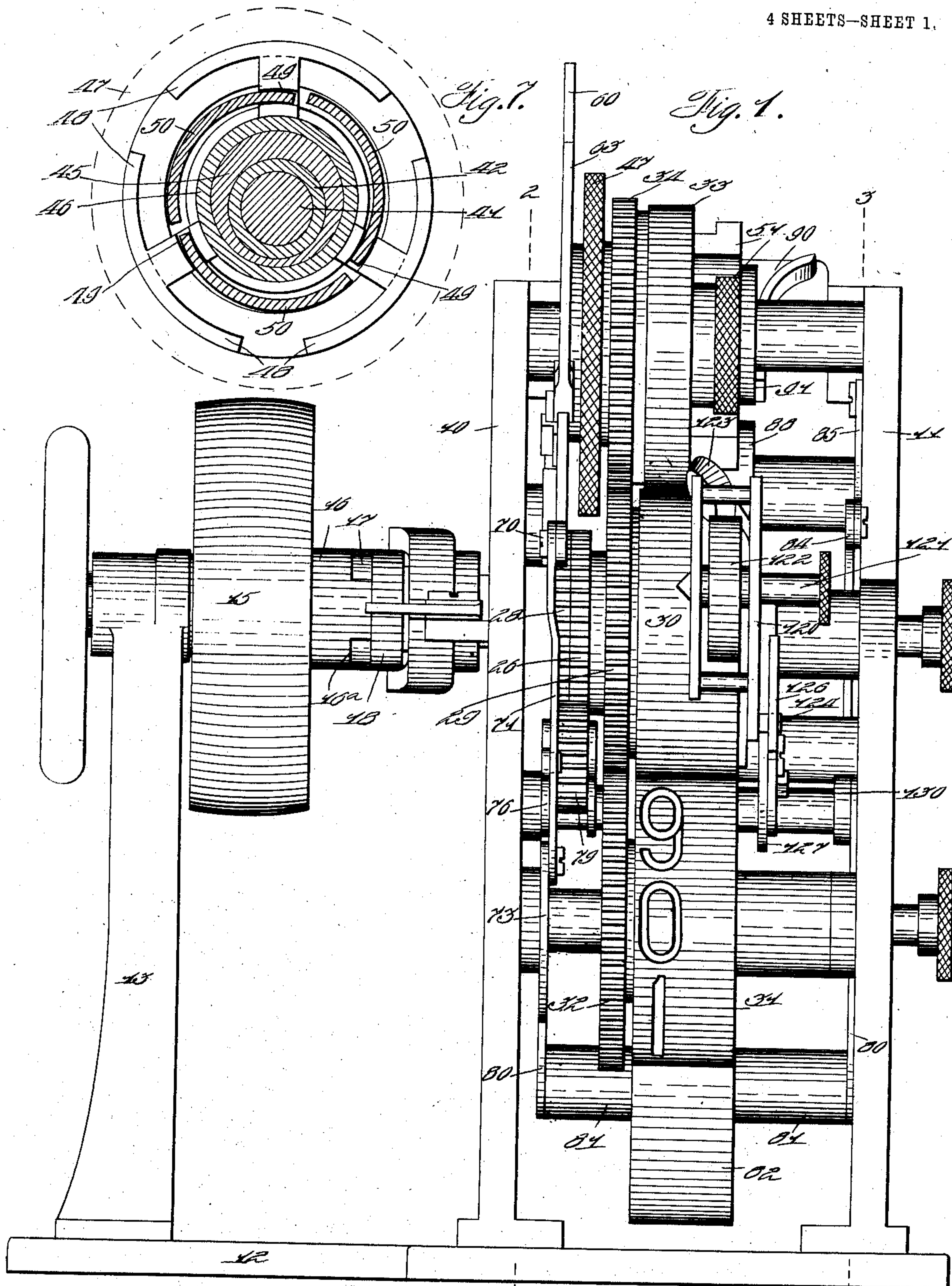


No. 864,514.

PATENTED AUG. 27, 1907.

J. P. CLEAL.
PRINTING MACHINE.
APPLICATION FILED JAN. 11, 1904.

4 SHEETS—SHEET 1.



Witnesses
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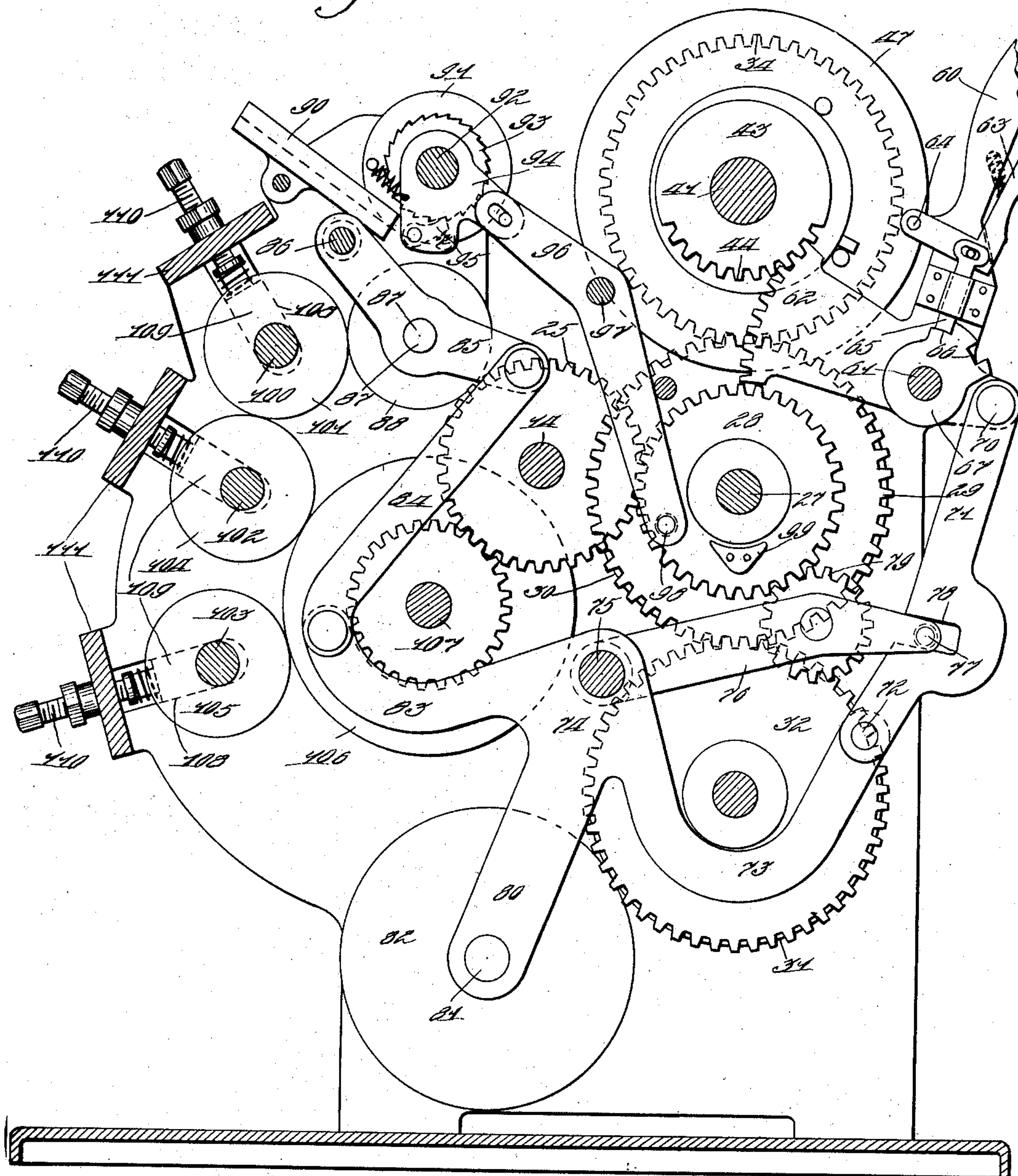
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4 SHEETS—SHEET 2.

