

No. 726,446.

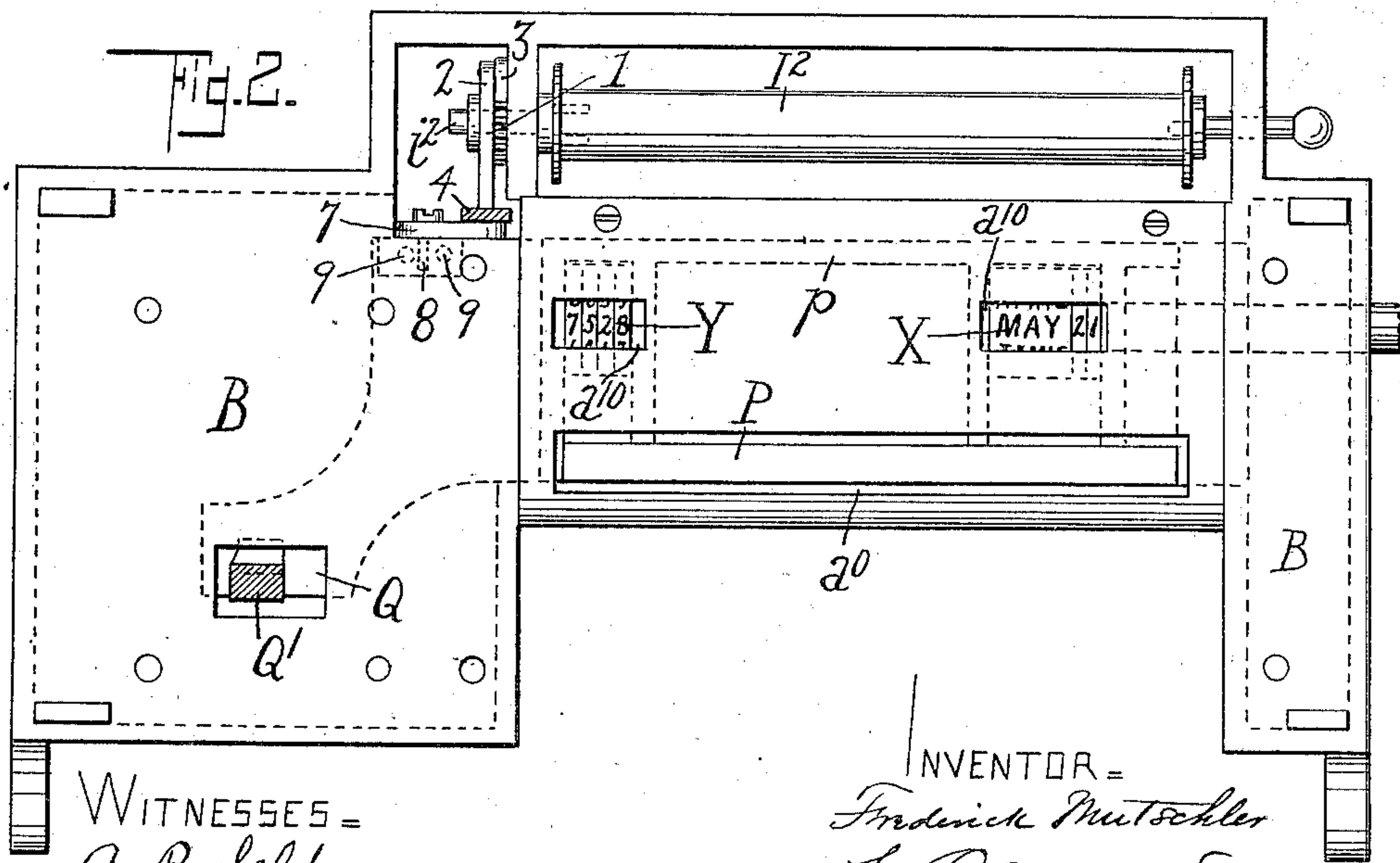
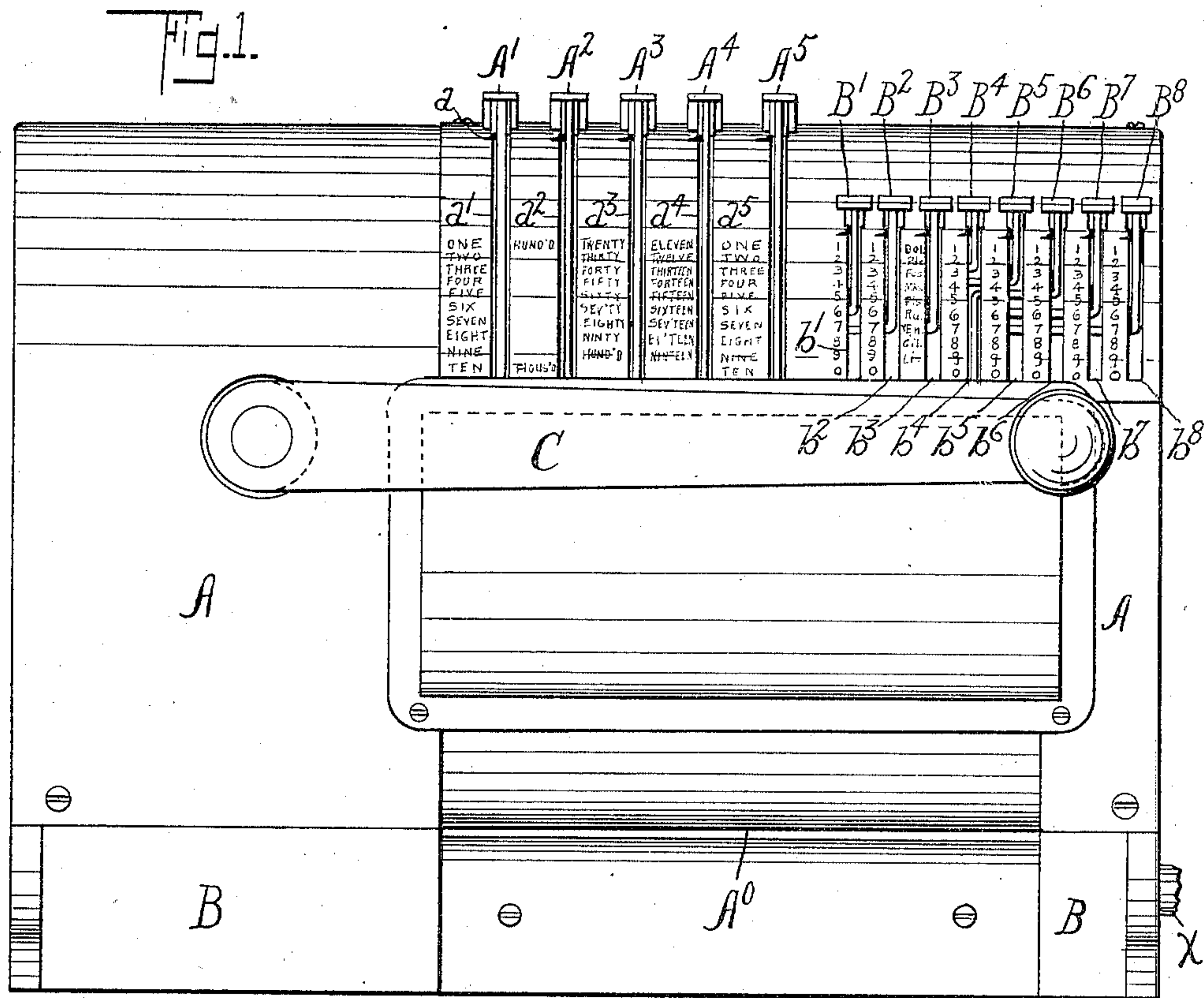
PATENTED APR. 28, 1903.

