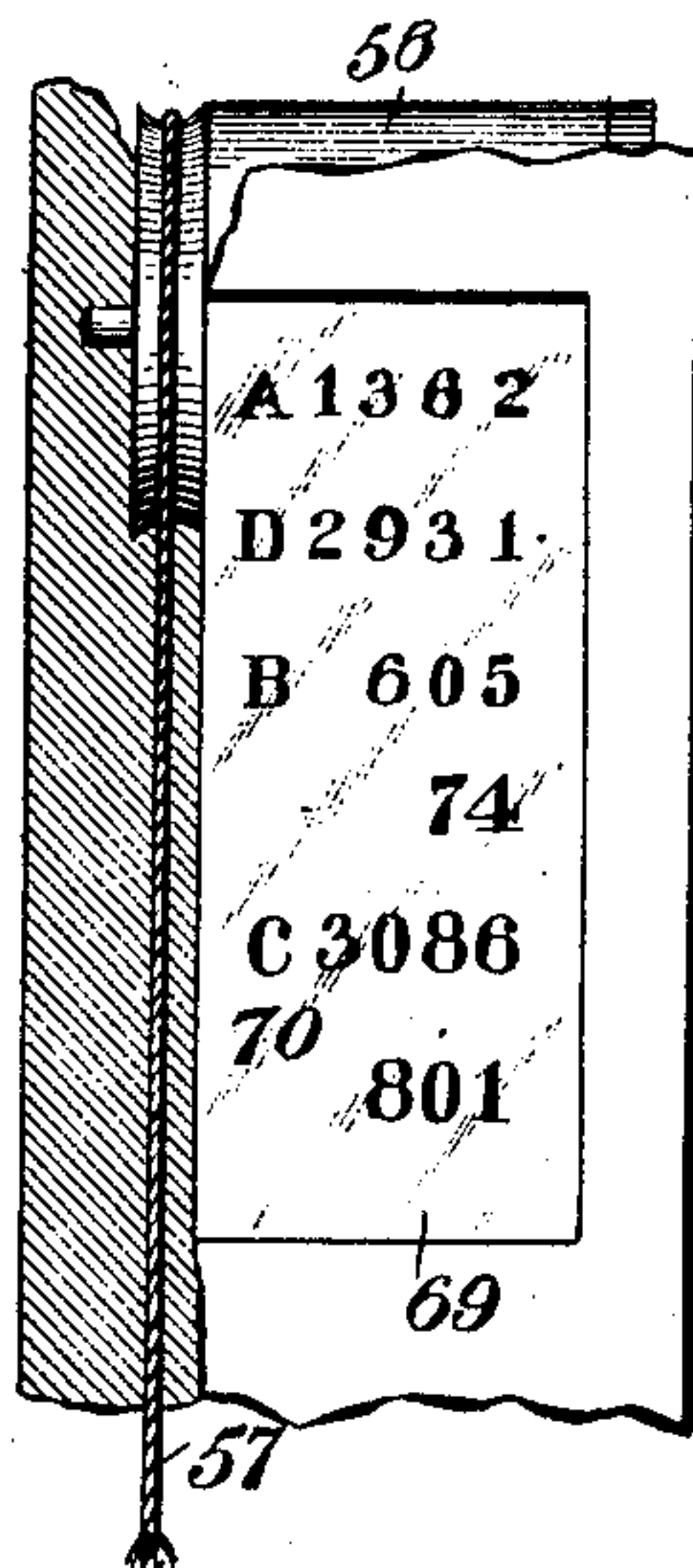
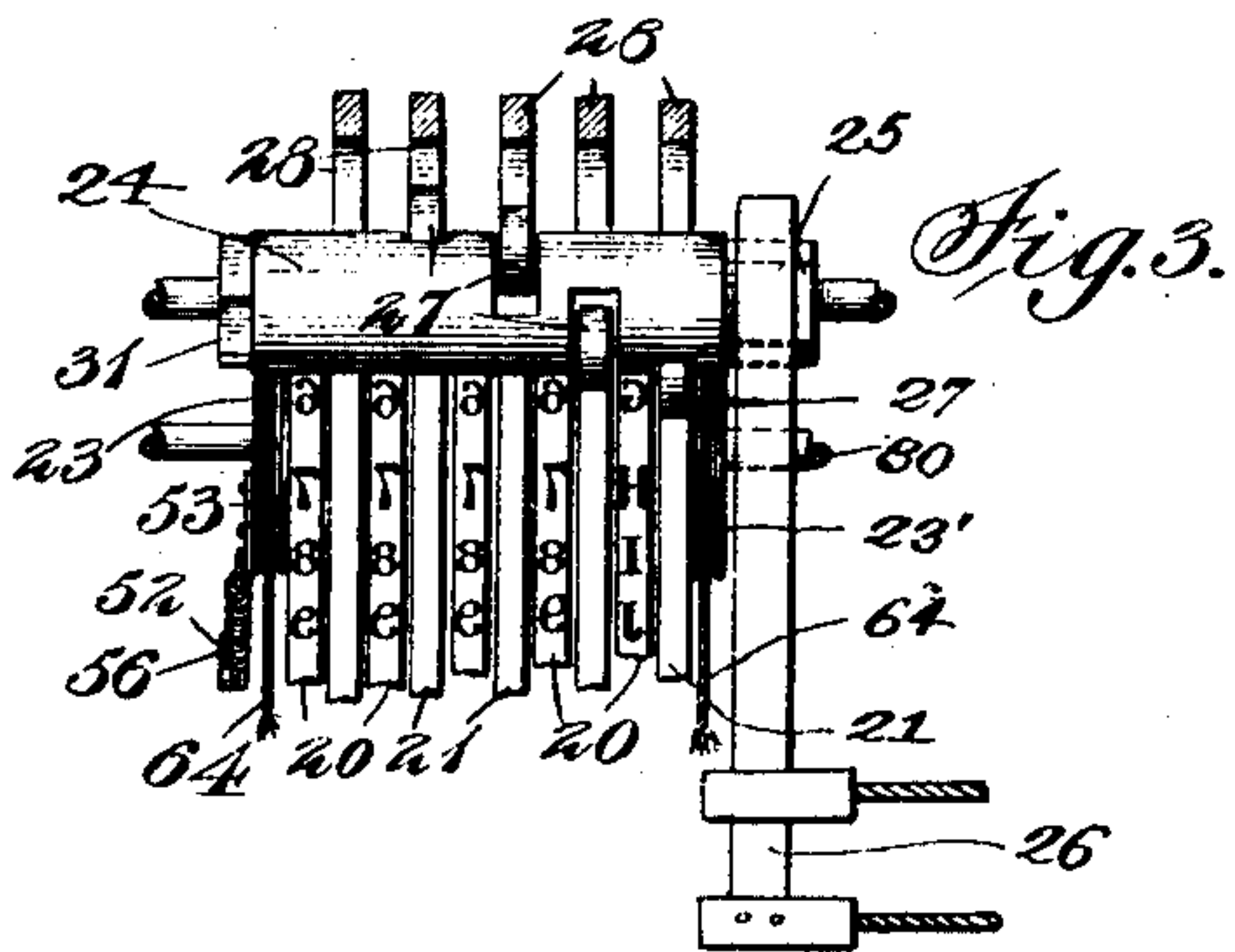
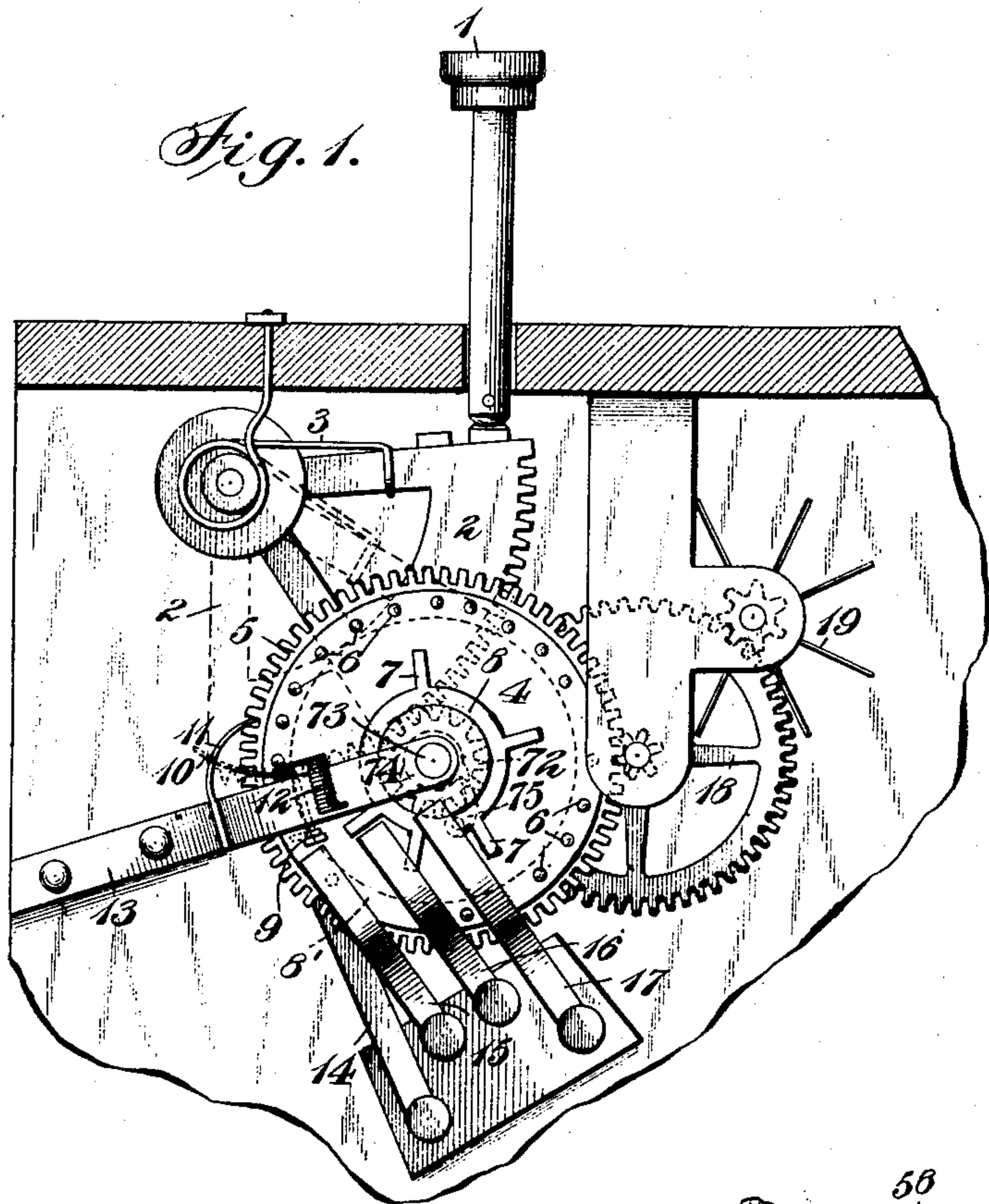