Fig. 2.



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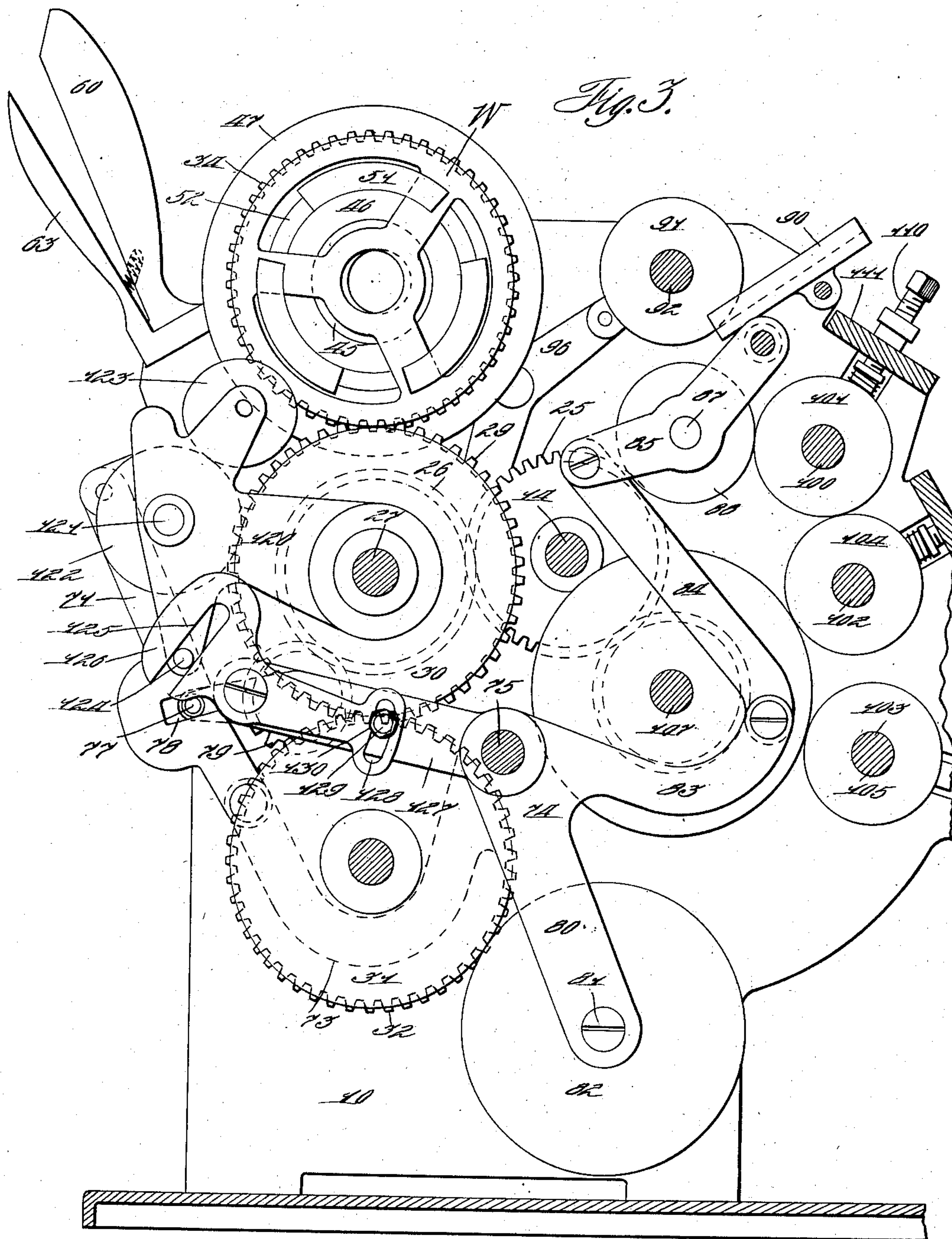
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4 SHEETS—SHEET 3.