F. MUTSCHLER.
CHECK PRINTER.

APPLICATION FILED SEPT. 4, 1902.

NO MODEL.

5 SHEETS—SHEET 1.



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F. Bissell.

INVENTOR =
Frederick Mutschler
by Odyon & Davis
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CHECK PRINTER.

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5 SHEETS—SHEET 2.

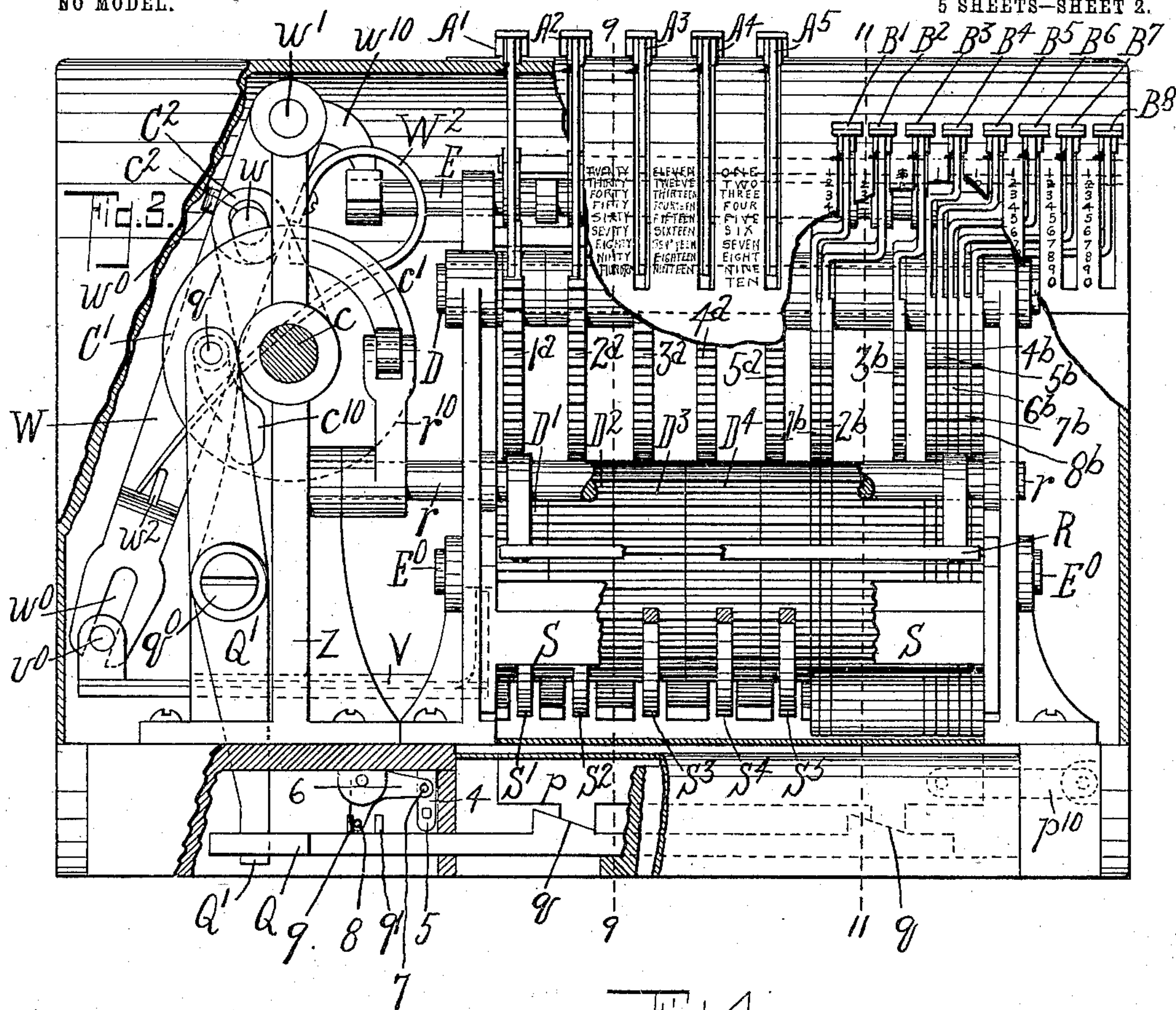
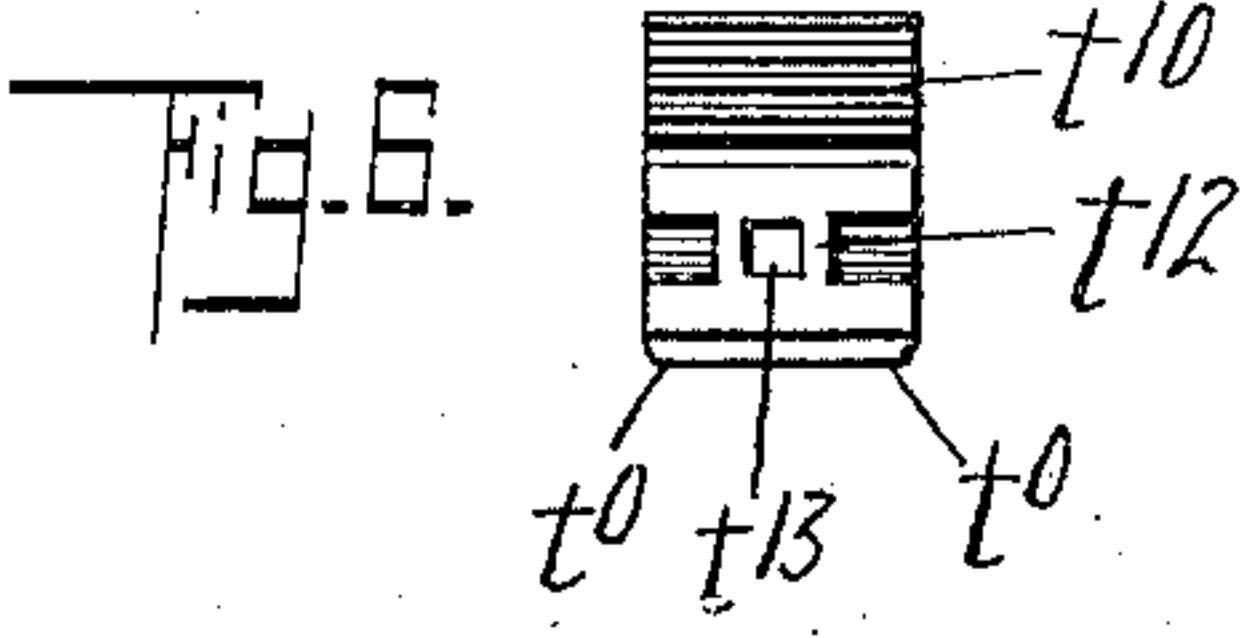
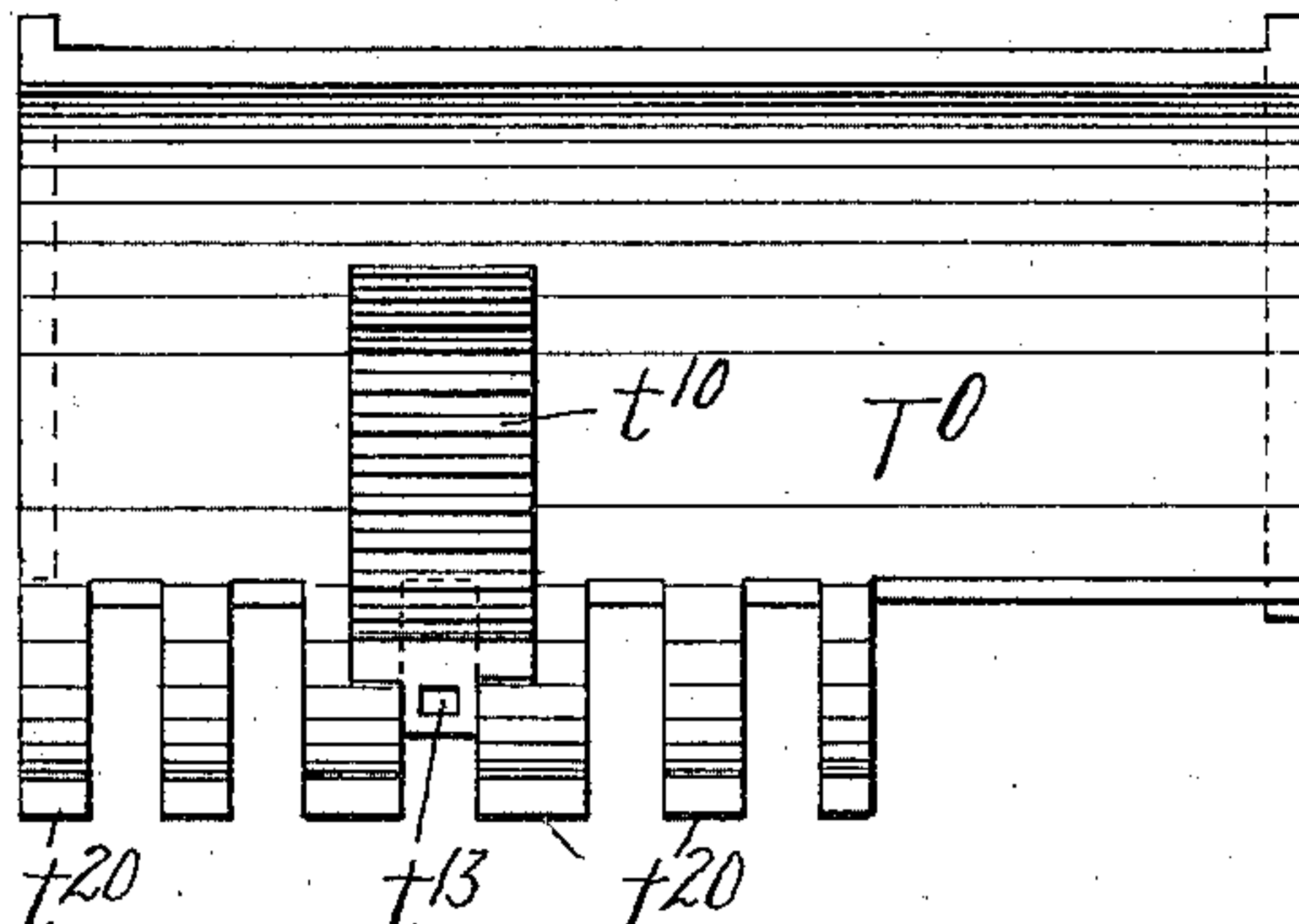
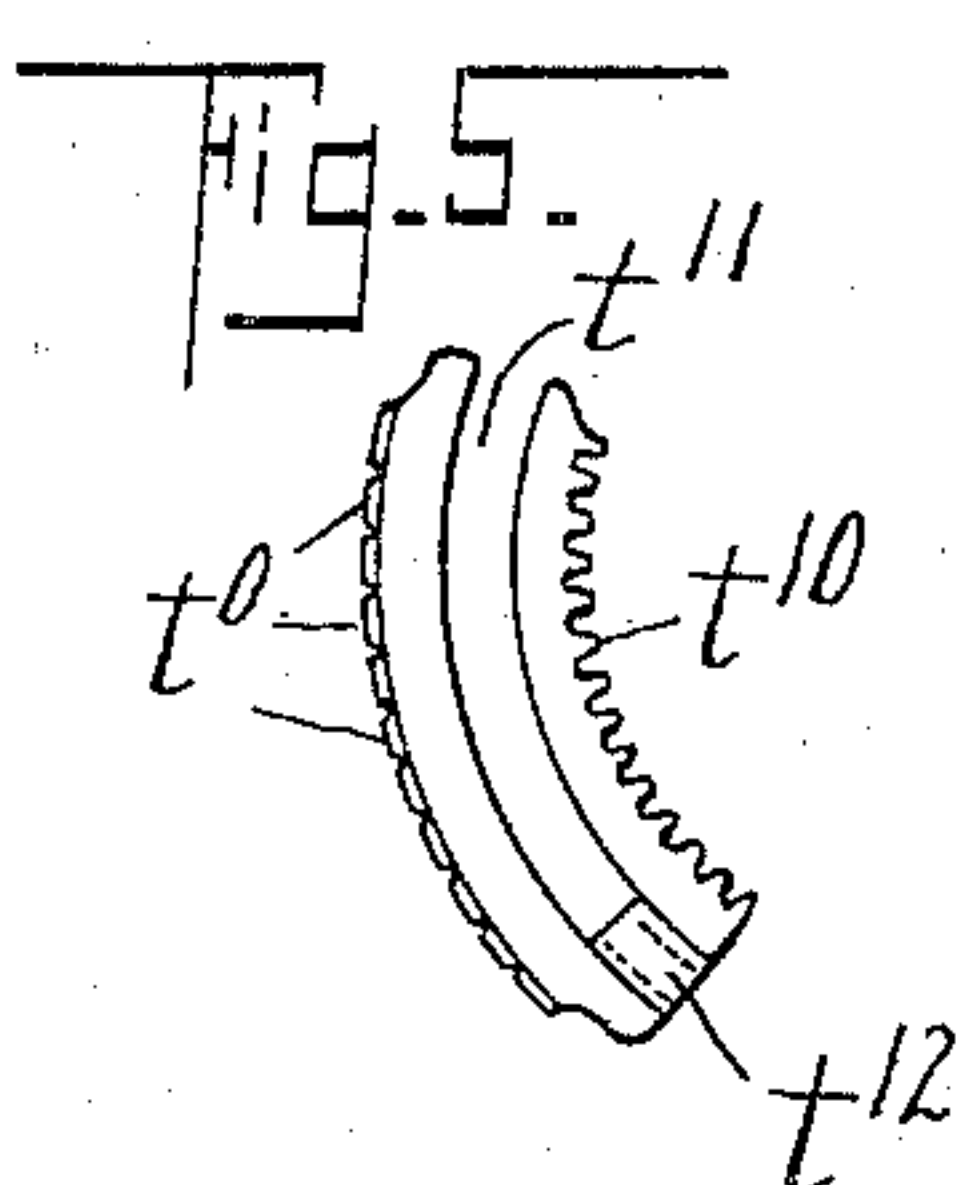


Fig. 4.