H. FASCHER.  
MACHINE FOR RECORDING TELEPHONE CALLS.  
APPLICATION FILED JULY 24, 1906.

915,578.

Patented Mar. 16, 1909.  
3 SHEETS—SHEET 1.



Witnesses:  
Emma Fascher  
Jauett L. Brooks

Inventor:  
Hermann Fascher

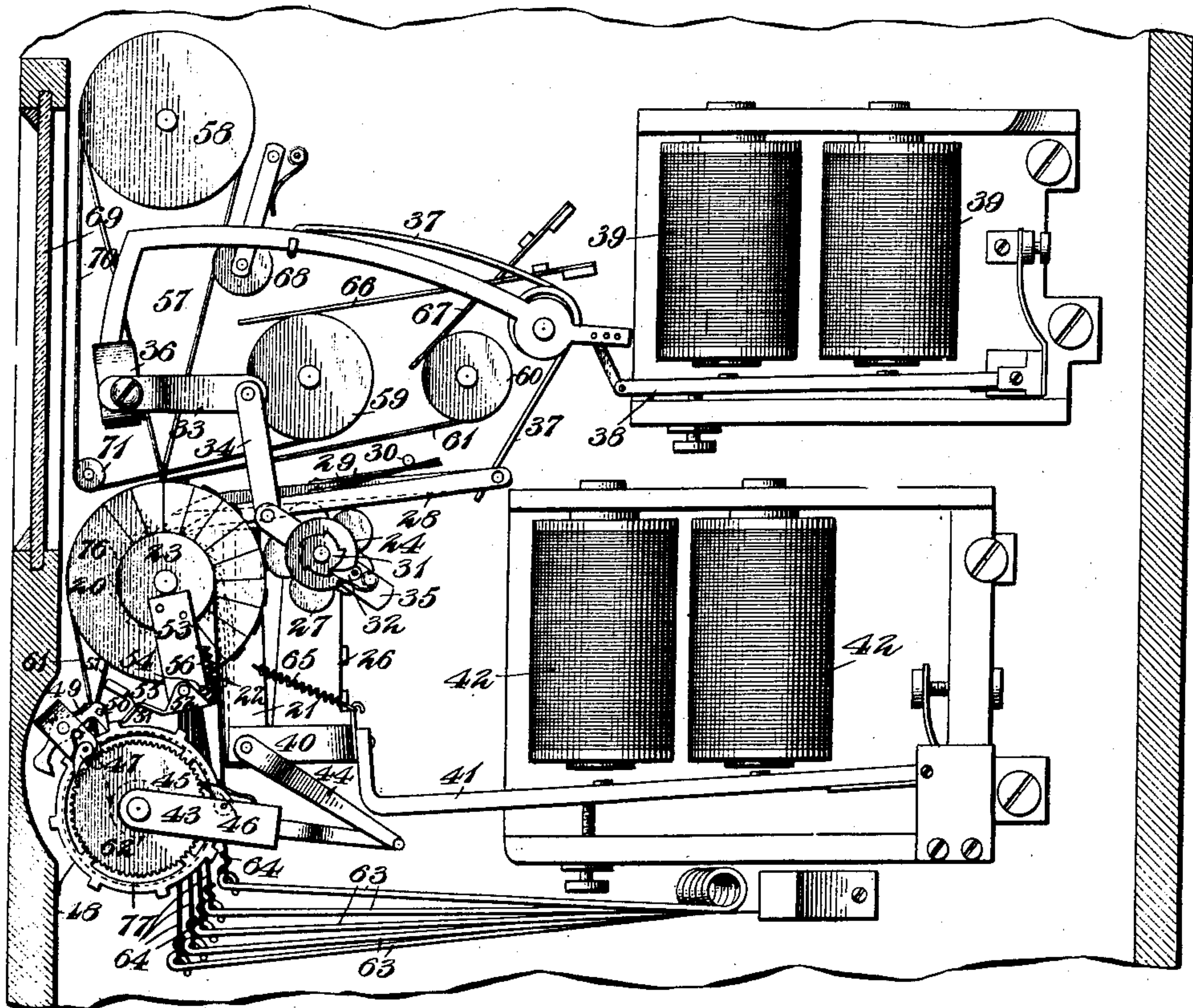
H. FASCHER.  
MACHINE FOR RECORDING TELEPHONE CALLS.  
APPLICATION FILED JULY 24, 1906.

915,578.