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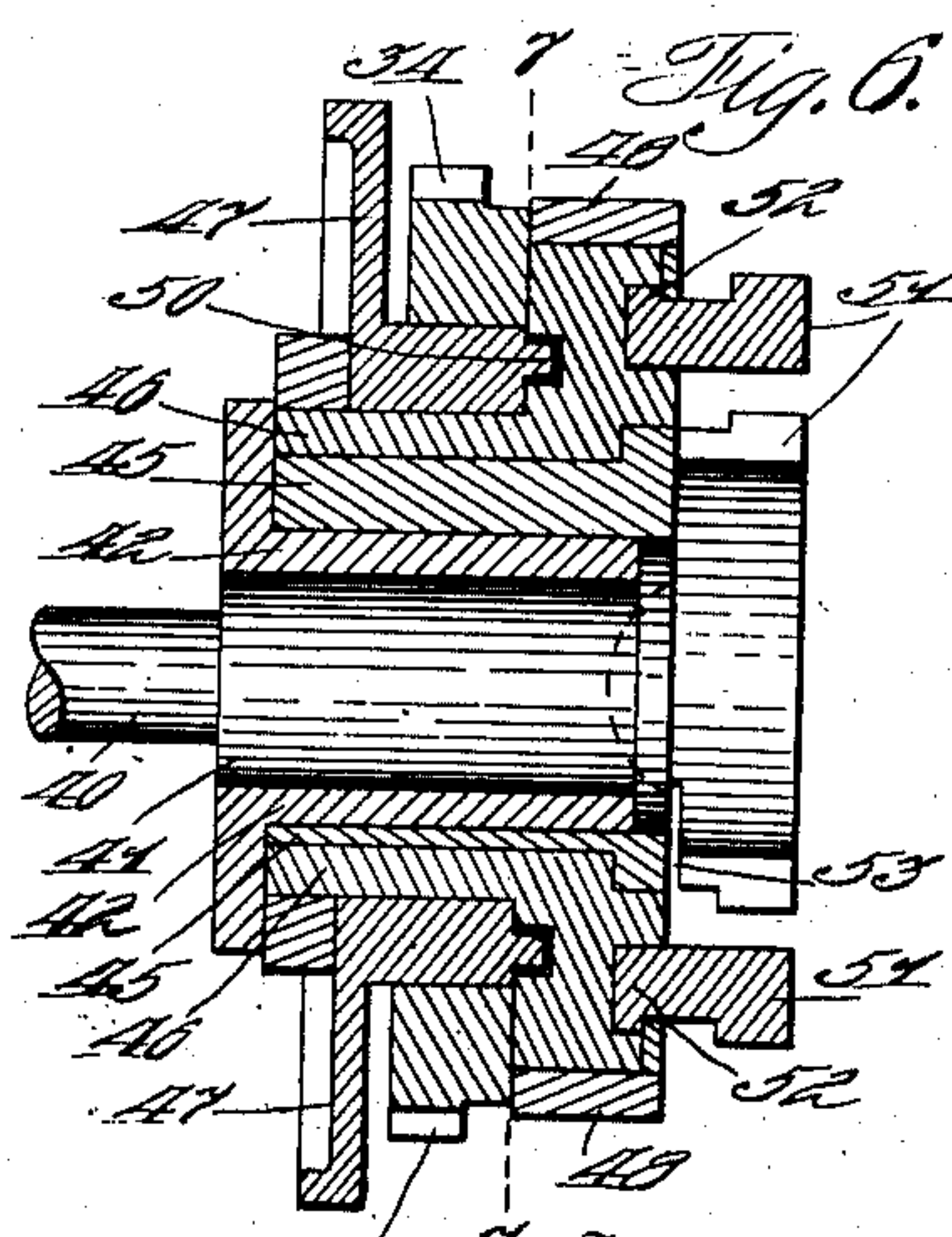
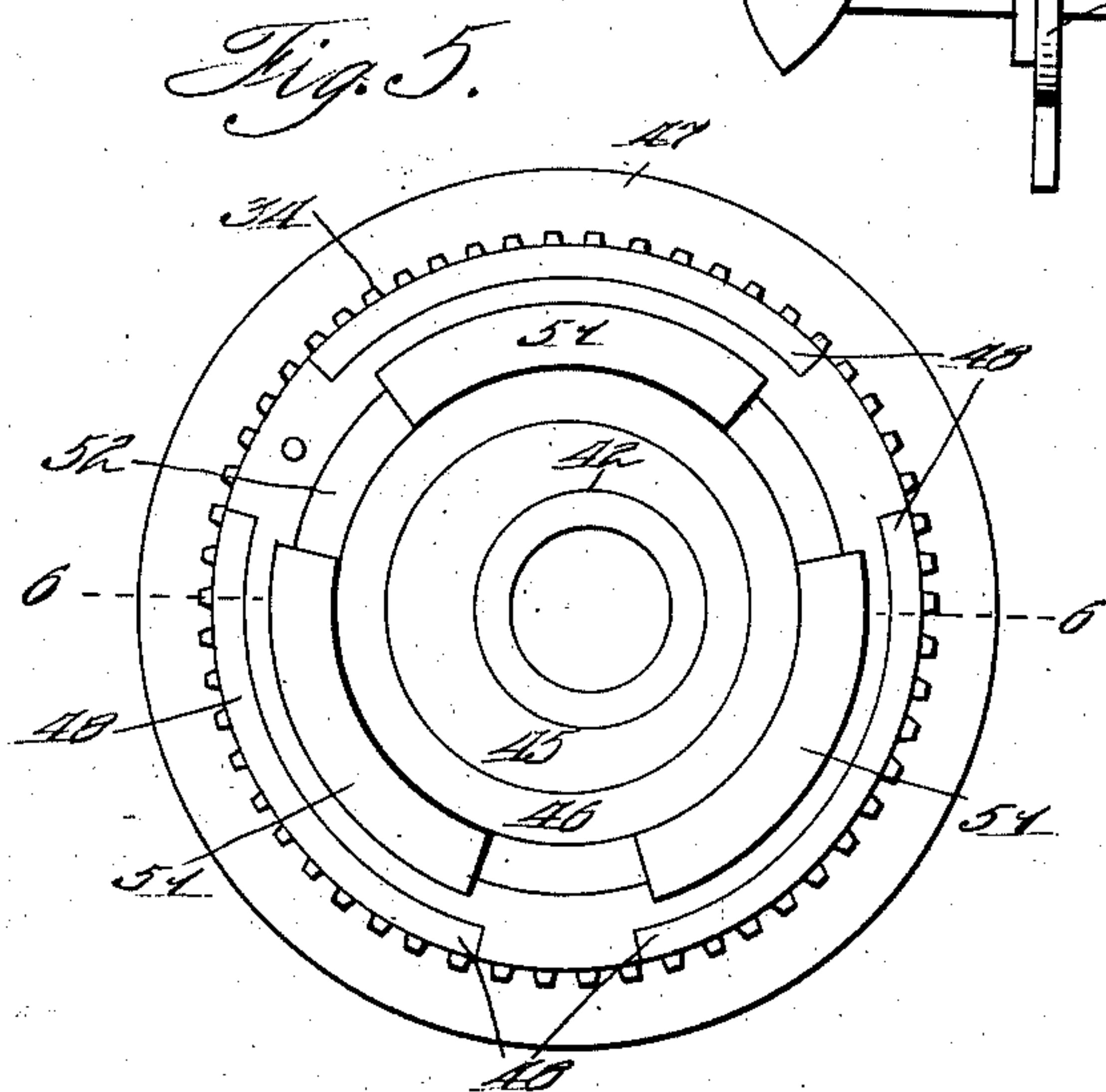
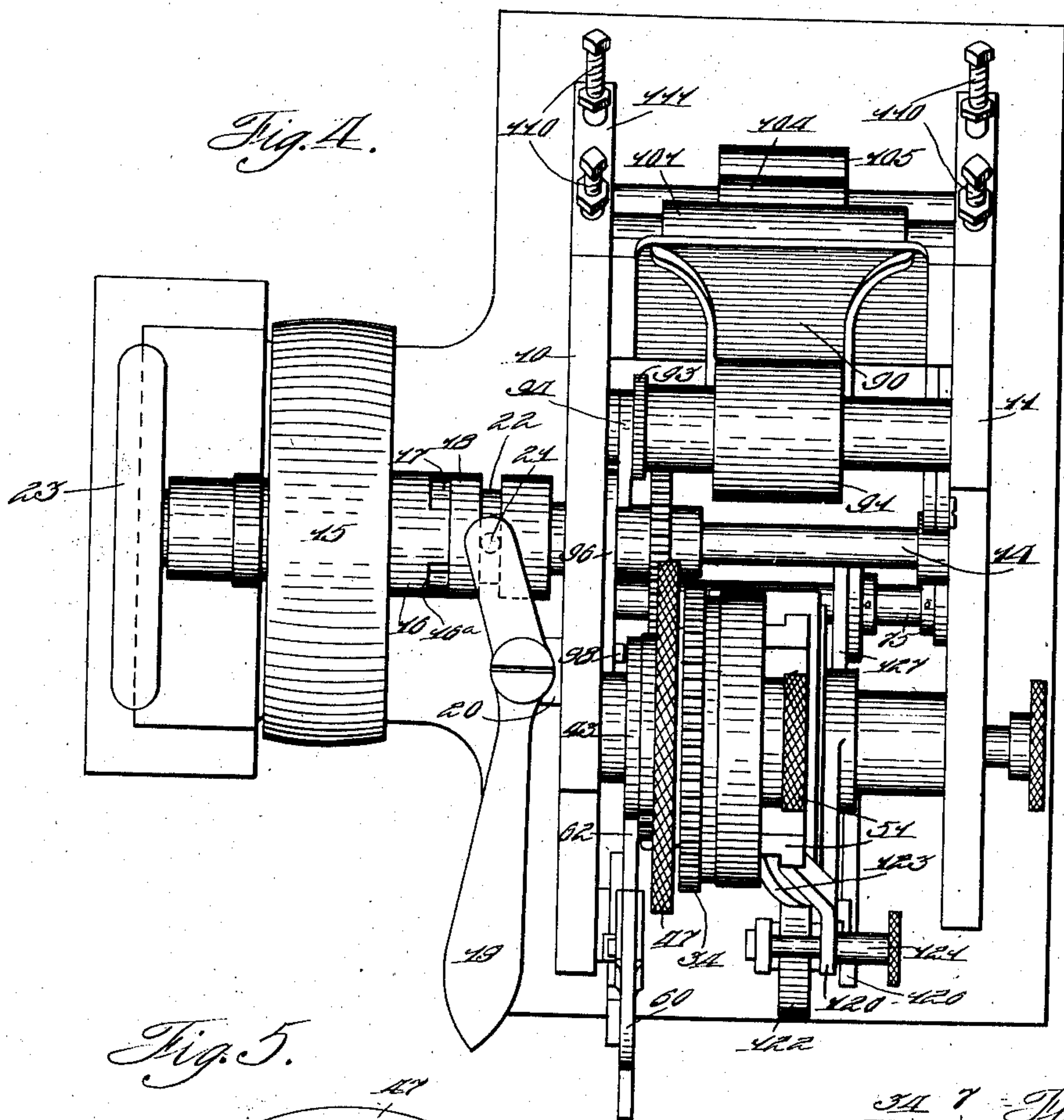
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4 SHEETS—SHEET 4.