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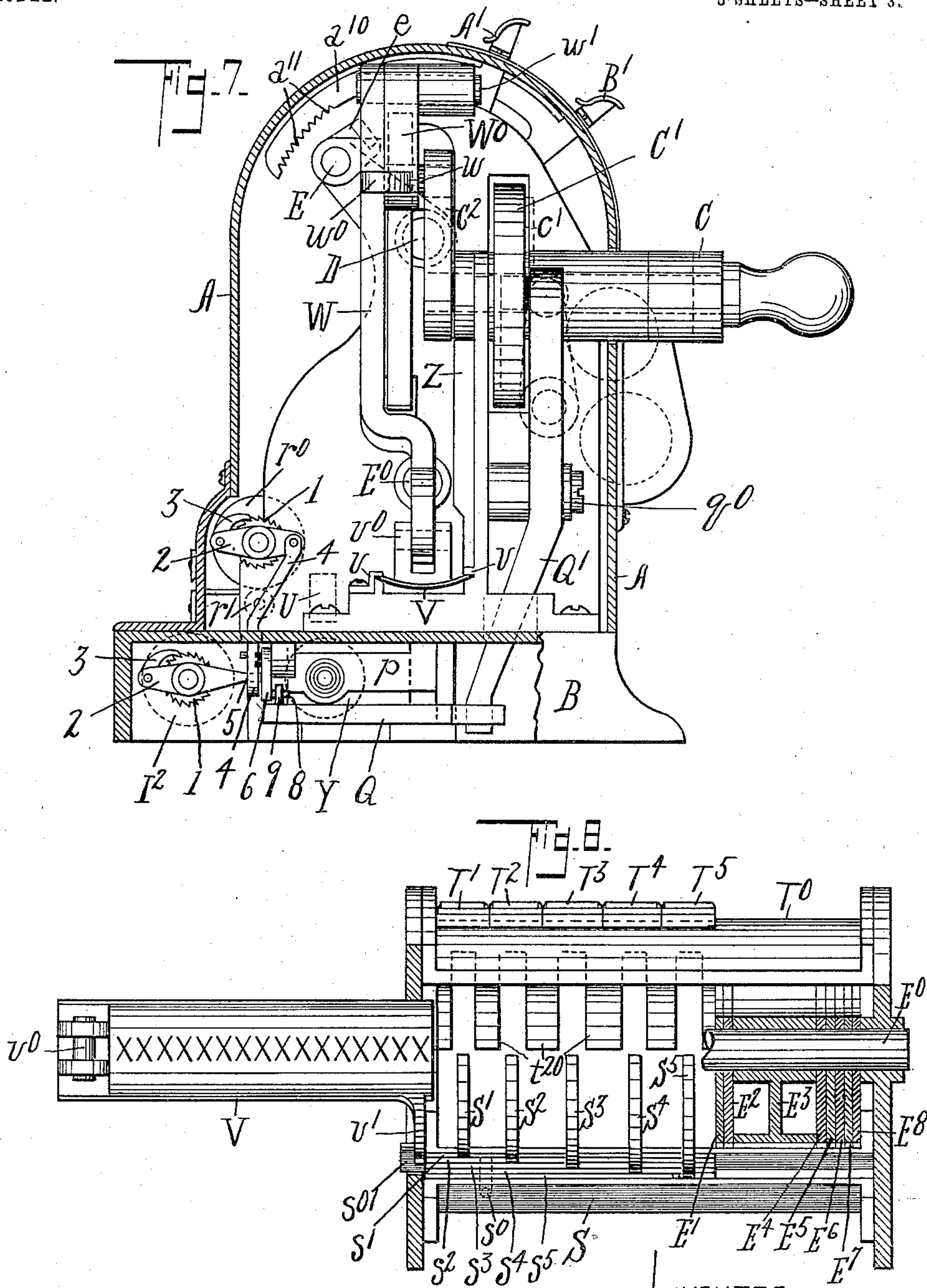
PATENTED APR. 28, 1903.

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CHECK PRINTER.

APPLICATION FILED SEPT. 4, 1902.

NO MODEL.