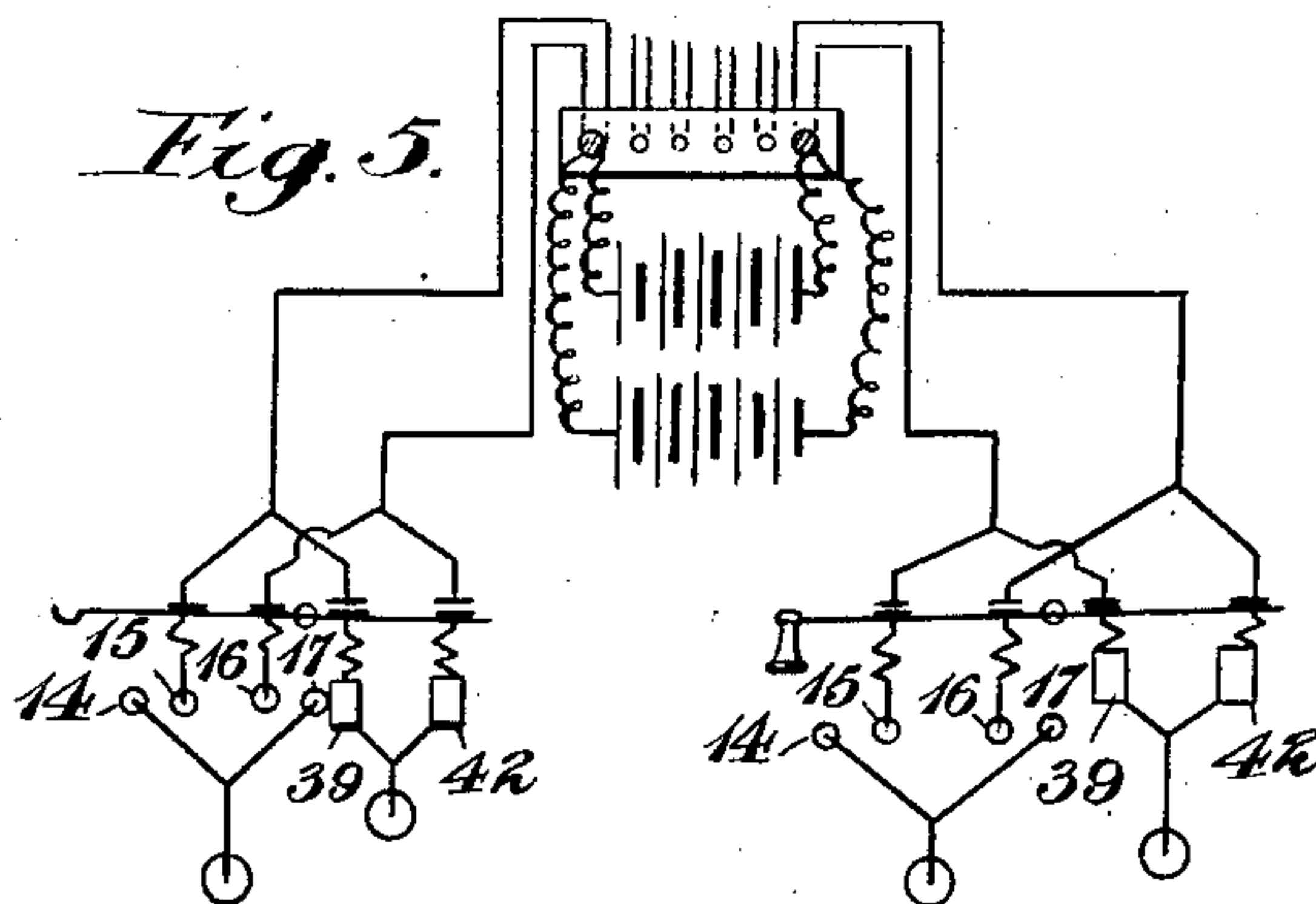
Patented Mar. 16, 1909.

3 SHEETS—SHEET 2.

*Fig. 2.*



*Fig. 5.*



Witnesses:

Emma Fascher  
Janette L. Brooks

Inventor:

Herman Fascher



H. FASCHER.  
MACHINE FOR RECORDING TELEPHONE CALLS.  
APPLICATION FILED JULY 24, 1906.

915,578.

Patented Mar. 16, 1909.

3 SHEETS—SHEET 3.

Fig. 9.

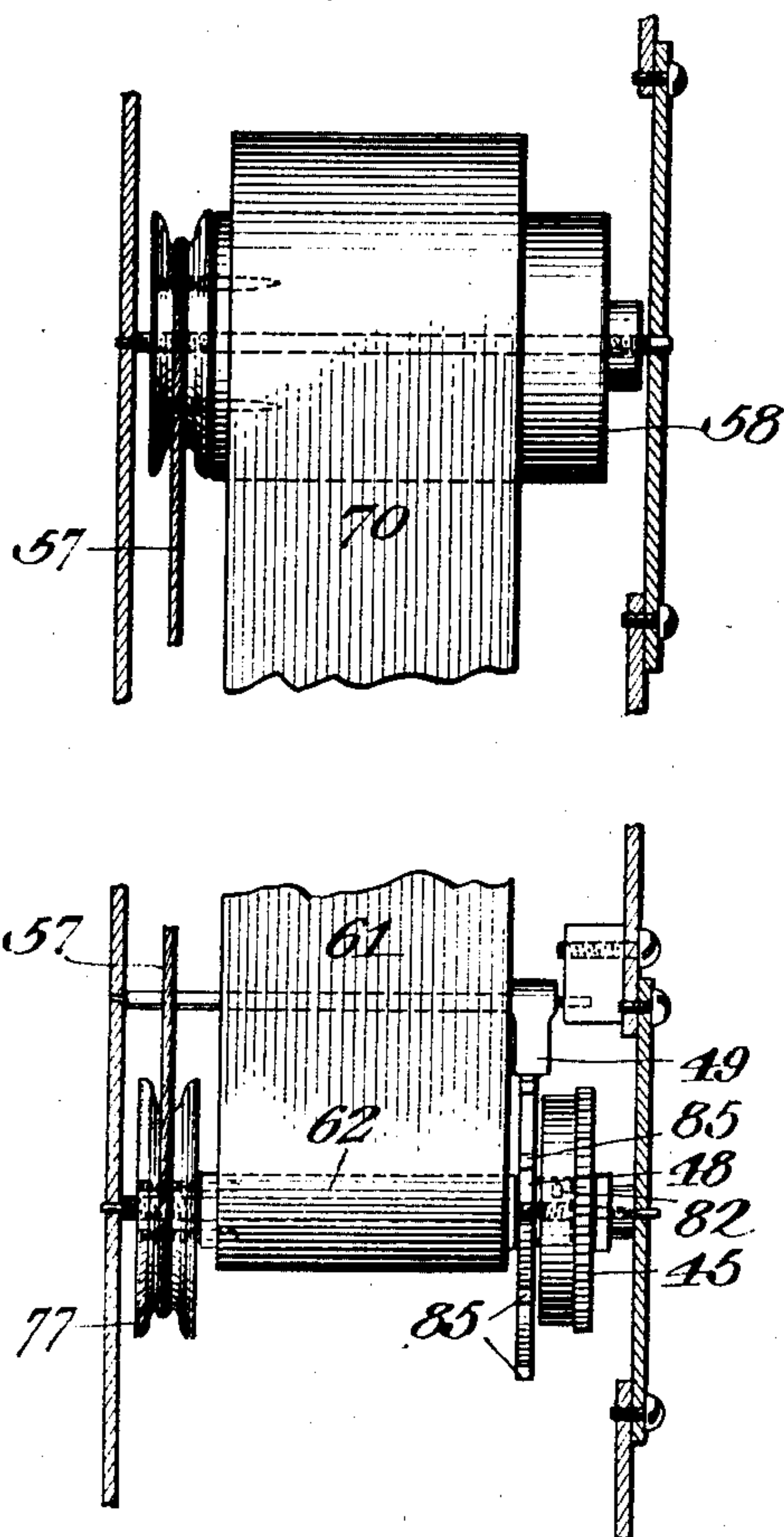


Fig. 10.