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UNITED STATES PATENT OFFICE.

JOSEPH P. CLEAL, OF DAYTON, OHIO, ASSIGNOR TO THE NATIONAL CASH REGISTER COMPANY, OF DAYTON, OHIO, A CORPORATION OF OHIO, (INCORPORATED IN 1906.)

PRINTING-MACHINE.

No. 864,514.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed January 11, 1904. Serial No. 188,588.

To all whom it may concern:

Be it known that I, JOSEPH P. CLEAL, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Printing-Machines, of which I declare the following to be a full, clear, and exact description.

My invention relates to improvements in printing machines and has for its object to provide an improved device for printing upon any desired work without bringing the work directly in contact with the printing form or type, but to make use of an intermediate transfer surface which shall receive its impression from the original printing form and shall then transfer this impression to the work.

In the accompanying drawings forming part of this specification: Figure 1 represents a front elevation of the machine. Fig. 2 represents a vertical section on the line 2 2 of Fig. 1, taken just inside of the left-hand side frame of the machine. Fig. 3 represents a vertical section on the line 3 3 of Fig. 1, being taken just inside the right-hand side frame of the machine. Fig. 4 represents a top plan view. Fig. 5 represents a detail side elevation of the work carrying cylinder. Fig. 6 represents a cross section of said work carrying cylinder through the line 6 6 of Fig. 5; and Fig. 7 represents a section on line 7 7 of Fig. 6.

