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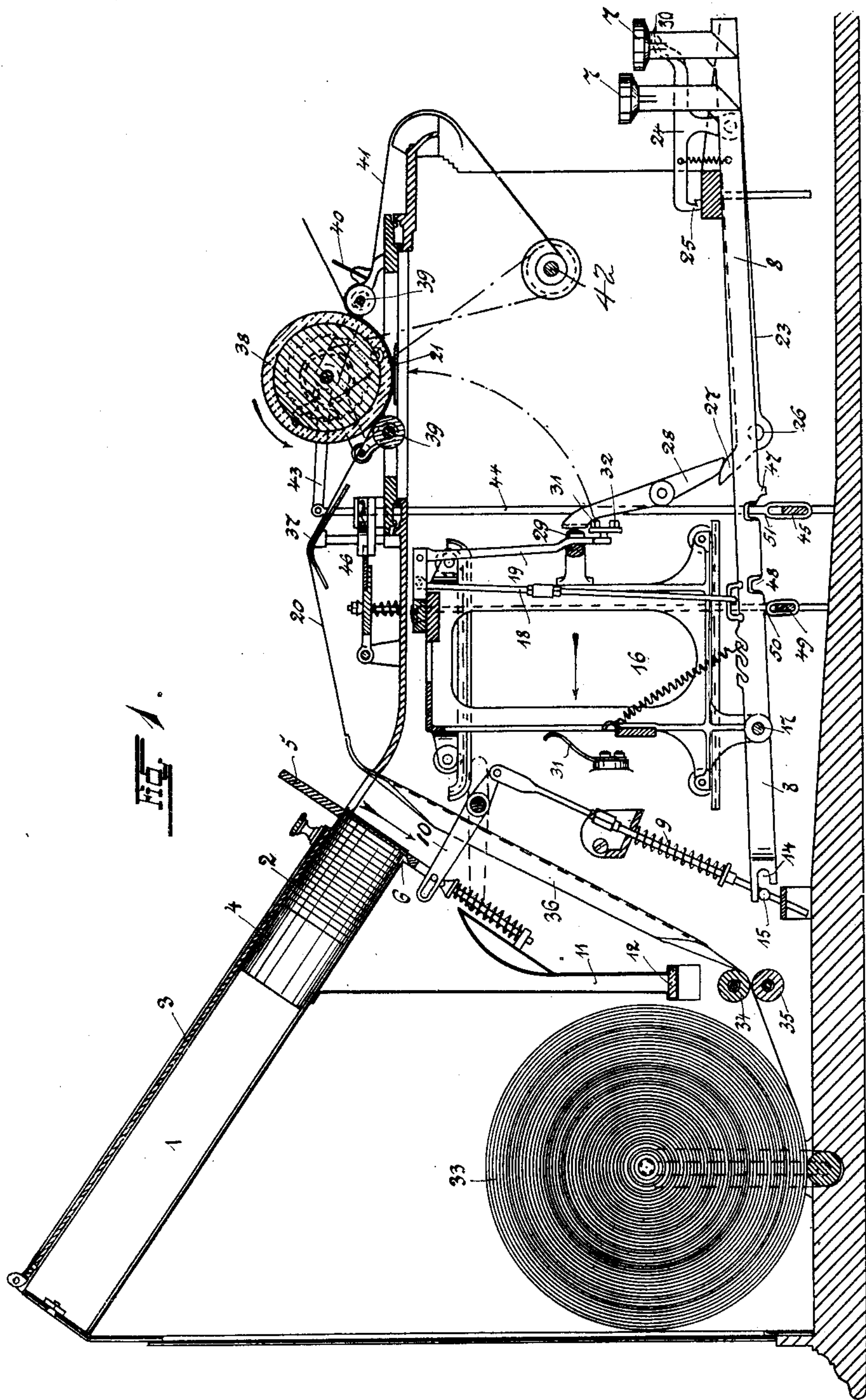
Patented Jan. 8, 1901.

F. HALLAMA.
RECORDING CHANGE MAKER.

(Application filed May 26, 1900.)

(No Model.)