5 SHEETS—SHEET 3.



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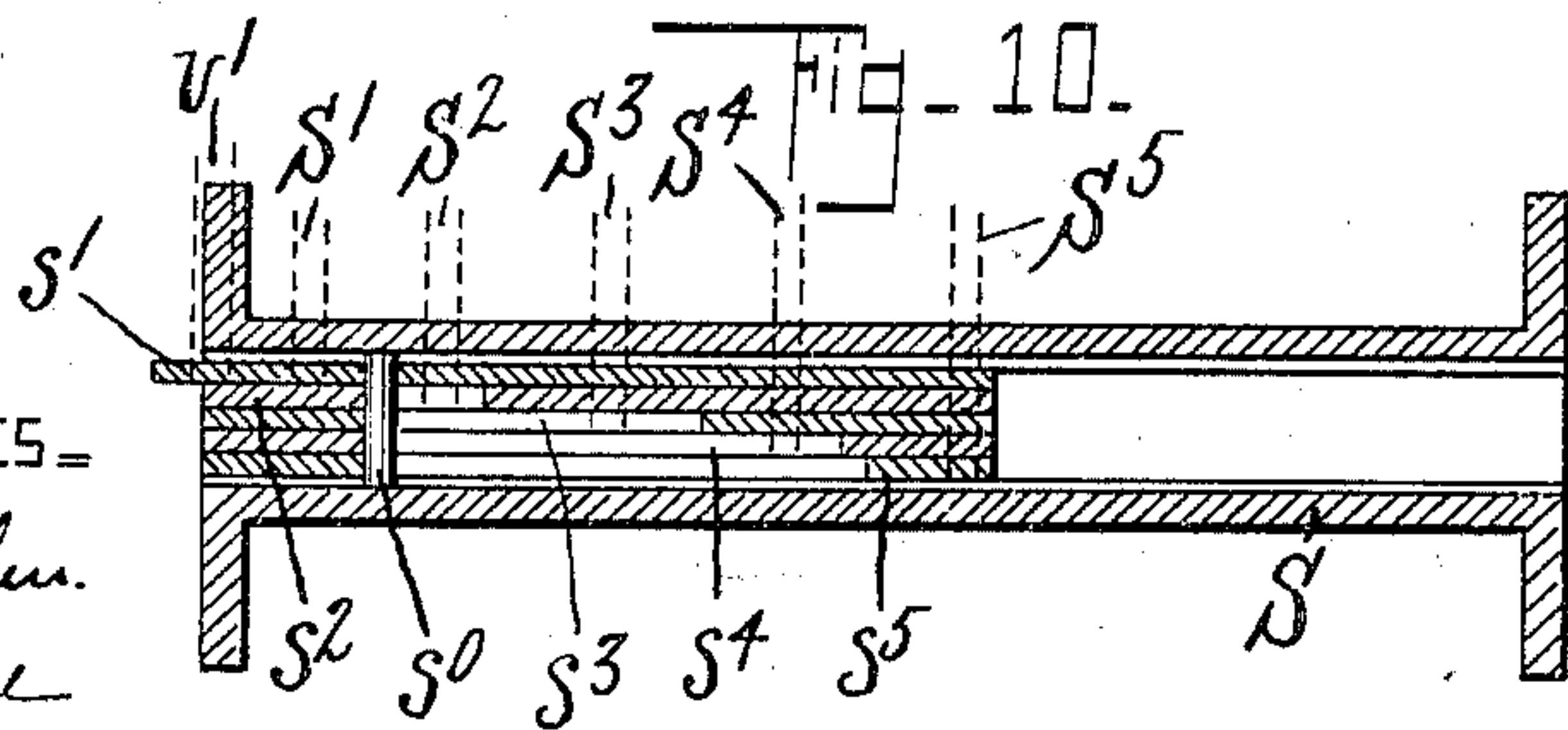
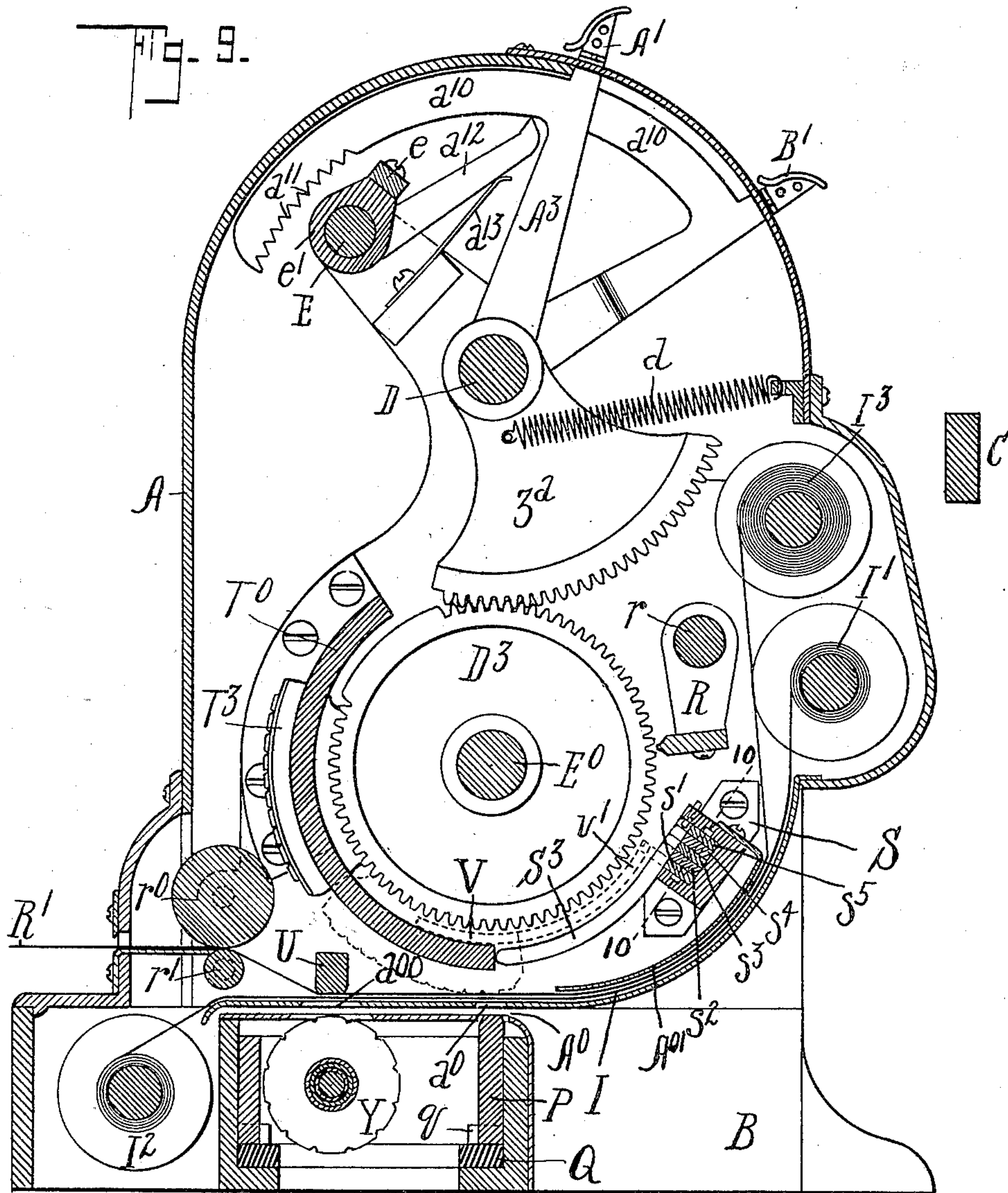
PATENTED APR. 28, 1903.

F. MUTSCHLER.
CHECK PRINTER.

APPLICATION FILED SEPT. 4, 1962.

NO MODEL.