Referring to Fig. 1, the main portion of my machine is mounted between two upright side frames 10 and 11 which project upward from the base plate 12 and in these side frames the various revoluble parts are journaled as hereinafter explained. Also extending upward from the base plate 12 is a standard 13 in which is journaled a main driving shaft 14 which extends through said frames 10 and 11 and serves as a main driving shaft for the machine. Journaled upon this shaft 14 is a pulley 15 to which driving power may be transmitted by means of any suitable belt; and the arbor 16 of this pulley is formed with suitable recesses 16^a adapted to be engaged by the lateral projections 17 of a collar 18 splined upon the shaft 14 and capable of lateral adjustment. A lever 19^a (see Fig. 4) suitably pivoted to a bracket 20 projecting laterally from the side frame 10 is formed at its inner end to straddle the collar 18, and carries pins 21 which project into an annular groove 22 formed in said collar 18; and thus upon the shifting of the lever 19 the collar 18 may be shifted laterally so as to throw its projections into the aforesaid recesses 16^a, and thus connect the driving pulley 15 with the driving shaft 14, this being a well known form of clutch mechanism. By means of the wheel 23 fast upon the outer end of the shaft 14, the said driving shaft may be moved independently of the driving pulley 15.

Referring to Figs. 1 and 2 it will be seen that the driving shaft 14 has fast upon it a gear wheel 25 which meshes on its forward side with a gear wheel 26 journaled upon a sleeve surrounding the shaft 27 as hereinafter explained. This gear wheel 26 is not shown in Fig. 2 but is shown in Fig. 1 being mounted side by side with a gear wheel 28 of the same size which wheel 28 is shown in Fig. 2. This gear wheel 28 is mounted upon the left-hand end of a sleeve which surrounds the shaft 27 and upon the right-hand end of said sleeve is mounted a larger gear wheel 29 carried upon a cylinder 30 which I shall hereafter call the transfer cylinder. Thus it will be seen that the gear wheels 28 and 29 are fast to each other and rotate together but that the gear wheel 26 is journaled between them so as to move independently of the same, and therefore the continuous rotation of the gear wheel 26 by means of the main driving gear 25 will not cause the rotation of the gear wheel 29 and its transfer cylinder until the twin gear wheels 26 and 28 are coupled together by means hereinafter to be described.

Below the transfer cylinder 30 is a second cylinder 31 of the same diameter which I shall hereafter call the form cylinder; and this form cylinder has fast upon it a gear wheel 32 which is in constant mesh with the gear wheel 29. This form cylinder is arranged to carry upon its periphery any desired type or any printing characters from which it is desired to take an impression, it being obvious that any suitable devices may be used to allow this form cylinder to be readily displaced by another form cylinder bearing different characters. The periphery of the aforesaid transfer cylinder 30 is made with a continuous smooth surface, the object of this being to have the printing from the form cylinder first transferred to the periphery of this transfer cylinder and then transfer the impression from the latter cylinder to the work in the manner to be described.

In this particular type of machine I have arranged to have the work fastened or clamped upon the periphery of a work carrying cylinder 33, which work cylinder has fast upon it a gear wheel 34 which is in constant mesh with the aforesaid gear wheel 29, so that upon the rotation of said wheel 29 the work cylinder will also be rotated and the work will be rolled over the periphery of the transfer cylinder after the work has been carried into contact with the said periphery in the manner to be described. I have adopted a construction in my present machine which will be more particularly adapted to printing upon circular surfaces, one of my particular objects being to print upon the periphery of the circular indicators commonly used in cash registers and ordinarily known as roller indicators; but it will of course be understood that my machine

may be used for other purposes and with but slight changes could be made, if desired, to print upon flat surfaces. This work cylinder 33 is arranged to be given a rotary movement, as before mentioned, and also to be given a bodily movement to and from the transfer cylinder 30 for the purpose of bringing the periphery of the work into contact with the periphery of said transfer cylinder, and is also arranged with movable jaws for centering the work upon the cylinder and with revolvable clamps for clamping portions of the work and holding the same firmly in position on the cylinder. In order to effect these various purposes the work cylinder is constructed with a certain arrangement of sleeves best shown in Figs. 6 and 7. A stub shaft 40 projecting from the side frame 10 serves as a main shaft upon which the work cylinder is to revolve, the journaled portion of the shaft being enlarged as a 41. Journaled upon this large portion 41 is a sleeve 42 which on its left-hand end carries a disk 43 formed on its lower side with teeth 44, shown in Fig. 2, which teeth are arranged to be engaged by a toothed segment connected with an operating lever for the purpose of throwing the work cylinder into contact with the transfer cylinder in a manner to be later described. Fast upon this sleeve 42 is a collar 45 (see Figs. 5 & 7) which is eccentrically mounted on said sleeve 42 in such manner that the work cylinder will revolve about this eccentric collar when the collar is stationary but the rotation of the collar by means of the rotation of the disk 43 will cause the work cylinder to be raised and lowered toward the transfer cylinder in a well known manner. Journaled upon the collar 45 is a sleeve 46 to which the gear wheel 34 is made fast so that upon the rotation of said gear wheel the work cylinder will rotate with this sleeve 46 about the eccentric collar 45. Journaled about the sleeve 46 is a large wheel 47 which is capable of a slight degree of rotary movement for the purpose of moving inward or outward the centering jaws 48 (see Fig. 7) which jaws comprise peripheral plates having inwardly extending portions in which a groove 49 is formed; and into each of these grooves there projects a cam rim 50 which is formed on the arbor of the wheel 47, the shape of these cam rims being such that upon the rotation of the wheel 47 the jaws 48 will be moved inward or outward, there being three of the jaws upon the work cylinder.