4 Sheets—Sheet 1.



WITNESSES:
Ella L. Giles
Otto Munk

INVENTOR
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ATTORNEYS

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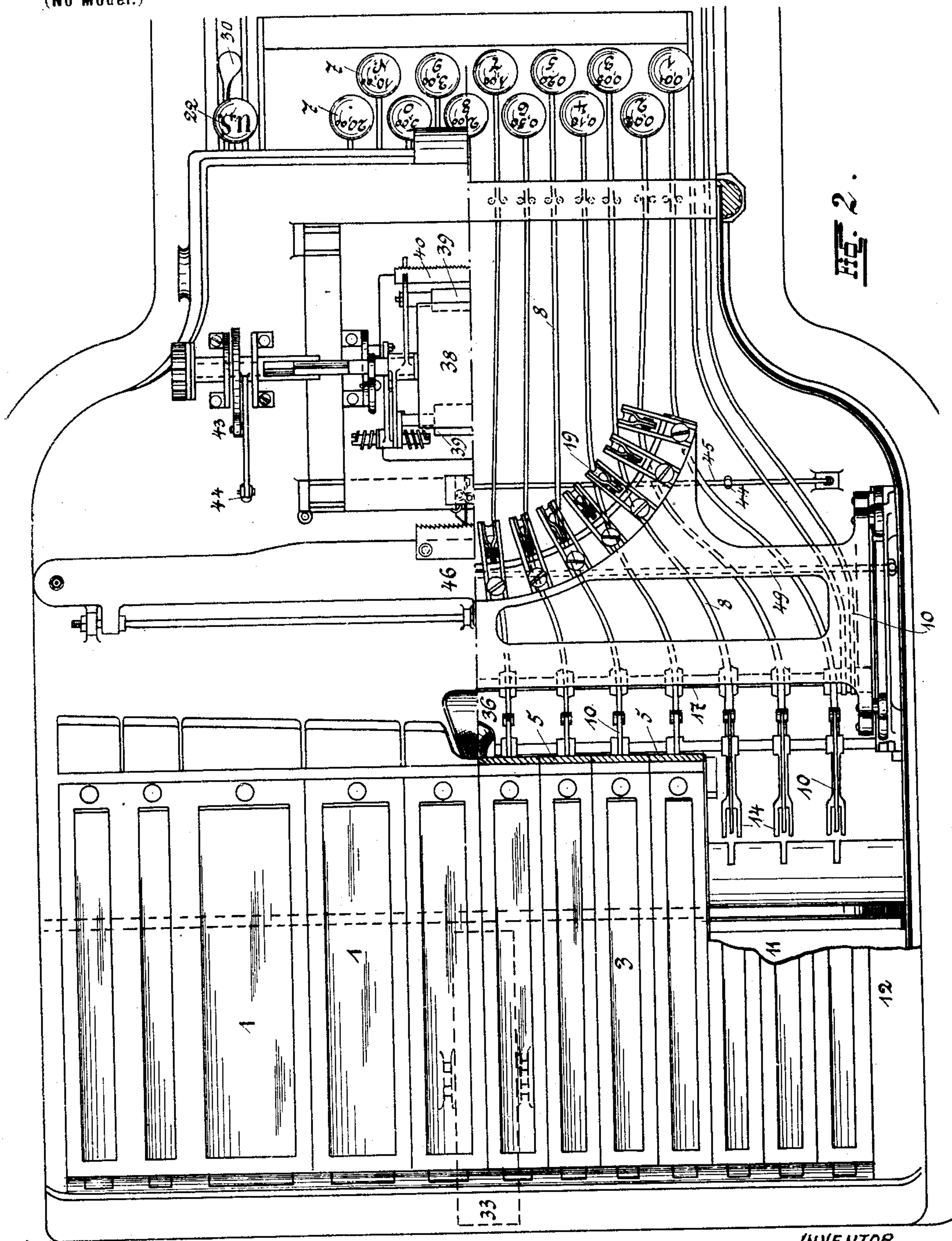
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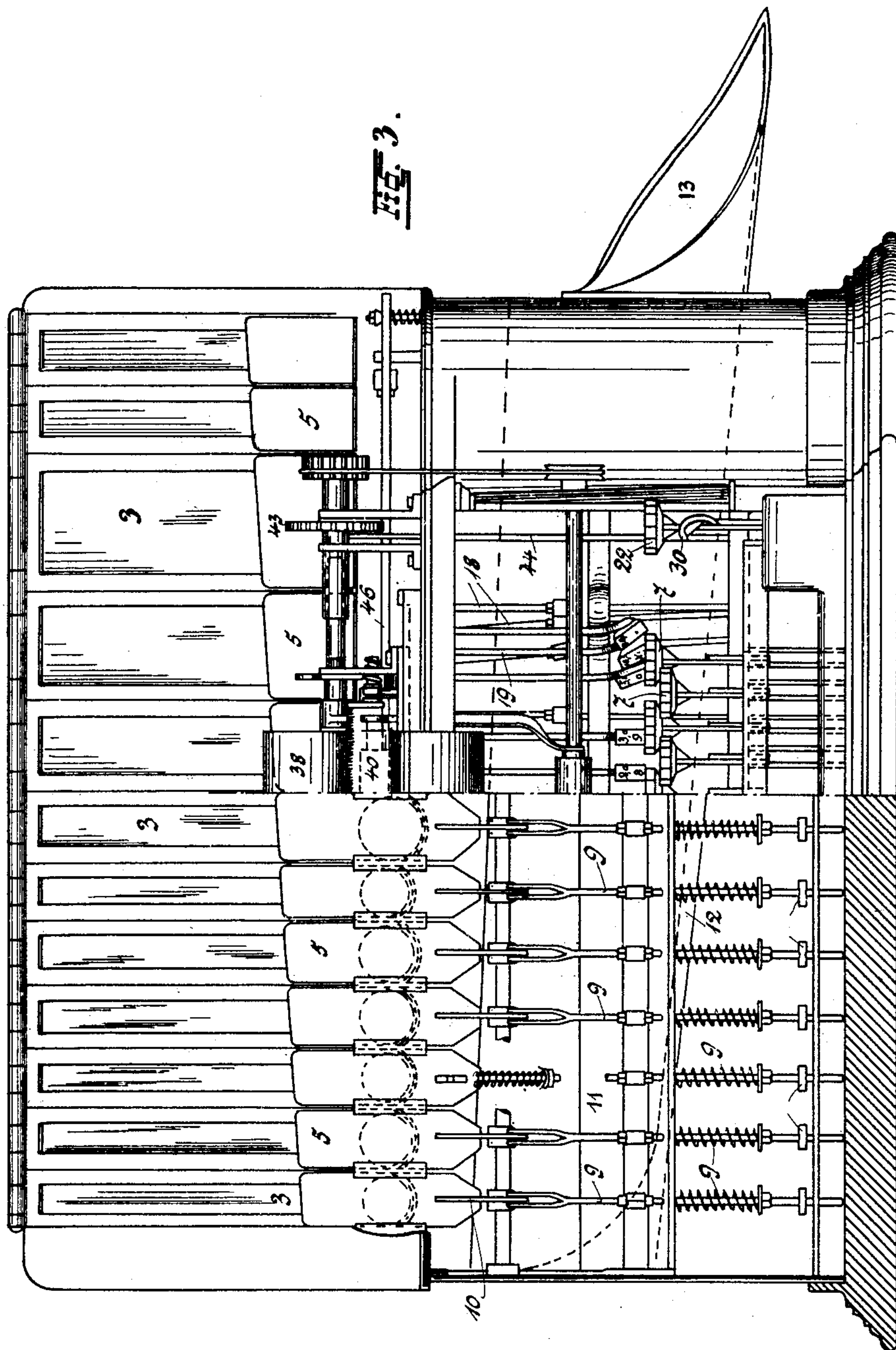
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WITNESSES:
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58,285
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10.00
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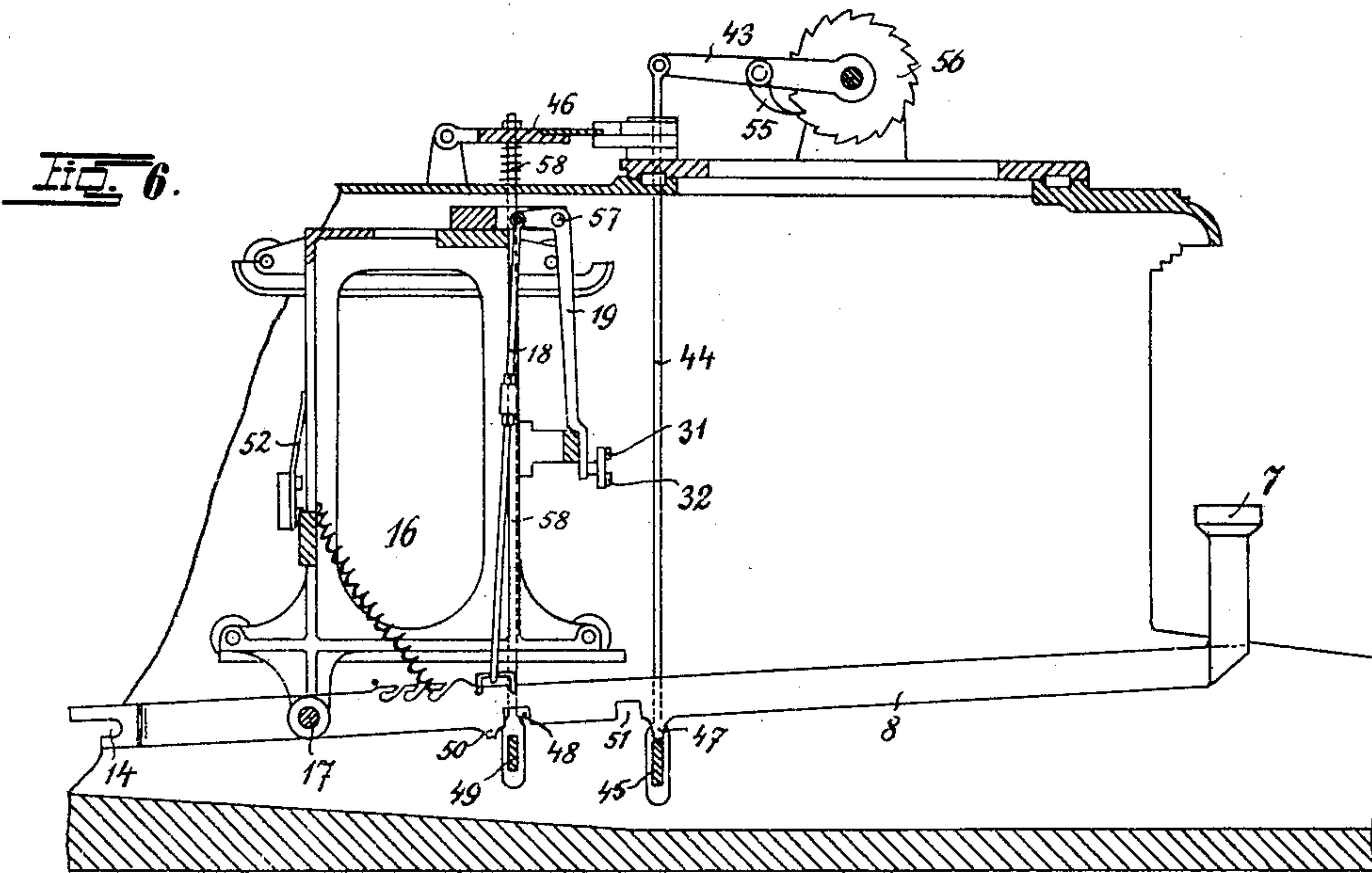
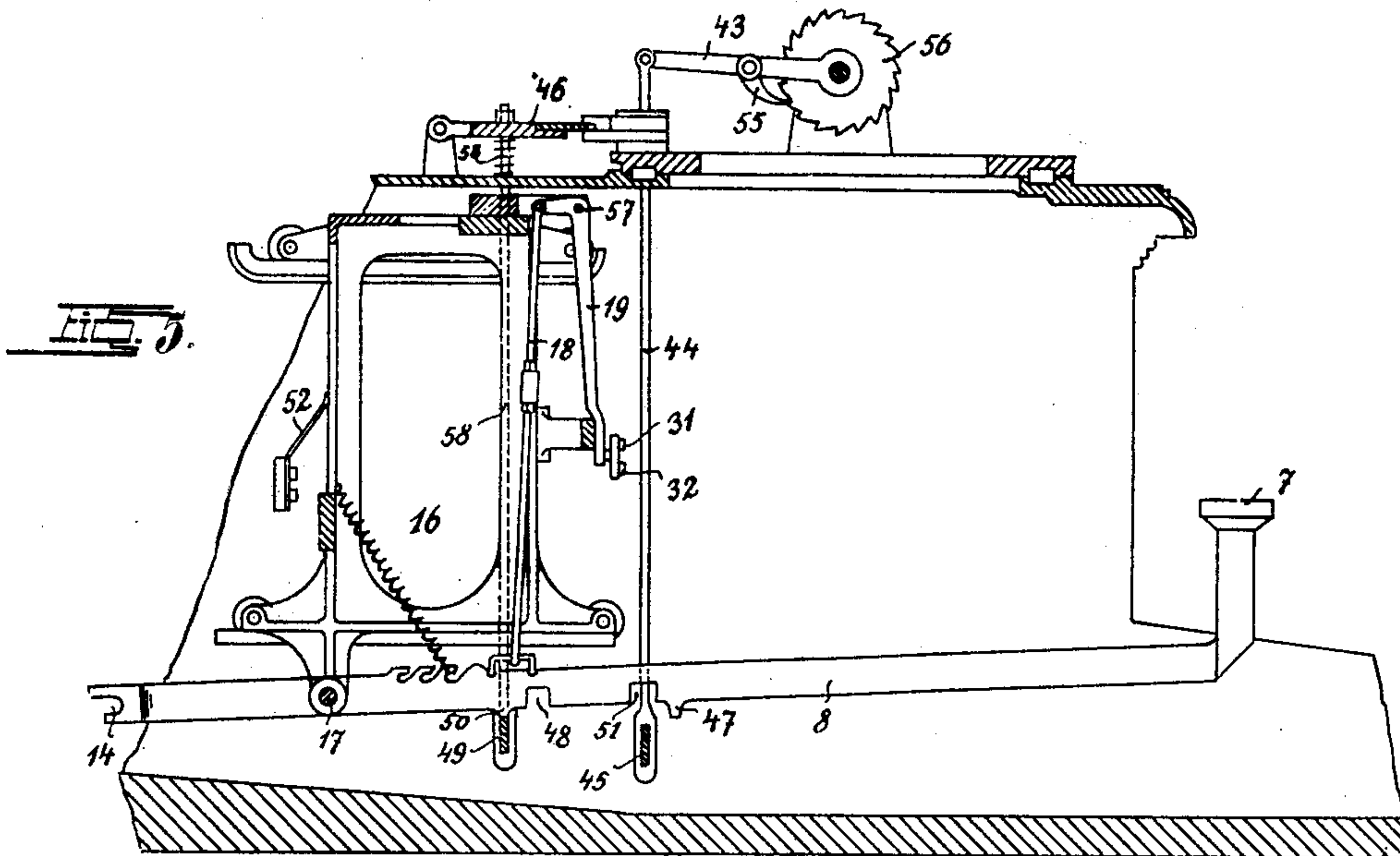
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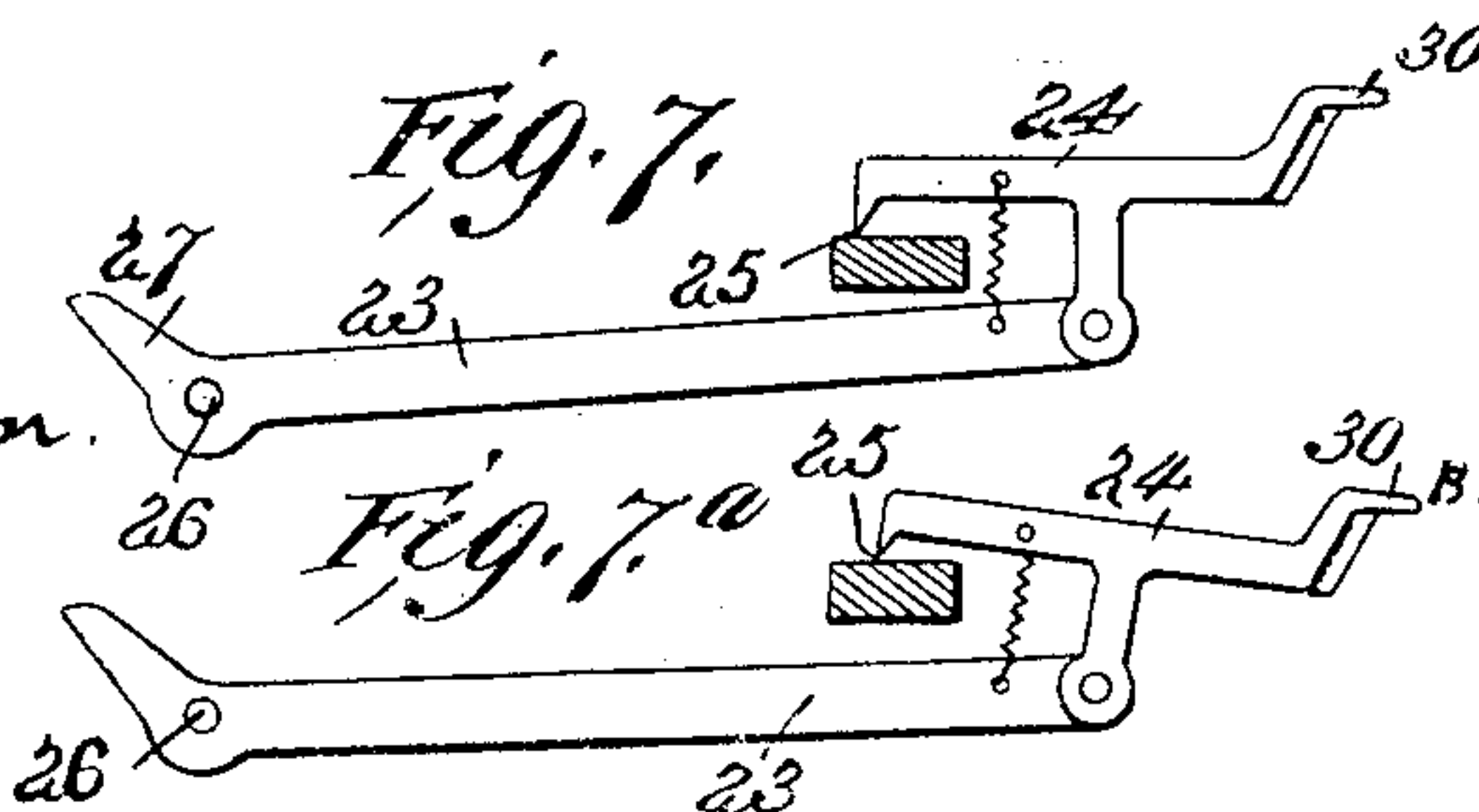
4 Sheets—Sheet 4.