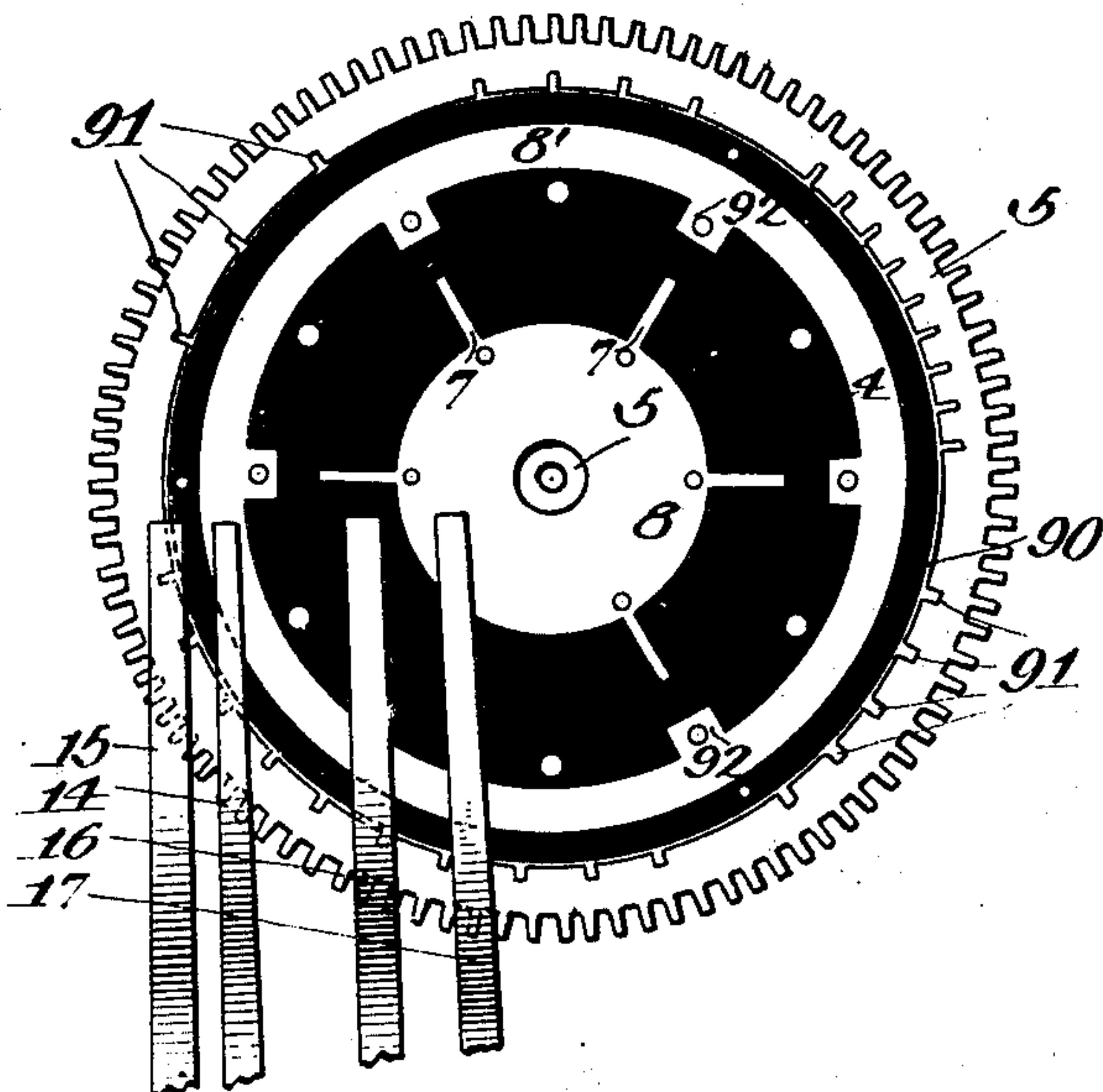


Fig. 11.

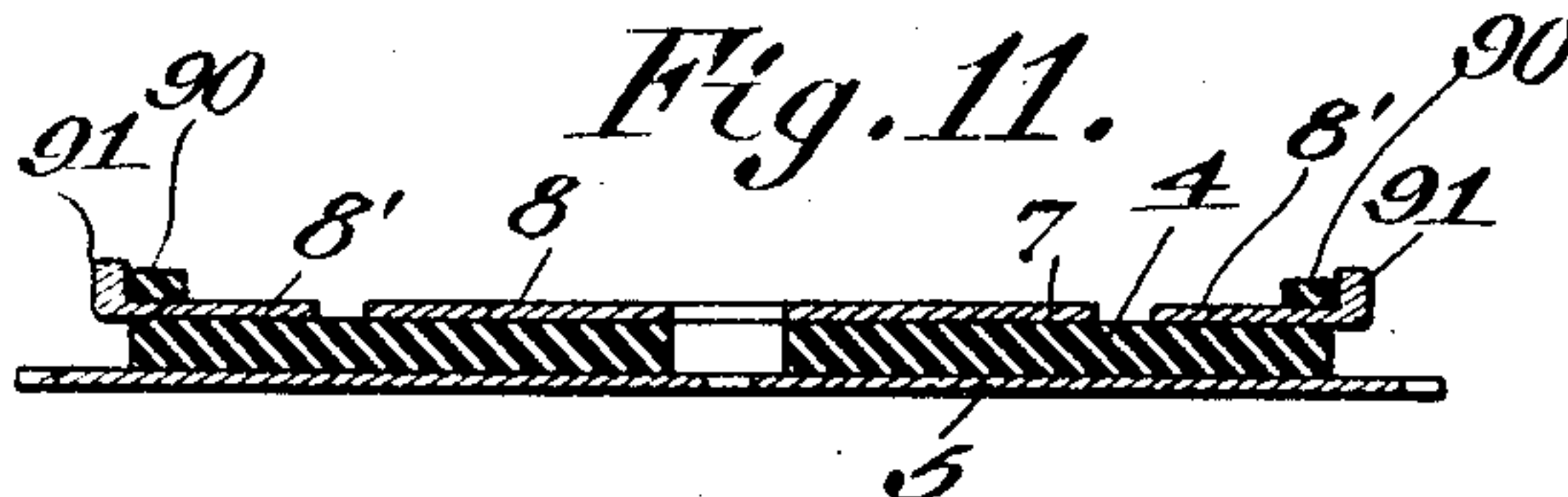


Fig. 6.

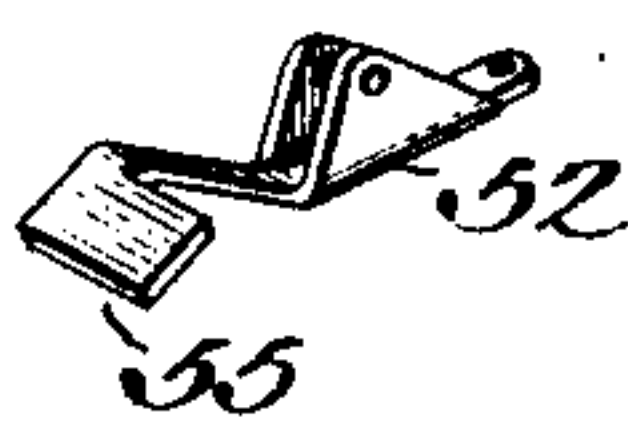


Fig. 7.