5 SHEETS—SHEET 4.



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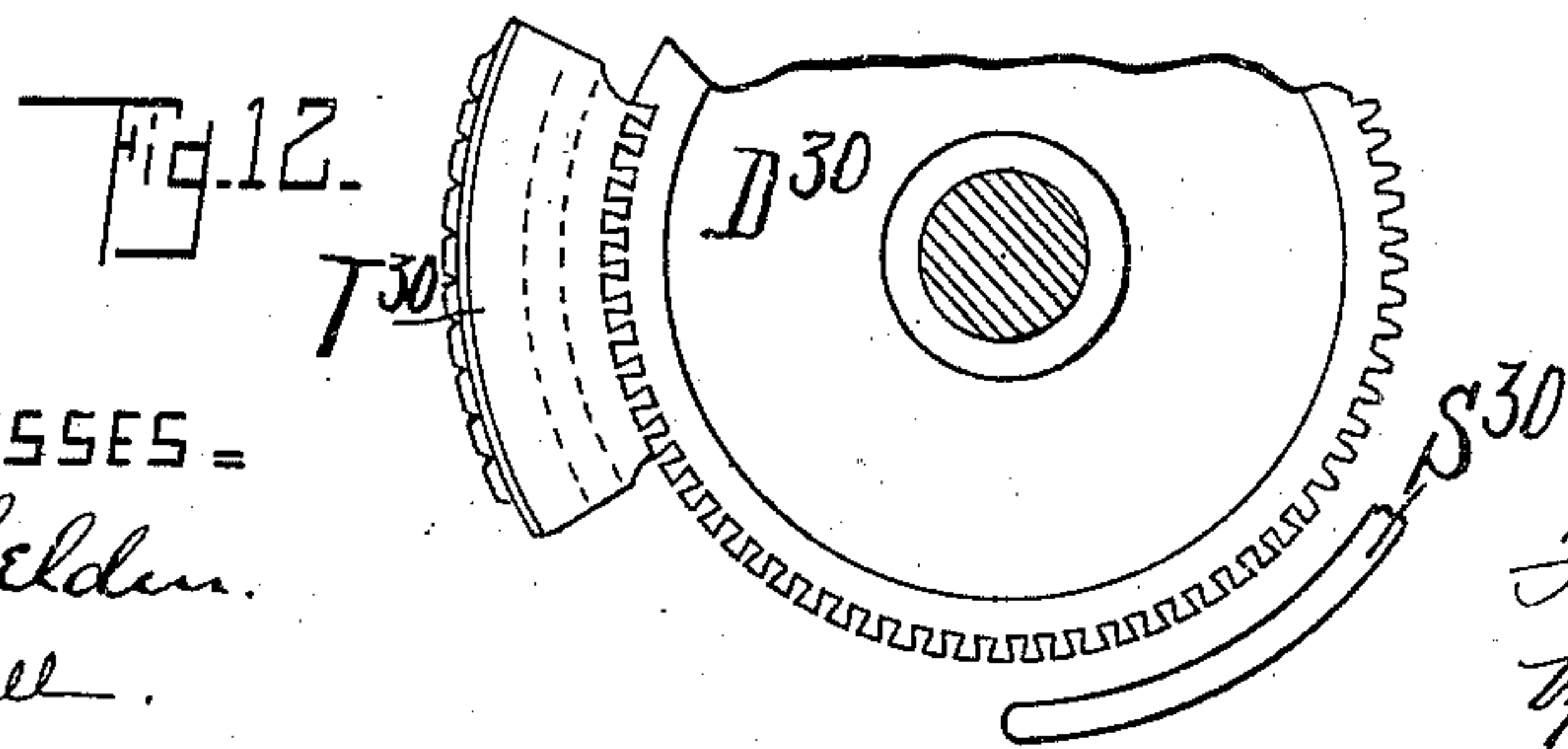
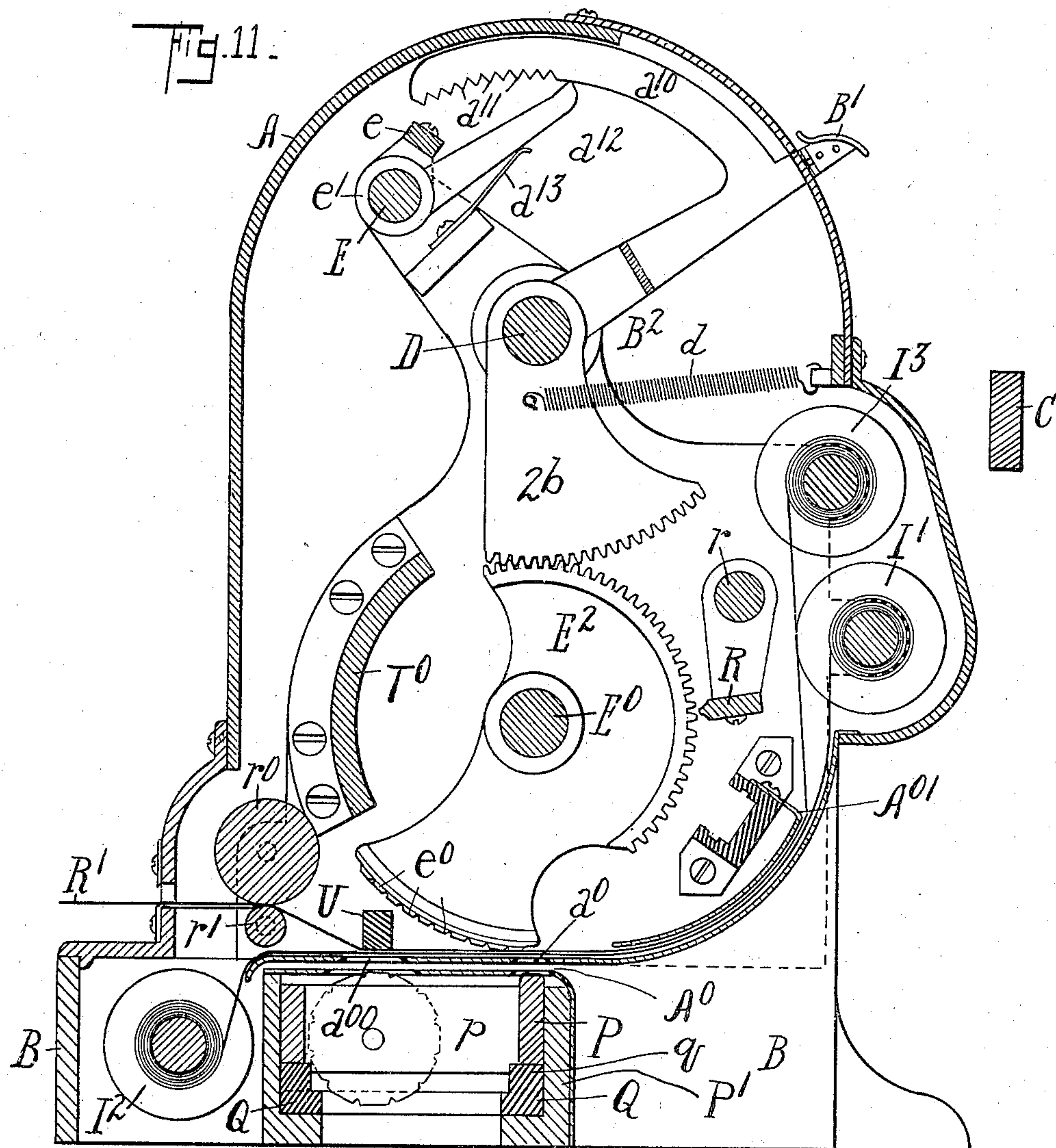
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F. MUTSCHLER.
CHECK PRINTER.

APPLICATION FILED SEPT. 4, 1902.

NO MODEL.

5 SHEETS—SHEET 5.



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INVENTOR=
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UNITED STATES PATENT OFFICE.

FREDERICK MUTSCHLER, OF ROCHESTER, NEW YORK.

CHECK-PRINTER.

SPECIFICATION forming part of Letters Patent No. 726,446, dated April 28, 1903.

Application filed September 4, 1902. Serial No. 122,023. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK MUTSCHLER, a citizen of the United States, and a resident of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Check-Printers, of which the following is a specification.

This invention relates to check-printers; and it consists in the mechanisms and combinations hereinafter set forth and claimed.

The object of the invention is to provide a printing mechanism adapted particularly to printing upon the face of a check words representing the amount for which the check is to be drawn, and also, if desired, to print the same amount in numerals, together with the date and the consecutive number of the check, and to print by the same impression upon a record-strip.