As already stated the work for which I particularly designed this machine is the printing of the roller indicators for cash registers, these indicators comprising a circular band of metal held in shape by any suitable spokes extending towards the center of the indicator; and in order more firmly to clamp the indicator upon the work cylinder I have provided three clamps 51 which are carried upon the collar 52 mounted to rotate upon the sleeve 46 and each clamp is provided with a slot 53 so that when the indicator W, is placed in position upon the work cylinder the clamp may be rotated and the indicator spokes will engage the slots 53 so that the indicator will be held firmly in position upon the work cylinder, as shown in Fig. 3.

I will now describe the operating lever by which the work cylinder is moved downward and upward in order to carry the work into and out of contact with the transfer cylinder. This operating lever 60 (see Fig. 2) is pivoted upon a stub shaft 61 extending outwardly from

the side frame 10; and the lever has a rearwardly extending segmental gear 62 which meshes with the teeth 44 of the aforesaid disk 43. The operating lever is arranged to be set into two operative positions and in order to latch the lever in each of these positions I have provided a thumb latch 63 suitably pivoted to the operating lever at 64 and carrying a plunger 65 which engages notches 66 formed in a fixed plate 67. In Fig. 2 I have shown the upward position of the lever in which the disk 43 is so rotated that the eccentric collar carries the axis of rotation of the work cylinder downward so that the work will be brought into contact with the transfer cylinder 30; and when the operating lever 60 is in its downward position the rotation of the disk 43 and of the eccentric collar 45 will obviously cause the work cylinder to be raised so that the work is no longer in contact with the periphery of the transfer cylinder. It will thus be evident that by shifting the operating lever from one position to the other I can carry the work into or out of contact with the transfer cylinder at will; but I have also provided means controlled by this same lever for connecting the main driving mechanism with the transfer cylinder and also for shifting the position of the inking transfer roller and the ink supply roller all of which means I shall now describe.

Pivoted to the lever 60 at 70 is a link 71, the lower end of which link is pivoted at 72 to the forward curved arm 73 of a rock frame 74 suspended from a transverse rock shaft 75 which extends between the side frames of the machine. This swinging frame 74 has a forwardly extending arm 76 on the forward end of which is an anti friction roller 77 engaging a slot 78 formed in the link 71; and mounted at the intermediate portion of this arm 76 is an idle pinion 79 arranged to be thrown into and out of mesh with the previously described twin gear 26 and 28 which are mounted upon the shaft 27, the pinion 79 being of width equal to the combined width of the gears 26 and 28. Thus it will be seen that when the lever is in the upward position, as shown by Fig. 2 the idle pinion 79 will be in mesh with these twin gears 26 and 28 whereby the gear 28 will be coupled to the rotating gear 26 and thus the transfer cylinder together with the form cylinder and the work cylinder will all be driven by the main driving gear 25; whereas when the operating lever 60 is in its lower position the idle pinion 27 will be out of mesh with the twin gears 26 and 28 and the gear 26 will therefore be driven independently of the gear 28 and the transfer cylinder will remain at rest.

Extending downward from the rock frame 74 and on both sides of the machine just inside the side frames are two arms 80 between which extends a shaft 81 upon which is mounted a composition inking roller 82 which for convenience I shall call the transfer inking roller. The rock frame 74 has two rearwardly extending arms 83, one on either side of the machine and just inside the side frames, to which arms 83 are attached links 84 which are connected at their upper ends with arms 85 extending downward from the shaft 86 and between which arms 86 extends a transverse shaft 87 upon which shaft is mounted a composition inking roller 88 which for convenience I shall call the inking supply roller. Mounted between the side frames 10 and 11 at the top of the machine is an ink fountain 90 comprising a shelf which is adapted to hold the ink, and the lower portion

of which shelf extends downward to an ink fountain roller 91 mounted upon a transverse shaft 92. This roller 91 has a ratchet wheel 93 mounted upon the side thereof and by means of a plate 94 carrying a pawl 95 this fountain roller 91 is given a step by step movement by means of a lever 96 pivoted to the side frame at 97 and carrying at its lower end an anti-friction roller 98 adapted to be engaged by a lug 99 upon the gear wheel 28 so that upon each rotation of the transfer cylinder the fountain roller 91 is advanced a certain distance by means of this ratchet and pawl connection so as to bring a new inking surface into position to supply ink. Mounted upon a transverse shaft 100 is a vibrator 101 being a hard metal roller provided with any suitable device for producing a lateral movement back and forth in the direction of its axis simultaneously with its rotary movement, such lateral shifting movement being well known in the printing art, the purpose being more thoroughly to distribute the ink. Mounted upon transverse shafts 102 and 103 are auxiliary distributing rollers 104 and 105 made of the ordinary composition material and each bearing upon the periphery of a hard metal roller 106 mounted upon a transverse shaft 107 which roller 106 I shall for convenience denominate the main distributing roller, its purpose being to receive ink and to distribute the same through the medium of the inking transfer roller 82 to the form cylinder 31 in the manner to be described. The shafts 100, 102 and 103 which carry respectively the vibrator and the auxiliary distributing rollers 104 and 105 are situated in sockets 108 and are yieldingly held in their bearings by means of spring-pressed plungers 109, the pressure of which plungers are regulated by means of set screws 110 extending through the plates 111, and by means of these yielding bearings the respective rollers are given freedom of movement which is necessary in the use of these composition rollers of uneven surface.

From Figs. 2 and 3 it will be seen that when the operating lever 60 is in its upper position in which the work is in contact with the transfer cylinder, the rock frame 74 is in such position that the inking transfer roller 82 is in contact with the form cylinder 31 while the inking supply roller 88 is in contact with the vibrator 101; whereas when the operating lever 60 is moved into its lower position and the work cylinder is consequently carried out of contact with the transfer cylinder as heretofore explained, it will be obvious that the rock frame 74 will be swung rearward thereby carrying the inking transfer roller 82 into contact with the main distributing roller 106 and by means of the link 84 the inking supply roller will be moved into contact with the fountain roller 91. Thus with the successive movements of the operating lever the ink is successively transferred from the fountain roller to the vibrator, then from the vibrator to the auxiliary roller 104, and then to the main distributing roller 106, the auxiliary roller 105 assisting in the work of distributing the ink; and this movement of the operating lever also produces a successive transfer of the ink from the main distributing roller 106 to the form cylinder 31; it being apparent that the inking of the form cylinder takes place while the work is in contact with the transfer cylinder and when the work is not in contact with the transfer cylinder the inking transfer roller is withdrawn from contact with the form cylinder. This completes the

general construction of my machine for the purpose of transferring the impression from the form cylinder through the intermediate transfer cylinder to the work, and in order to provide for printing the edge of the work in places which will not be brought into contact with the transfer cylinder I have provided an auxiliary transfer roller and a beveled roller which I shall now describe.