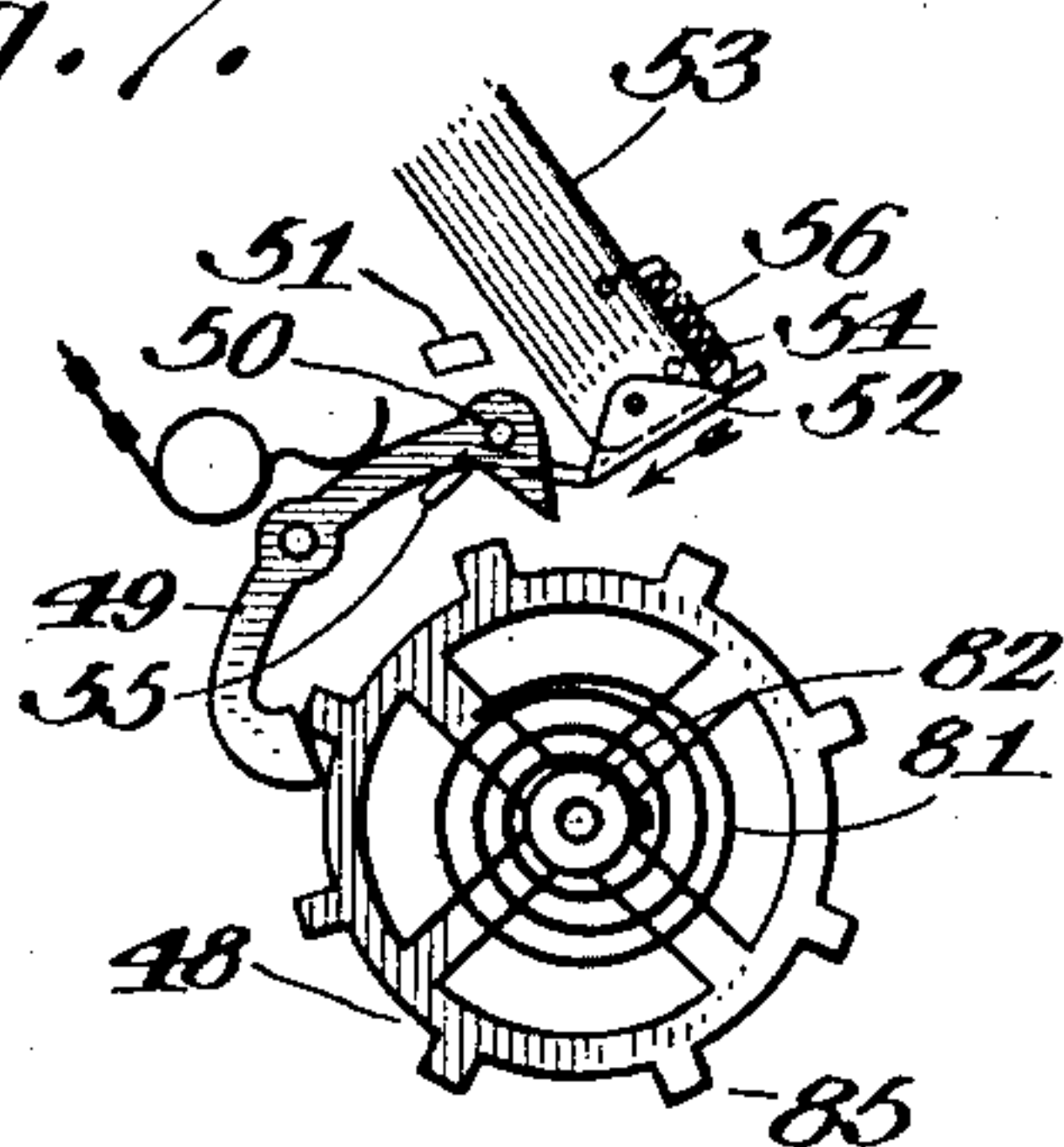
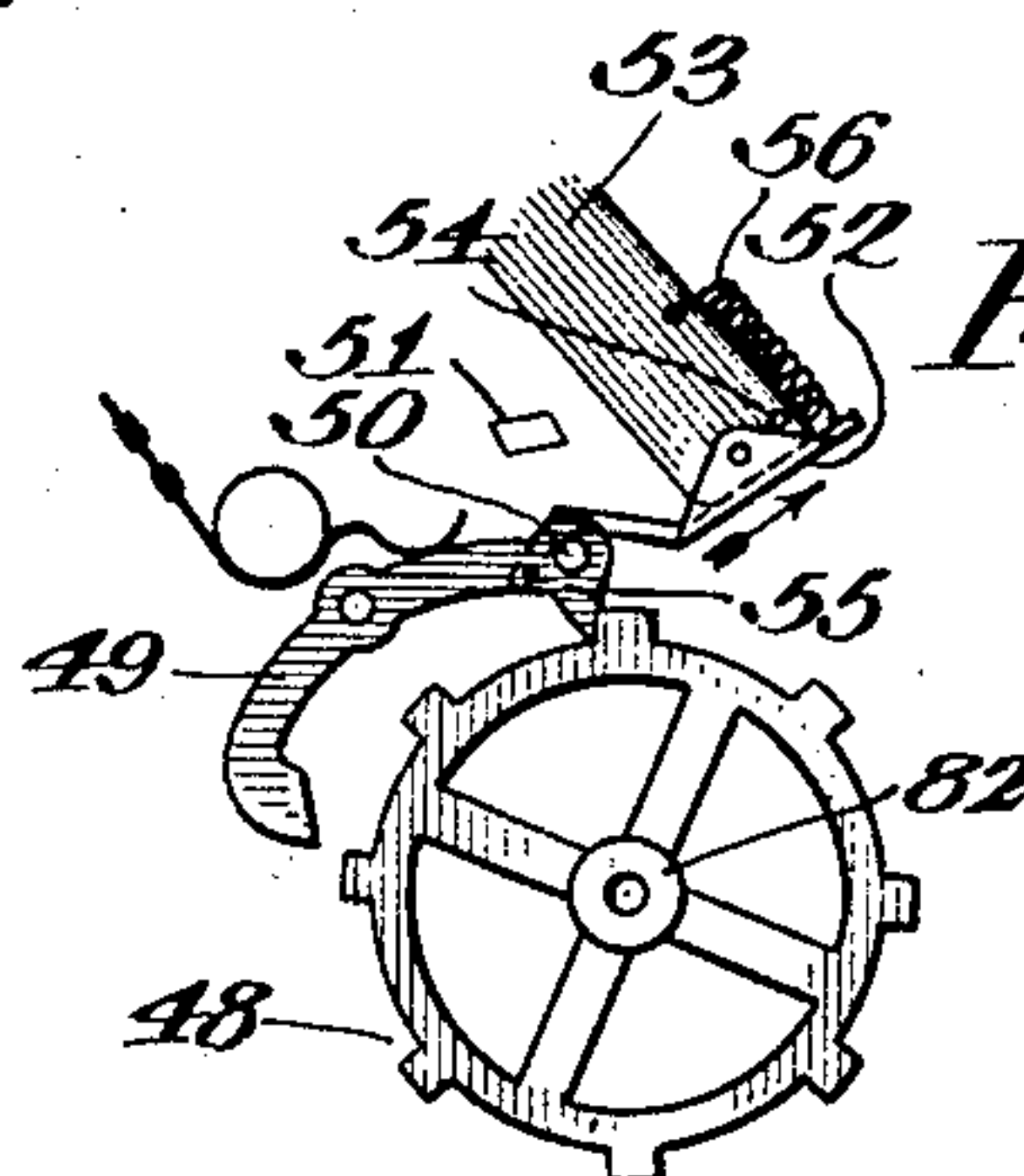


Fig. 8.



Witnesses:  
Emma Fischer  
Dr. W. H. Van Riper

Inventor:  
Hermann Fischer



# UNITED STATES PATENT OFFICE.

HERMANN FASCHER, OF SAN DIEGO, CALIFORNIA.

## MACHINE FOR RECORDING TELEPHONE-CALLS.

No. 915,578.

Specification of Letters Patent.

Patented March 16, 1909.

Application filed July 24, 1906. Serial No. 327,563.

*To all whom it may concern:*

Be it known that I, HERMANN FASCHER, a citizen of the United States, residing in San Diego, county of San Diego, and State of California, have invented a new and useful Machine for Recording Telephone-Calls, of which the following is a specification.