In the drawings, Figure 1 is a front elevation of a device embodying this invention. Fig. 2 is a top plan of the base of said device. Fig. 3 is a front elevation of the same device shown in Fig. 1, parts of the case being removed and certain parts of the mechanism being shown in section. Figs. 4, 5, and 6 are views of details. Fig. 7 is an end elevation of the device shown in Fig. 1 as seen from the left hand thereof and with the ends of the casing removed. Fig. 8 is a top plan view of the type-block support and some of its connecting mechanism, parts being removed and parts in section. Fig. 9 is a cross-section on the line 9 9 of Fig. 3. Fig. 10 is a cross-section on the line 10 10 of Fig. 9. Fig. 11 is a cross-section on the line 11 11 of Fig. 3; and Fig. 12 is a view of the type-block and of a portion of its support, showing a modified form of the means of connecting them.

The device has an outer casing A and a base B. In the base are the platen mechanism, the dating mechanism, the consecutive-numbering mechanism, and a part of the inking or ribbon mechanism, hereinafter to be described. Through suitable slots a' , a^2 , a^3 , a^4 , and a^5 in the casing A the setting-levers A' , A^2 , A^3 , A^4 , and A^5 project outward, having finger-pieces. On suitable plates adjacent to the said slots are set forth words representing the numbers and denominations, which in the case of a five-lever machine may be as shown in Fig. 1—viz., the slot a' toward the

left may have the numerals "One" to "Ten," both inclusive, the plate adjacent to the next slot a^2 may have the words "Hundred" and "Thousand," the next slot a^3 may have the words "Twenty," "Thirty," "Forty," &c., up to and including "Ninety," the next slot a^4 may have the words "Eleven," "Twelve," &c., up to and including "Nineteen," and the last slot a^5 may have the words "One," "Two," &c., up to and including "Ten."

By setting the levers so that an indicator or pointer a^0 on the side of each lever points to the desired numerals or denomination-word, the lever may be stopped at that point and is held there, and this operation sets a type-block, so that upon operating the platen mechanism the word or words corresponding to the set levers will be printed upon the check. The five levers adapted to set up the type-blocks for the words above indicated may print numerous combinations of words, and of course by increasing the number of levers and providing the type-blocks with suitable words or characters any amount may be printed.

In devices of this character, particularly where the whole series of desired words are to be printed at one operation of the platen mechanism, the words constituting the components of the total amount have been separated heretofore in accordance with the positions of the type-blocks—that is to say, without the special mechanisms comprised in this invention. If the levers A' and A^5 were set to print certain amounts, the printing would occur with a space between the printed words corresponding to the gaps left by the non-operation of the levers A^2 , A^3 , A^4 , and this invention is directed mainly to means whereby such gaps may be prevented, and the words constituting the amount to be printed on the check may follow each other at suitable closeness, so that other words cannot thereafter be printed between them nor on either end, and thus removing the possibility of raising or altering the checks. This device is capable of printing any amount exactly.

On the outside of the casing are a series of other slots b' , b^2 , b^3 , b^4 , b^5 , b^6 , b^7 , b^8 , through which project a series of setting-levers B' , B^2 , B^3 , B^4 , B^5 , B^6 , B^7 , and B^8 , respectively. These levers govern an equal number of type-blocks

adapted to print numerals on the checks. The levers B' and B^2 are intended to print the amount of cents which are to be added to the amount in dollars that is printed out in words by the levers A' to A^5 . The lever B^3 prints the proper denomination—as, for instance, “Dollars,” “Pounds,” “Francs,” “Marks,” as the case may be. The levers B^4 , B^5 , B^6 , B^7 , and B^8 print in numerals the same amounts that are printed in words by the levers A' to A^5 .

Each lever B' to B^8 , above described, operates a segment 1^b to 8^b , which gears with a suitable segment E' to E^8 , having teeth meshing with the respective segments 1^b to 8^b , each, excepting E^3 , having a series of type-blocks e^0 , adapted to print the digits “1” to “9” and “0,” and in the case of the segment E^3 , operated by the lever B^3 , adapted to print “Dollars,” “Pounds,” “Francs,” &c., according to the set position. The type-blocks e^0 are swung to move into printing position over the aperture a^0 , and the inking-ribbon and record-strip cooperate with the whole set of types in the machine. The segments E' to E^8 are strung on a shaft E^0 .

Outside the case is the platen-lever C for operating the mechanism for producing the impression, as hereinafter described.

The case has a slot A^0 , (see Figs. 1, 9, and 11,) into which the check may be inserted for placing it at the printing-line, and this slot is for convenience of manufacture and adjustment conveniently made between the base B and the parts above it.

Each setting-lever A' to A^5 is journaled upon suitable bearings within the case, and such bearings may conveniently be produced by stringing the levers upon a shaft D . Each lever is connected with a gear-segment 1^a 2^a 3^a 4^a 5^a , and each lever also bears an adjusting mechanism for bringing the lever to the exact position for setting its type-blocks correctly at the printing-line, consisting of an arm a^{10} , (see Figs. 9 and 11,) attached to or integral with the lever and provided with a series of notches a^{11} , corresponding in number to the number of words or numerals upon the corresponding type-block, and a pawl a^{12} , actuated by a spring a^{13} , so that when the pawl enters any notch it centers in the corresponding type correctly at the printing-line with reference to the platen mechanism. There is a pawl a^{12} for each of the levers, both those of the series A' to A^5 and those of the series B' to B^8 . These pawls are all strung on a shaft E . The same shaft bears a bar e , hung by suitable supports e' on said shaft and connected by mechanism, hereinafter to be described, whereby on rocking the bar e the pawls a^{12} are released from the notches a^{11} , with which they may be in engagement, so as to permit the automatic resetting of the mechanism.

Each of the segments 1^a to 5^a and the corresponding segments 1^b to 8^b of the numeral-printing mechanism has a spring d attached

to it, so as to pull the segment toward its normal position of rest. Inasmuch as each segment is attached to a setting-lever this spring may act upon the segments or upon the lever, as convenience may dictate.

Each segment 1^a to 5^a , both inclusive, operates a portion of a type-block support, which in the present instance consists of a toothed drum or wheel. There is one of these toothed drums or wheels D' D^2 D^3 D^4 D^5 for each of the segments 1^a , &c., and levers A' , &c. The series of drums or wheels D' to D^5 are strung on the shaft E^0 . The teeth of each drum are transverse to its face, and therefore parallel to its axis. Certain of the teeth are adapted to mesh with the teeth of the corresponding segment 1^a , &c. Others of the teeth are adapted to mesh or interlock with teeth upon the back of the type-blocks T' T^2 T^3 T^4 T^5 , and the teeth of the series of drums are so proportioned that they aline with each other so far as concerns the teeth with which the type-blocks engage, whereby the blocks may be slid transversely along the teeth or grooves of the series of drums D' to D^5 until they are brought together, so that no space will be left in printing the series of words.

In the form of device shown in Figs. 1 to 11 the teeth of the drum D^3 and of the type-block T^3 are ordinary gear-teeth, whereas in Fig. 12 a modification is shown of dovetailed teeth in the drum D^{30} and in the type-block T^{30} , whereby the type-block is retained on the drum or series of drums by the teeth alone, which is not the case in the form of device shown in Figs. 1 to 11.