Journalled upon the shaft 27 (see Fig. 3) which carries the transfer cylinder is a forwardly extending arm 120 the forward end of which carries a frame in which is mounted a short transverse shaft 121 upon which shaft is mounted an auxiliary transfer roller 122 which is in constant contact with the transfer cylinder 30. The upper portion of this arm 120 has mounted upon it a beveled roller 123 which is in constant contact with the auxiliary transfer roller 122. The lower portion of the arm 120 carries a pin 124 which engages a slot 125 formed in the forward end of an arm 126 adjustably attached to an arm 127 which extends forward from the rock shaft 75. This arm 126 at its rearward portion is formed with a slot 128 through which passes a bolt 129 fast to the arm 127 and by means of loosening the nut 130 of this bolt the arm 126 may be adjusted in such manner as to give more or less throw to the arm 120 during the movement of the arm 127 upon the movement of the rock shaft 75. It will be apparent from this construction that when the said operating lever is moved into its upward position, the upward movement of the arm 127 will also cause the upward movement of the arm 120 and will therefore carry the beveled roller upward against the work cylinder and the size and position of this beveled roller is such that it will engage the edge of the periphery of the work. The auxiliary transfer roller 122 is so positioned that it bears upon the outer part of the periphery of the transfer cylinder and therefore receives ink from this portion of the transfer cylinder and does not conflict with the printed characters the impression of which is transferred from the form cylinder; and thus since the beveled roller is likewise inked from this auxiliary transfer roller the result is that the edge of the work is printed in the portions not touched by the transfer cylinder. It will be apparent that when the operating lever 60 is in its lower position as heretofore explained this beveled roller 123 will be withdrawn from contact with the work. The use of this beveled roller is particularly important in the case such as I have particularly described for the use of this machine for printing roller indicators, said indicators first being coated upon their periphery with light ink or paint and then the form cylinder of my machine being constructed with matrices of the shape of the desired figures or letters so that upon the operation of the machine this form cylinder is inked over its entire periphery and when the form cylinder is rotated in contact with the transfer cylinder, the entire transfer cylinder will also be inked over its periphery except, of course, in those portions that have been brought in contact with the matrices and therefore the work when rotated in contact with the transfer cylinder will be printed or inked over its entire periphery except in those blank portions corresponding to the matrices of the form cylinder, thereby leaving exposed the underlying light ink or paint previously spread upon the indicator, these unprinted portions,

of course, being of an exact reproduction of the matrices in the form cylinder. And in order to have the ink cover likewise the edge of the work I have made use of this auxiliary roller as above described.

- 5 In the use of my machine for printing upon a hard surface such as the indicator herein mentioned, it is desirable to have the transfer cylinder of a somewhat resilient surface such as hard rubber and to have the form cylinder of a hard or metallic surface in order to get
10 clear cut impressions, but if it is desired to print upon a soft surface this order of respective hardness of the various cylinders may be reversed so that the transfer cylinder may be a hard metallic surface and the form cylinder a resilient surface.
- 15 It will be understood from the description heretofore given that in the general operation of my machine the form cylinder is first put in place, containing the different characters which it is desired to print, being either of the nature of the raised type or of a smooth surface
20 with the matrices cut away in the configurations which it is desired to reproduce; and after the operator has thrown the operating lever into its downward position and has securely clamped the work upon the work cylinder he then throws the lever into its upper position
25 whereby the transfer cylinder is connected to the main driving mechanism, the transfer inking cylinder is thrown into contact with the form cylinder, and upon the simultaneous rotation of the work cylinder, the transfer cylinder and the form cylinder, their respective peripheries are made to roll over each other without
30 any slipping effect and the impression from the form cylinder is transferred to the smooth and continuous surface of the transfer cylinder and from thence is transferred to the work. It will be obvious from this arrangement of the transfer cylinder that I am enabled to
35 print from a flat and continuous surface and the sharp edges of the type or of the matrices of the form cylinder are not brought into contact with the work; and furthermore by a double arrangement of these transfer cylinders with means for bringing one into contact with the
40 other with the work fed between the same I would be enabled to print upon both surfaces of the work simultaneously owing to the fact that there would be no interstices of the type which would require a smooth and
45 continuous platen on the opposite side of the work from the type in case the work is of thin material such as paper.

Although I have described my invention as particularly adaptable to printing these cylindrical surfaces of
50 roller indicators for cash registers it is of course to be understood that I do not wish in any way to be limited in the scope of my invention to the particular construction which I have described, it being evident that other various forms of construction might be used for similar or
55 kindred purposes and still be within the scope of my invention; and by means of using well known devices for producing a rolling over each other of surfaces other than cylinders, whether the contour of these surfaces be irregular or of any regular shape, I could by use of my
60 invention print upon any such surfaces.

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

1. In a printing machine, the combination with a form cylinder provided with certain printing characters, and
65 means for inking the same; of a transfer cylinder having

a continuous printing surface; means for rotating both of said cylinders with their peripheries in contact; a work cylinder arranged to have the work mounted upon its periphery; manipulative means for adjusting said work cylinder to bring the work in contact with the periphery of
70 said transfer cylinder and means for clamping and centering the work on the work cylinder.

2. In a printing machine, the combination with a form cylinder provided with printing characters, and means for inking the same; of a work cylinder arranged to have work
75 mounted upon its periphery; a transfer cylinder intermediate said form cylinder and said work cylinder and provided with a continuous printing surface; means for driving all three of said cylinders simultaneously, with the periphery of the transfer cylinder in contact with that of
80 the form cylinder; manipulative means for adjusting the work upon the periphery of the work cylinder to bring the work into contact with the periphery of the transfer cylinder whereby the work receives an impression from the transfer cylinder corresponding to the characters on
85 the form cylinder and means for clamping and centering the work on the work cylinder.