My invention is intended to enable any subscriber of a telephone system to record his number on the receiving instrument of any other subscriber of the system by merely pushing a button, so that the called subscriber on his return may see at a glance, who called for him during his absence.

The invention consists of two main parts; the transmitter and the receiver,—which are illustrated in the accompanying drawings, Figure 1 representing the transmitter and Fig. 2 the receiver in side elevation, Fig. 3 the relative positions of the letter- and number-disks or type-disks and their counting levers and stops with regard to the automatic cut-out. Fig. 4 represents a front elevation of the receiver, showing the window through which the tape having the subscribers' numbers printed on it, may be seen, also the belt or cord by means of which the tape-spool is turned after each number is printed. Fig. 5 shows the manner of connecting the main central batteries with the receiver bars of all the subscribers in general and with the line wires of the communicating subscribers in particular. Fig. 6 shows structure of lifter shoe and inclined lifter toe. Figs. 7 and 8 show the different positions of parts of the releasing mechanism of the automatic power accumulating device, also in Fig. 7 the position of coiled spiral motor spring and its hub, its case having been removed for the purpose. Fig. 9 shows details of construction and manner of fastening paper-tape-and ink-ribbon-spools upon their respective shafts. Fig. 10 shows manner of insulating all the contact points from wheel #5 and Fig. 11 the same in horizontal elevation.

In Fig. 1 #1 represents the push button, which, on being pushed down as far as it will go, thereby winds up the spring #3 and also forces down the sectional rack or gear #2, the teeth of which fit into and cause one complete revolution of the pinion #72 marked in dotted lines, as it is invisible through the hub of the wheel #5. This pinion #72 is fastened rigidly to the shaft #73, to which is also fastened immovably the collar #74. This

collar has a single projecting tooth, which engages the pawl or click #75. The click #75 is fastened to the wheel #5, which also fits upon the shaft #73 but is not fastened thereto, but merely held in place by the collar #74, and may be revolved around the shaft in one direction only, it being estopped from moving in the opposite direction by the tooth of the collar #74. To the upper visible surface of the wheel #5 a disk of hard rubber, vulcanite or other poor conductor of electricity has been riveted. This disk covers almost the entire surface of the wheel up to and within a short distance of the cogs, leaving sufficient room to permit the pinion of the wheel #18 to operate freely. The rivets #6, etc. used for fastening the rubber disk should be of good conducting material, such as copper with platinum heads on top. These platinum heads should also project slightly above the surface of the rubber disk, so that they cannot fail to make good electrical contact when passing under a stationary contact maker or brush, such as is shown at #15. The rivets are all placed at a uniform distance from the center of the wheel; so that the contact brush will touch them all. Their distance apart from each other depends on the number of contacts to be made in each case and does therefore vary. There is another series of contact points at #7, 7, 7, 7, 7, all of which are connected with a common, flat surface ring #8. This second set of contact points or arms are also riveted or otherwise fastened immovably to the rubber disk but out of all possible electrical contact with the first series or its connections. A special contact brush presses continually upon the ring #8, while another makes contact with the points #7, etc. and a fourth #14 presses continually against the under surface of the wheel #5 just under the line of rivets, or if preferred a second contact ring may be provided of good conducting material against which (#8 Fig. 10) the brush #14 shall press, and which must be in direct connection with all the contact points of the brush #15. The rivets on the under side of the wheel are filed flush and smooth with the surface, so that good electrical contact shall be maintained with the brush #14 throughout the complete revolution of the wheel. Preferably both series of contact points should be insulated from the wheel #5 as well as from each other as shown in Fig. 10, in which the rings carrying the contact points are first riveted to the



insulating material #4 and this then is riveted to the wheel #5. A supplementary ring of insulating material #90 prevents the brush #15 from touching the ring 8' between contacts.

5 The ring 8', its contact points and projections by which it is riveted to the insulating disk #4 are punched integrally out of one piece of metal, like the cogs on a gear wheel, except that the contact points are turned up at right

10 angles to the surface of ring 8', sufficient to cause them to project above the surface of the supplementary insulating ring #90 which is riveted to the upper surface of the ring 8' as shown in Fig. 11. A spring #11 fastened

15 to the support #13 prevents the wheel #5 from going backward on pressing the button, while a swinging lever stop #10, being ordinarily pushed down by spring #12, prevents the wheel from going too far at the end of

20 every revolution, by striking against the stationary pin #9, fastened to the rubber disk #4. #19 represents a governor or controlling fan, which regulates the speed of the wheel #5, through intermediate gear #18.

25 In Fig. 2, we have at #20 a number of type disks or wheels. Their number may vary according to the number of subscribers in the system. There is one disk for the letters of the alphabet, or as many of such letters as

30 are needed, and three, four or more disks for numerals from 1 to 0 on each. In the drawing the disks are represented of such size, so that the numerals will occupy one half of the periphery of the disk, while the other

35 half is left blank, the blank space is grooved to allow a cord #64 to play in it, which is fastened to the lower part of the disk at the junction of the numeral 0 with the blank space, and the pulling of these cords, by

40 means of springs #63 to which their other ends are fastened, keep the disks in such a position when not used, so as to bring that portion of the blank space which adjoins the figure or type 1 directly under the blow of

45 the hammer #36 so that normally all the disks shall expose a blank space to the action of the hammer. The letter disk may be an exception, in that its entire periphery, (except a short blank space under the ham-

50 mer) is occupied by letter-types if so desired, and there being therefore no blank space for the cord, a special pulley, fastened to said letter disk has been provided at #23' Fig. 3. A similar pulley may be also attached to the

55 type-disk which carries the last type of a row of type, as shown in drawing at 23' so as to equalize the pressure of the spring 63 on the lifter-lever 53 connected therewith. On one side of each disk #20 is fastened concentric-

60 ally a ratchet wheel #76 as shown in dotted lines, they being on the opposite and invisible side of disks #20. The teeth of these ratchet wheels correspond in their number and relative distances from each other to the

65 number and relative distances from each

other of the types on each disk. And as there are ten numerals on each disk occupying one half of the periphery, so there are twenty teeth all around on each ratchet wheel, and when a ratchet wheel is moved 70 through the space of one tooth, its type disk shall move through the space of one type. As there are four disks with numerals, this would give 9999 different numbers, and if used in connection with 20 letters of the 75 alphabet would give nearly 200,000 different numbers. Additional type wheels may be added. A set of counting levers #21, 21, 21, 21, 21, are arranged in a row behind the type disks upon a single shaft #80 and jour- 80 naled in frame #40, which, being fastened to the lever #41 is operated by the magnets #42. An automatic cut-out has been devised at #24. This consists of a cylinder #24, carrying as many rollers as there are disks to operate, 85 and which is fastened to a rotatable shaft journaled in the main frame. Each roller #27 operates and cuts out or in only one special counting lever. These rollers are distributed around the cylinder in a spiral, 90 so that when there are five disks and counters, one fifth of a revolution of the cylinder #24 shall press one of the rollers against its respective counter lever which thereby 95 enables said lever to engage the ratchet wheel #76, while all the other levers are held back and out of reach of said ratchet teeth by the springs #65 and lean against the smooth surface of the cylinder #24. And as the automatic cut-out revolves one-fifth 100 of a revolution at a time, another roller will come around to the working line and another lever come forward to count on the next disk. Every time the magnet draws the lever #41 up, one of the counting levers, by 105 means of its spring pawl #22 engages a tooth in its respective ratchet wheel and pushes the same around one notch. When the lever is at its highest point, one of a set of automatic stops #28 operated by springs #29 110 and stops #30 drops down behind the raised tooth and holds it there.