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UNITED STATES PATENT OFFICE.

FRITZ HALLAMA, OF KLETTENDORF, GERMANY.

RECORDING CHANGE-MAKER.

SPECIFICATION forming part of Letters Patent No. 665,656, dated January 8, 1901.

Application filed May 26, 1900. Serial No. 18,150. (No model.)

To all whom it may concern:

Be it known that I, FRITZ HALLAMA, merchant, of Klettendorf, near Breslau, in the German Empire, have invented some new and useful Improvements in Cash-Registering Tills; and I declare that the following is a full and clear description of same.

This invention relates to cash-registering tills or apparatus especially adapted to register the payment of wages to workmen; and it consists of an apparatus in which separate tubular chambers are provided for each kind of coin, said tubular chambers having sliding shutters so connected with type printing mechanism that on the operation of a shutter the type mechanism is also actuated and records the value of the coin corresponding with the shutter operated. The connection between the sliding shutters and type mechanism is such as to allow of an independent operation of the latter, while independent operation of the former is impossible.

I will fully describe my invention in reference to the accompanying drawings, in which—

Figure 1 is a longitudinal section of my improved apparatus. Fig. 2 is a plan thereof, partly in section. Fig. 3 is a front elevation, also partly in section. Fig. 4 shows a printed slip or ticket as delivered by the apparatus. Figs. 5 and 6 are sectional detail views illustrating the type-writer mechanism. Figs. 7 and 7^a are detail views of the catches 24 and levers 23.

The apparatus is provided with separate inclined channels or tubular chambers 1, one for each kind of coins. The coins 2 are placed in the said chambers 1 from above after raising the hinged cover 3, which may be locked, if required. A weight 4 serves to press each pile of coins toward the lower or delivery end of the holders 1 and keep the coins in proper position and prevent them from lodging. Fig. 3 shows how the coin-holders 1 are arranged side by side in the manner of a "battery," so to speak, the diameter of the holders varying with the size of coin to be deposited therein.

The lower or delivery end of the holder 1 is closed by a reciprocating shutter 5, arranged at right angles to the holder and having a recess of such depth as to receive only one coin. It will be seen that when the shutter 5 is

moved in the direction of the arrow (see Fig. 1) it will take with it in the recess the lowermost coin in the holder 1. The rear edge of the recess is cut square; but the front edge is beveled or chamfered off, so that a sharp downward motion of the shutter will throw the coin out of the recess as soon as it has sufficiently advanced to enable the coin to slip from beneath the lower edge of the holder. The coin thus discharged falls edgewise into the inclined gutter 11 and rolls along the latter toward the money-tray 13. The shutters 5 are operated by depressing the corresponding keys 7 in combination with the lever 8, connecting-rod 9, and the short slotted and pivoted bar 10. Fig. 3 shows the arrangement of the keys and levers, each corresponding to one of the coin-holders and their shutter.

As before mentioned, the apparatus records the equivalent value of the coin delivered, and this is effected in such manner as to avoid differences with the payee by handing him with the money a ticket or paper slip delivered from the apparatus and printed with the value of each coin delivered in successive order and giving the total amount and a number identifying the payee or otherwise, as arranged.

In carrying out the various functions two positions of the operating mechanism are required—viz., first, the position in which the operation of the delivery-shutters 5 is effected and in which the making a record of the delivered coin takes place; secondly, the position in which the sum-total of the amount paid is recorded and the number of the payee. In order that the said operations may be independent, the connections between the levers 8 and the rods 9 are made separable by forming the end of the levers 8 with a fork 14, adapted when the said levers are pushed inward to engage the pins 15 in the rods 9, while the pins 15 are free and inoperative when the levers 8 have been moved outward, as in Fig. 1. This endwise movement of the levers 8 is effected by a carriage 16, on which the said levers are fulcrumed, as at 17, in such manner that when the carriage 16 is moved in the direction of the arrow, Fig. 1, the fork 14 of every lever 8 engages the pins 15, and then by depressing any key the cor-

responding rod 9 is elevated, while the corresponding shutter 5 is lowered and delivers a coin from the holder 1.