3. In a printing machine, the combination with a form cylinder provided with printing characters, and means for inking the same; of a work cylinder arranged to have work
90 mounted upon its periphery, said periphery having an eccentric bearing; a transfer cylinder intermediate said form cylinder and said work cylinder and provided with a continuous printing surface; means for rotating all three of said cylinders simultaneously with the periphery of said
95 transfer cylinder in contact with that of the form cylinder; manipulative means for adjusting the periphery of the work cylinder upon its eccentric bearing whereby to bring the work into contact with the periphery of the transfer cylinder to receive an impression therefrom and means for
100 clamping and centering the work upon the work cylinder.

4. In a printing machine, the combination with a form cylinder provided with printing characters, and means for inking the same; of a work cylinder arranged to have work
105 mounted upon its periphery; a transfer cylinder intermediate said form cylinder and said work cylinder and provided with a continuous printing surface; a driving mechanism; and manipulative means for causing said driving mechanism to rotate all three cylinders simultaneously and for likewise adjusting said work cylinder to bring the work
110 into contact with the periphery of the transfer cylinder.

5. In a printing machine, the combination with a form cylinder provided with printing characters, and means for inking the same; of a transfer cylinder geared to said
115 form cylinder and provided with a continuous printing periphery in contact with the periphery of said form cylinder; a work cylinder geared to said transfer cylinder and arranged to have work held upon its periphery; a driving mechanism movable independently of the aforesaid cylinders; an operating lever; and means connected with said
120 lever to throw said work into contact with the periphery of said transfer cylinder and to connect said transfer cylinder with said operating mechanism whereby to rotate all three of the aforesaid cylinders and produce an impression upon said work corresponding to the characters upon said form
125 cylinder.

6. In a printing machine, the combination with a form cylinder provided with printing characters, and a main ink distributing roller; of an operating mechanism for continuously driving said distributing roller; means for
130 supplying ink to said distributing roller; an inking transfer roller intermediate said distributing roller and said form cylinder; an impression transfer cylinder geared to said form cylinder and having a continuous printing periphery in contact with the periphery of said form cylinder; a work cylinder geared to said transfer cylinder and arranged to have work carried upon its periphery; an operating lever movable into two operative positions; and
135 means connected with said lever whereby when the lever is moved into one of said positions the said work cylinder will be moved into such position that the work will contact with the periphery of the transfer cylinder and the said transfer cylinder will be connected with said driving mechanism and the said inking transfer roller will be brought into contact with the periphery of the form cylinder.
140
145

der, and when said lever is in its other position work will be carried out of contact with the transfer cylinder and the latter will be disconnected from the driving mechanism and the inking transfer roller will be moved into contact with the distributing roller.

7. In a printing machine, the combination with a form cylinder provided with printing characters, and a main ink distributing roller; of an operating mechanism for continuously driving said distributing roller; an ink feed roller; a vibrator roller; an ink supply roller intermediate said feed roller and said vibrator; auxiliary distributing rollers intermediate said vibrator and said main distributing roller; an inking transfer roller intermediate said main distributing roller and said form cylinder; an impression transfer cylinder geared to said form cylinder and provided with a continuous printing periphery in contact with the periphery of said form cylinder; a work cylinder geared to said transfer cylinder and arranged to have work mounted upon its periphery; an operating lever arranged to be moved into two operative positions; and means connected with said lever whereby when the lever is in one of said positions the work will be brought into contact with the transfer cylinder, the transfer cylinder will be connected to the driving mechanism, the inking transfer roller will be brought into contact with the form cylinder and the ink supply roller will be brought into contact with the vibrator, while when said lever is in its other position the work will be carried out of contact with the impression cylinder, the latter will be disconnected from the driving mechanism, the inking transfer roller will be carried into contact with the main distributing roller, and the inking supply roller will be carried into contact with the ink feed roller.

8. In a printing machine, the combination with a form cylinder provided with certain printing characters, and means for inking the same; of a transfer cylinder geared to said form cylinder and provided with a continuous printing periphery in contact with the periphery of said form cylinder; a work cylinder geared to said transfer cylinder and arranged to have work mounted upon its periphery; an auxiliary transfer roller bearing upon the periphery of said transfer cylinder; a beveled roller engaging the periphery of said auxiliary transfer roller; an operating lever; and means connected with said lever to move the work into contact with said transfer cylinder

and move said beveled roller into contact with the edge of the work.

9. In a printing machine, the combination with a form cylinder provided with printing characters, and an ink distributing roller; of an operating mechanism for continuously driving said distributing roller; means for supplying ink to said distributing roller; an inking transfer roller intermediate said distributing roller and said form cylinder; an impression transfer cylinder geared to said form cylinder and having a continuous printing periphery in contact with the periphery of said form cylinder; a work cylinder geared to said transfer cylinder and arranged to have work carried upon its periphery; an auxiliary transfer roller in contact with said transfer cylinder; a beveled roller arranged to contact with said auxiliary transfer roller; an operating lever movable into two operative positions; and means connected with said lever whereby when the lever is in one of said positions the work will be brought into contact with the transfer cylinder, the transfer cylinder will be connected with the driving mechanism, the inking transfer roller will be brought into contact with the form cylinder and the beveled roller will be brought into contact with the edge of the work, while in the other position of the lever the work will be carried out of contact with the impression cylinder, the latter will be disconnected from the driving mechanism, the inking transfer roller will be carried into contact with the main distributing roller and the beveled roller will be carried out of contact with the work.

10. In a printing machine, the combination with a form cylinder for printing characters, of an ink roller for inking said form cylinder, a transfer cylinder geared to said form cylinder, and having a continuous printing surface, a work cylinder geared to the transfer cylinder for carrying the work, means for moving said work cylinder and said ink roller into and out of contact with the transfer and form cylinder, respectively, and a beveled edge printing roller arranged to be moved by said moving means into and out of contact with the work cylinder.

In testimony whereof I affix my signature, in the presence of two witnesses.

JOSEPH P. CLEAL.

Witnesses:

HERBERT C. WOOD,
JOHN J. UNGVÁRY.