It will be seen that whenever the cylinder #24 turns one notch, the roller which counted last will be turned up against the 115 stop #28, which held the ratchet in place, forcing it up out of the ratchet altogether, thus releasing the spring #63 and cord #64, pulling the disk back to its original position and exposing a blank to the hammer. This 120 however only takes place, after the hammer has struck its blow on the type disk and thereby printed the number on the paper tape #70 through the ink ribbon #61. Every time the hammer strikes, the pawl #32, which 125 engages the five toothed ratchet #31, takes hold of another tooth through connecting levers #33, 34, 35, and on its upward swing turns the ratchet #31, which is fastened to the same shaft as the cylinder #24, which 130



thereby is also turned one fifth of a revolution. The hammer #36 is held back in its normal inoperative position by spring #37, and forced down upon the type disks by lever #38 and the magnet #39. The cylinder #24 is also provided with five smooth facets #25 Fig. 3; or as many as there are rollers #27, and disks #20. And these facets are situated so, that whenever the lever #36 has completed its upward stroke, and another roller has engaged its counting lever, the spring #26 shall press against one of the facets with sufficient force to hold the cylinder #24 steady, and prevent its turning while the counting lever does its work.

To the pulley #23 of the nearest type disk, which furnishes the last figure to be printed, is fastened a lever #53, carrying a lifter shoe #52, held by spring #56 against the stop #54. After the last figure has been printed, and the stop #28 has been lifted, the spring #63 and cord #64 running over pulley #23 bring the lever or leg #53 and its shoe #52 around to the stop #51. But before this point is reached, the toe of the shoe #52 strikes against the roller pin #50 fastened to one arm of the stop-anchor-lever #49. The slanting surface acting against the roller pin #50 causes it to be lifted up sufficiently to enable the projecting stop cog #85 on the wheel #48 to slip past under it. But as soon as this has been accomplished, the roller pin #50 slips over the corner #55 of the toe lip, and aided by a spring as shown and also aided by the neighboring stop cog #85 of the wheel #48, acting upon the other end of the anchor lever, the forward point of the latter, carrying the roller #50 is forced back upon the intervening surface of the wheel #48 and ready to engage the next projecting stop cog #85, thus making it impossible to pass more than one stop cog at a time. In its backward movement, when the next figure is to be counted off by the same disk, the toe lip #55 slips over the upper surface of the roller pin, thus exerting, by means of the spring #56 an additional downward pressure upon the anchor-lever, while the length of the toe lip #55 and the position of the stop #51 are such that the former may be drawn back without touching said stop.

The wheel #48 is forced around as described by a suitable coiled spring #81 contained in a suitable case #45, having at its outer periphery very fine ratchet teeth. These teeth may be so fine that ten or more shall be required to occupy a space equal to that between any two adjoining stop cogs #85. As the magnet #42, through connecting levers #41, 40, 44, 43 and pawls 46 and 47 are expected to wind up the coiled spring one notch with every stroke of the lever #41, while the counting is going on, the smaller the teeth on the spring case, the lighter the load which the magnet will have to pull.

And as there may be as many as 36 counts without counting any letters, we may take ten to fifteen as a fair average in the long run. Whatever number of teeth which intervene between any two neighboring stop cogs #85, will be the number unwound every time the wheel 48 slips around from notch to notch, and if the average is lower than that number, the spring will ultimately run down, if it is higher, it will wind the spring up tighter and tighter. For this reason the spring is fastened only at the center to a hub #82 fastened to the wheel #48, while its outer end is left loose, but which exerts sufficient pressure upon the sides of the spring case to enable it to do its work with ease. So that when the spring becomes overwound, it simply slips around in its case, but still retains enough tension to do its work. To the farther end of the shaft to which the wheel #48 is fastened, is a pulley #77 carrying a belt or cord or endless sprocket chain which also engages a corresponding pulley on the shaft which carries the spool #58 on which the tape of paper #70 is wound as fast as it is printed fall after having passed the window #69. #68 is a belt tightener to prevent slipping. The paper tape is originally wound on spool 59 from whence it is drawn around the roller #71 which holds it down close to the type disks, and thence to the spool #58. Underneath the paper tape is stretched an ink ribbon #61 carried on spool #60, drawn around over the type disks and wound up on a comparatively small spool #62 fastened to the shaft carrying the wheel #48. So that when the paper tape travels a distance equal to the space from notch to notch on wheel #48, the ink ribbon only travels a small portion of such distance. Both the spools #59 and 60 are held at an easy tension by tension springs #66 and 67. These spools #59 and 60 may be placed as shown or in any other convenient position, which will enable the spools #58 and 62 to draw the paper tape and ink ribbon in close proximity to the selected types where the hammer is to strike.

The whole mechanism may be operated by two batteries, one for each magnet, located at the central station, and connections with the air line be so made through the central switch board, that one subscriber shall have one pole of each battery, one on each of his wires, while the other subscriber shall have the other two poles of the batteries one on each of his wires, as shown in Fig. 5. One line wire is connected with the contact brush #15 and the other with #16. #14 and #17 are grounded. One of the coil terminals of each magnet is also grounded. The other terminals are connected with the line wires. But all the line connections must be made through the telephone receiver bars as shown in Fig. 5, so



that when the receiver hangs on its hook, the line wires shall be connected with the magnets 39 and 42, while the contact brushes are cut out. When the receiver is  
 5 taken off, the line shall be connected automatically with contact brushes #15 and #16, and the magnets shall be cut out. And the batteries must be connected with the line so, that one battery, which is connected with  
 10 brush 15 of one subscriber shall be connected with magnet 42 of the other subscriber, and the other battery, being connected with brush 16 of the first subscriber shall be connected with magnet 39 of the other, both  
 15 batteries to be of equal strength. When therefore one subscriber has taken the receiver off its hook and contact is made between brushes 14 and 15, then the current from one battery will pass into the ground,  
 20 and the opposite pole of the battery being connected with magnet 42 of the other subscriber and also with the ground this magnet will respond to the impulse. When contact is made between brushes 16 and 17, the  
 25 second battery will operate magnet 39 of the other subscriber.

The operation of the system is as follows: A subscriber, after having been put in connection with another as shown in Fig. 5, and  
 30 not getting any response, pushes the button #1 down until the click of the pawl #75 on the tooth of the ratchet or collar #74 tells him that it has engaged the wheel #5, otherwise the button will be immediately pushed back  
 35 by the spring #3 without doing any work. Wheel #5 begins to turn and the first contact point #6 under the brush 15 will make contact with strip #14 and the battery current will run to the ground. The same battery  
 40 being connected with magnet 42 of the other subscriber one terminal of which is also grounded, this magnet will respond and pull up its armature #41. This lever then performs two operations simultaneously. The  
 45 automatic cut-out being set so that the first counter lever which controls the letter disk is pressed forward to engage its ratchet, the letter disk will be turned around one letter for each impulse or for each contact point #6  
 50 on the wheel #5, which in this case is only one. The letter A, or any other letter chosen as the first, is therefore under the hammer. While turning the letter disk, the magnet lever also raises the lever #43 and by means of  
 55 pawl 46 also the spring case #45 sufficient to enable pawl #47 to catch the next tooth and hold it, thus tightening the spring one notch. The next impulse is received through the brush 16 coming in contact with point #7  
 60 passing under it which is attached to ring #8 on which brush 17 is pressing, and thus the current from the other battery will pass to the ground. The other pole of this battery being connected with magnet #39 of the  
 65 other subscriber, it will pull up its armature