In order to prevent the unauthorized withdrawal of money from the apparatus by the depression of the shutters 5 without making a record, the upper prongs of the forks 14 are made to project beyond the pins 15, so that if a shutter is lowered by pushing down one of the slides 5 the registration of the coin so withdrawn is effected.

In order that the coins may be recorded simultaneously with their withdrawal from the holder 1, the levers 8 are connected by draw-bars 18 with the type-carrying bar 19, and as soon as a key 7 is depressed (while the levers 8 are pushed inward to effect the delivery of a coin) the type-bar 19 is caused to swing forward and imprint on the paper band at the point 21 a number giving the value of the coin just delivered. If, say, a three-mark piece has been withdrawn, the number "3" would be printed on the paper strip. The levers or bars 19 are pivotally connected to the carriage 16 at 57. These levers or bars are angle-levers, the longer arms of which bear the types 31 32, while to the extremity of the shorter arm is connected the wire 18, which in turn connects with the key-lever 8. At the downward stroke of the key-lever the type lever or bar swings on its pivot 57, and the types 31 32 are thrown against the roller 38 and strike on the printing-strip.

The operation of the carriage 16 for coupling the levers 8 with rods 9 is effected by a reversing-key 22, Figs. 2 and 3. By depressing this key a catch 24 is also depressed, and, being pivoted to the lever 23, carried by the key 22, its hook-shaped end is caused to spring behind a tooth 25, which is fixed on the framework. As the lever 23 turns on its pivot 26 the nose 27 of the same causes the two-armed lever 28 to swing and to press against a projection 29 on the carriage 16, causing the same to move forward, in which position it is held as long as the hooked end of the latch is engaged behind the tooth 25. As the carriage 16 moves forward the coupling of the levers 8 with the rods 9 takes place. Therefore to withdraw money it is first necessary to actuate the key 22, and this action effects the coupling of the rods 8 and 9, and then the depression of any one key causes the delivery of the corresponding coin. At the same time the connection of the lever 8 with the printing mechanism insures the operation of the key being recorded by the action of a type-lever printing the value of the coin on the paper strip.

In use after the full amount to be paid out has been withdrawn the temporary coupling between the levers 8 and rods 9 is interrupted, so as to permit an independent operation of the printing mechanism for totaling the amount and for giving the number of the employee. The disengagement is effected by depressing the free end 30 of the catch 24, so

as to free its hook from the tooth 25 and allow it to pass over the latter. This enables the spring 52 to return the carriage 16 and parts to normal position, as shown in Fig. 1. In this position the depression of a key only operates the printing mechanism, as hereinbefore described. Each type-carrier has two numbers—viz., the number expressing the value of the coin and a running number between "0" to "9," together with the ordinary punctuations. According to the position of the carriage 16 one of the types 31 or 32 is advanced into contact with the point 21. In the position shown at Fig. 1, for example, the type for printing the total sum paid or the number of the payee is operated. The printing mechanism itself may be similar to one of those used in type-writing machines now in use. The record-strip 20 is made double, with an intervening strip of carbon or equivalent, and is wound on a reel 33 and passes therefrom between two rollers 34 35, then through a tubular channel 36, wherein it is slightly curved, so that it may not take a greater width than the space between the levers 10, between which it has to be passed to reach a support 37, after passing over which it passes between the printing-platen roller 38 and pressing or guiding rollers 39, and then one thickness of the strip 20 leaves the apparatus.

40 is a knife enabling the printed slip or tickets to be cut off.

When a type of the printing mechanism strikes the paper strip 20, it produces a ticket for the payee and at the same time a duplicate on the under strip 41, which is retained in the apparatus and wound on a roller 42, suitably rotated by a band from the printing-roller spindle.

Examination of the ticket shown in Fig. 4 will show that it is necessary to provide a double setting mechanism for the platen-roller 38—that is to say, one mechanism for rotating the platen to print the various money values in order beneath one another and another mechanism for imparting an endwise movement to the platen-roller 38, together with the paper band 20, in order that the total and number of the ticket may be printed in proper alinement.

43 is a shift-lever which can rotate the roller 38, and this shift-lever is connected by the draw-rod 44 with a rail 45.

46 is a device for causing a longitudinal displacement of the roller 38 and along with it of the writing-strip.