and cause the hammer to strike the paper-tape and the letter A will be printed through the intervening ink ribbon on the lower surface of the paper. In its downward stroke the hammer through levers 33, 34, 35 and  
 70 pawl 32 engages the next tooth of the ratchet 31, and when the hammer is returned to its initial position by being pulled up by spring 37, the cut-out cylinder #24 was pulled around one-fifth of a revolution. The same roller  
 75 which had pressed forward the counter lever which engaged the letter disk, will now raise the stop 28 which held the letter disk in place, this releases the letter disk and the spring #63 through cord 64 pulls it back to  
 80 its original position, exposing a blank instead of a letter to the next blow of the hammer. At the same time the next roller pushes forward the next counting lever, engaging the first number disk. The next contact point  
 85 #6 on the wheel 5 comes in contact with brush 15, magnet 42 pulls up its armature and figure 1 appears under the hammer. A second contact point #6 makes connection and figure 2 appears. The next contact is established  
 90 with brush 16 and 17 and magnet 39 pulls up its armature. Figure 2 is printed on the paper and the automatic cut-out releases spring 63 and the first number disk returns to its original inoperative position, while the next  
 95 counting lever is pressed forward. There being four contact points #6 for brush 15 before another for brush 16 appears, this second number disk will be pushed around to figure 4, which is printed on the paper and the next  
 100 engaged. We now have five contact points for brush 15. Figure 5 is therefore printed on the paper and the next engaged. We now have seven contact points. Figure 7 will therefore be printed next. This is the last disk  
 105 used and the number complete will be A2457, the number of the subscriber making the call. When the last number disk is turned one or more figures, the leg 53 and shoe 52 are also turned away from their stop 51, as shown in  
 110 drawing. After the figure has been printed and the spring 63 is released, the toe lip 55 lifts the anchor stop 49 by means of roller pin 50, and the coiled spring contained in case #45 having been wound during the operation  
 115 of counting 18 notches, slips the wheel #48 around to its next stop cog #85 which by means of belt 57 turns spool 58 an equal distance, which in turn pulls the paper tape off its spool and onto spool 58, thus bringing the  
 120 printed number into view through the window 69. At the same time the spool or cylinder 62 moves a trifle and pulls the ink ribbon 61 forward. This completes the operation and the next roller presses forward the first  
 125 counting lever which engages the letter disk, ready for the next call. In case alternating currents are to be used, the magnets will have to be replaced by suitable helices and cores.

If deemed advisable one or more extra 130



contact points may be put into that portion of the type selecting series which operate the type wheel carrying the lifter shoe 52, so as to give said lifter more swing and enable it to lift the anchor stop 49 more easily. In this case the leg 53 must be fastened to its type wheel at such a place so as to expose as many blank spaces to the action of the printing hammer before the figure .1 is reached, as there are extra contact points, so that each extra contact point shall count a blank.

I desire to secure by U. S. Letters Patent the following claims:

1. In a telephone call recorder, the combination with the central switch board and line wires, of connections therewith through receiver-switch of subscriber's telephone, a call transmitting mechanism and a call recording mechanism, each of said mechanisms being connected with said receiver-switch, and a double source of energy at central for the operation of said call recorder mechanisms.

2. In a telephone call recorder consisting of a transmitting and a recording mechanism, the combination with the central switchboard and line wires, of a double source of energy at central, adapted to be connected with subscribers' telephones, to actuate the call transmitting and recording mechanisms attached thereto.

3. In a telephone call recorder, the combination with a double source of energy at central, of line wires, of call transmitting and recording mechanisms located at subscriber's telephone, of a receiver-switch, connections between said line wires and said mechanisms through the receiver switch, the said receiver switch normally connecting the recording mechanism to line when the receiver is hung, and adapted to disconnect the recording mechanism and connect the transmitting mechanism to the line wires when the receiver is unhooked.

4. In a telephone call recorder, a recording instrument having a counting mechanism and a printing mechanism, a transmitter instrument having a transmitter wheel with two independent series of contact points, one series being adapted to actuate the counting mechanism of the recorder, the other series being adapted to operate the printing mechanism.

5. In a telephone call recorder-transmitter instrument, two independent circuits supplied with energy from central, a transmitter wheel with two independent series of contact points, connected with said circuits, and a push-button and a spring adapted to operate said transmitter wheel.

6. In a telephone call recorder transmitter instrument, two independent circuits supplied with energy from central, a rotatable transmitter wheel with two independent series of contact points connected with said

circuits and suitable contact brushes, adapted to make contacts when said wheel is rotated, and means adapted to limit the motion of said transmitter wheel.

7. In a telephone call recorder transmitter instrument, two independent circuits supplied with energy from central, a rotatable transmitter wheel with two independent series of contact points and means adapted to regulate the speed of rotation of said transmitter wheel.

8. In a telephone call recorder transmitter instrument, two independent circuits supplied with energy from central, a rotatable transmitter wheel with two independent series of contact points, a push button and a spring adapted to operate said wheel, a suitable stop to limit its motion and means connected with said push-button adapted to wind said spring and remove said stop, when push button is depressed.

9. In a telephone call recorder transmitter instrument, a rotatable transmitter wheel having a plurality of contact points, a push button and a spring adapted to operate said wheel, a suitable stop to limit its motion and means connected with said push button adapted to wind said spring and remove said stop, when said push button is depressed.

10. In a telephone call recorder, consisting of a counting mechanism and a printing mechanism, two independent circuits supplied with energy from central, two independently actuated electro-magnets connected therewith, one of said magnets being adapted to operate the counting mechanism, the second being adapted to operate the printing mechanism.

11. In a telephone call recorder instrument, two independent circuits supplied with energy from central, two independently actuated electro-magnets connected therewith, a plurality of type disks each carrying a plurality of types, and means connected with one of said magnets adapted to move said type disks, and a printing mechanism adapted to be operated by the other magnet.

12. In a telephone call recorder instrument, two independent circuits supplied with energy from central, two independently actuated electro magnets connected therewith, a plurality of type disks, each carrying a plurality of types and means connected with one of said magnets adapted to move said type-disks successively, each the space of one type at a time, and a printing mechanism adapted to be operated by the other magnet.

13. In a telephone call recorder instrument, two independent circuits supplied with energy from central, two independently actuated electro magnets connected therewith, a plurality of type disks with a plurality of types on each, and means adapted to hold said type disks in normally inoperative position, and means connected with one of said



magnets adapted to move said type disks to operative position successively, and a printing mechanism adapted to be operated by the other magnet.

5 14. In a telephone call recorder instrument, two independent circuits supplied with energy from central, two independently actuated electro magnets connected therewith, a plurality of type disks with a plurality of  
10 types on each, means connected with one of said magnets adapted to move said type disks to operative position for printing, and means adapted to hold said type disks in operative position until after printing and a printing  
15 mechanism adapted to be operated by the other magnet.

15 15. In a telephone call recorder instrument, two independent circuits supplied with energy from central, two independently actuated electro magnets connected therewith, a plurality of type disks with a plurality of  
20 types on each, and held normally in inoperative position, means connected with one of said magnets adapted to move said type  
25 disks to operative position for printing, means adapted to hold said type disks in operative position until after printing, and also means adapted to return said type disks to inoperative position after printing, and a  
30 printing mechanism adapted to be operated by the other magnet.

35 16. In a telephone call recorder instrument, two independent circuits supplied with energy from central, two independently actuated electro magnets connected therewith, a plurality of type disks, with a plurality of types on each, a plurality of counting levers operated by one of said magnets, means

adapted to hold said levers in normally inoperative position and means adapted to successively move said counting levers to operative position, and cause them to successively move said type disks to operative position, and a printing mechanism adapted to be operated by the other magnet.

45 17. In a telephone call recorder instrument, a type selecting mechanism and a printing hammer adapted to print from said selected types and a spirally cammed cylinder in mechanical connection with the said  
50 printing hammer and operated thereby and adapted to engage said type selecting mechanism.

18. In a telephone call recorder instrument, a type selecting mechanism and a  
55 printing mechanism, combined with a spring case and coiled motor spring which is held in place by its own tensional friction only and means connected with said type selecting mechanism for automatically tensioning said  
60 spring.

19. In a telephone call recorder instrument, a type-selecting mechanism and a printing mechanism combined with a spring case and coiled motor spring, which is held in  
65 place by its own tensional friction only and means connected with said type selecting mechanism for automatically tensioning said spring, and also means for automatically releasing a portion of said tension when required and further means for releasing surplus tension.

HERMANN FASCHER.

Witnesses:

EMMA FASCHER,  
ORRIN W. SMITH,