Movement is given to the rack by means of the rod 58 engaging the lever 46, said rod being set on the extremities of the rod 49, passing beneath the type-levers 8. With the downward movement of the rod 49 and the lever 46 the roller 38 moves sidewise by one letter-space. On the shaft of the roller 38 is arranged the ratchet-wheel 56, into which the pawl 55 of the lever 43 engages. This lever 43 connects, by means of the rod 44, with

the extremities of the rod 45, which latter lies also crosswise under the key-levers 8. In the descent of the cross-rod 49, therefore, an actuation of the lever 43 takes place, and the ratchet-wheel and therewith also the roller 38 are rotated, so that the paper strip advances by one line-space. The key-levers 8 are pivotally mounted on the shaft 17 of the carriage 16. Consequently their position changes with the carriage in the latter's displacement, while the rods 45 and 49 remain in their position. When the carriage 16 is in the position as in Fig. 5, a cam 50 of the lever 8 presses on the rod 49, while a notch 51 of the lever is over the rod 45. When the lever 8 is moved down, the rod 49 will also descend, and thus an actuation of the rack takes place through the lever 46, while the rod 45 is not actuated in any manner, as the notch or cut-out 51 allows a descent of the lever 8 without the latter striking on the rod 45. Hence in the position of the carriage according to Fig. 5 an actuation of the writing-strip takes place only in the longitudinal direction of the roller. When the carriage is displaced to the left and it has assumed the position according to Fig. 6, the cam 50 of the lever 8 has left the rod 49, while the notch or clearing 48 is now situated over the rod 49; but in this displacement the cam 47 has moved over the rod 45. In pressing down the key-lever, therefore, an actuation of the rod 47 takes place in that position, and thereby by the intervention of the elements 44, 43, 55, and 56 a rotation of the roller 38. Thus at the actuation of the rod 45 by one of the key-levers 8 a displacement or shifting of the writing-slip by one line-space takes place, while in that position of the carriage a movement of the cross-shifting mechanism by the lever 46 cannot take place, as the clearing or notch 48 over the cross-rail 49 allows a down movement of the key-lever without the same coming into contact with the cross-rail 49.

In operation when it is desired to withdraw money, as hereinbefore described, the operation of lever 8 to move the carriage 16 inward causes the heel 47 upon lever 8 to move into alinement with the bar 45. Depression of the lever 8 will now depress the bar 45, and thereby actuate the lever 43, so that during the withdrawal of money the roller 38 and paper band 20 are so disposed as to cause the figures to be printed in a vertical column one beneath the other. The same movement of carriage 16 brings a notch 48 in lever 8 in alinement with and prevents actuation of the cross-bar 49 or the disengaging mechanism in connection therewith. When the casing 16 is returned to its outward position, as shown in Fig. 1, a swelling 50 on the under side of

key-lever 8 rests on the cross-bar 49, and now the disengaging mechanism 46 is actuated to produce an endwise movement of the platen 38 for printing the total and number. In the last-named position the notch 51 is in alinement with the cross-bar 45, so that the latter remains unaffected by the depression of the keys, and the lever 43 remains idle. In order to dispense with one of these platen-actuating mechanisms, the sum-total may be printed lengthwise on the slip, and for this purpose it is only necessary to arrange the numbers accordingly, but in such manner as to be quite distinct from the columns giving the separate values of the coins withdrawn, and the mechanism for rotating the type-roller may be used for this purpose.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. A cash or change delivering apparatus provided with tubular holders for each kind of coin and having shutters or slides for delivering the coin from said holders, type-carrying bars for recording the value of the coin withdrawn by the operation of the shutter, and connections between the shutter and type-bars, said connections being such that the type-bars may be operated independently of the shutter, but the shutter cannot be operated independently of the type-bars in the described manner and for the purpose mentioned.

2. In a cash-delivering apparatus having holders for the coin and delivery-shutters and also type-carrying bars for recording the value of the coin withdrawn, a sliding carriage, levers carried thereby, connections from said levers for operating the type-bars and means controlled by the position of the carriage for causing the movement of the levers to operate the shutters, said means being rendered inoperative in another position of the carriage, substantially as described.

3. In a cash-delivering apparatus, a plurality of coin-holders, delivering-shutters therefor, type printing and recording mechanism, a carriage, operating-levers carried thereby for operating the shutters and type mechanism, means whereby the movement of the carriage automatically connects and disconnects said levers with the shutters and means for shifting said carriage, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

FRITZ HALLAMA.

Witnesses:

WILHELM WEIDNER,
HERMANN BARTSCH.