Figs. 4, 5, and 6 show the form of the type-block and certain of its supporting devices. The type-block has upon its outer face a series of type characters t^0 , any one of which may be printed by setting this character to the printing-line. The back of the type-block has the teeth t^{10} , above mentioned, and said block has a long slot t^{11} , extending through the greater part of its length, and at the forward end a connection t^{12} , which constitutes the only connection between the toothed portion t^{10} and the type portion t^0 of the type-block. The connection t^{12} has a perforation t^{13} for a purpose to be described.

The series of type-blocks are supported by a segment of a cylinder T^0 , having a curvature of the same radius as that of the slots t^{11} in the separate type-blocks. The support T^0 has a series of projections t^{20} at such distances apart and having parallel side faces such that the connection t^{12} between the toothed portion on each type-block may fit and slide into one of said slots and out of the same, whereby said connection t^{12} escapes entirely from its slot when the type-block is rocked to any printing position—as, for instance, that shown in dotted lines in Fig. 9.

In the form of device shown in Figs. 1 to 11 on account of the form of the intermeshing teeth of the drums and on the type-blocks provision must be made to hold the type-

blocks up to the drum after the type-block escapes from the support T^0 . For this purpose a series of movable arms S' , S^2 , S^3 , S^4 , and S^5 are provided, setting normally in such a position and having such form as to project and fit into the perforation t^{11} of a particular type-block only when it is shifted to a printing position. These arms are attached each to a sliding plate s' , s^2 , s^3 , s^4 , and s^5 , arranged in a stationary frame S . When a type-block T^3 is slid down and off the segment T^0 , so that its socket t^{13} engages on the corresponding arm S^3 , the teeth t^{10} on the back of the type-block maintain engagement with the teeth on the drum D^3 , and the block may be slid sidewise until all the type-blocks that have been set by movement of the levers are brought close together, and therefore print their selected characters in proper consecutive order and without undue space between them.

A universal bar R hung on the shaft r , supported in suitable bearings, extends across all the drums D' , &c., above described, and having a beveled edge is adapted to enter the teeth of all the drums, so as to produce perfect alinement thereof, so that the type-blocks may slide freely from one drum to another and into the proper contiguity.

The frame S (shown most clearly in Figs. 8 and 10) carries the series of sliding bars s' to s^5 , to which the arms s' to s^5 are attached, respectively. The said bars are slotted and a pin s^0 sliding in the frame S and attached to the sliding bar s' , having the greatest range of movement, passes through all the slots in said bars. In the normal position of rest (shown in Fig. 10) the pin s^0 presses against the left-hand ends of the whole series of slots, and therefore aligns the bars and the arms attached to them in their normal position, and inasmuch as the slot in the plate s^2 is shorter than that in s^3 and the slot in s^3 is shorter than that in s^4 and the slot in s^4 is shorter than that in s^5 it will be seen that when any type-bar is moved toward the right in Figs. 3, 8, and 10 other set type-bars will be moved by engagement of the pin s^0 on the plate s' with the successive plates s^2 , s^3 , s^4 , and s^5 , and because the plate s' is moved with each operation of the machine.

It will be noticed that whatever may be the movement of the arms s' to s^5 no type-blocks T' to T^5 will be moved unless they have been set so as to engage with their respective arms.

It will be obvious that on moving the bar s' toward the left all bars s^2 to s^5 will be reset to their normal position of rest.

Mechanism for resetting all the parts is comprised in this invention; but for sake of simplicity and to bring out the principal peculiarity of the device the operation of the mechanism thus far described is now set forth.

A lever A^3 is set for the purpose of printing the word "Fifty." This rocks the segment 3^a and carries the arm a^{10} into such a posi-

tion as to engage the fourth notch a^{11} with the pawl a^{12} . This movement of the segment 3^a also rocks the drum D^3 , which rocks the type-bar T^3 until the fourth type projection is brought opposite the printing-line, at the same time setting the socket t^{13} on the type-block T^3 upon the arm S^3 . Any other type-block of the series may be similarly set to any desired position. Mechanism now comes in operation for pushing the bar s' toward the right in Fig. 10, said mechanism being actuated by the handle or lever C . The movement of said bar s' , carrying with it the pin s^0 , moves the bar s' and s^2 without moving any type-block and makes contact with the end of the slot in the bar s^3 , moving said bar and carrying with it the bar s^3 and type-block T^3 . Further movement of the bar s^3 carries the pin s^0 against the ends of the slots in the bars s^4 s^5 and moves said bars, but without moving any type-blocks. The type-block T^3 is therefore brought to the extreme right-hand position, as shown in Fig. 10, whereby the block with the word "Fifty" at the printing-line is set in position for printing said word on the desired line on the check.

In order to shift the type-blocks T' , &c., into the proper contiguity for printing without undue spaces, the following mechanism is employed: A shifting bar V , operated by suitable mechanism, moves in guides v (shown in Fig. 7) longitudinally in the machine and over the printing-opening a^0 . One end of this shifting bar (the right-hand end in Fig. 8) is adapted to come in contact with the left-hand side of any type-block T' to T^5 that may have been set, as above described, and to move it along, so that the all set type-blocks shall be brought together. The shifting bar V has an arm v' , that extends into a hook $s^{0'}$, Fig. 8, on the extended end of the slide s' . Hence when the shifting bar V is moved toward the right it presses directly against the type-blocks T' or T^5 , or such of them as may have been set, and moves them along the longitudinal teeth in the drums D' to D^5 and into their printing positions. At the same time the arms S' to S^5 on which said type-blocks may have been set are moved. This of course shifts the corresponding slides s' to s^5 and moves the bar s' in any case to the position of greatest movement of any one of said bars s' to s^5 . (See Fig. 10.) If now the shifting bar V' is reset to its original position, it will retract the bar s' , which through the pin s^0 will reset all the bars s' to s^5 , with the arms S' to S^5 , to their original positions, and thus reset all the type-blocks to their original positions so far as longitudinal movement in the machine is concerned. The type-blocks, therefore, after this longitudinal return rest in position so that they may pass between the tongues t^{20} and into their original positions by a transverse or arc-shaped movement upon the partial rotation or oscillation of the drums D' , &c. This oscillation is accomplished after releasing the universal

bar R from the teeth of said drums and the consequent automatic action of the springs d and return of the parts to place. The exact resetting of the parts to place occurs when the setting-levers A' to A^5 , &c., strike the upper ends of their slots a' to a^5 , &c.

The shifting bar V may have upon its surface a series of type, such as the crosses shown in Fig. 8, which are printed upon the check and record-strip at each impression when the shifting bar sets any of the type-blocks. This serves to fill out the line of the check, so that no gap occurs before the words and letters that are printed by the type-blocks.

A platen P, operated as hereinafter described, is raised through an aperture a^0 in the casing A and adjacent to the slot A^0 and presses the check against an inked ribbon I, passing from the drum I^1 to the drum I^2 , which is actuated by suitable feeding mechanism to present new surfaces of the ribbon for each impression.

The device may also comprise a record-strip R' , running from the drum I^3 and passing adjacent to the inking-ribbon I and adapted to receive the platen impression above mentioned at the same time as said inking-ribbon and the check, whereby the record-strip and each impression of the platen receives an impression from the inking-ribbon and type, so that a record is kept of all the checks printed. The record-strip R' , together with the inking-ribbon I, passes underneath a guide-plate $A^{0'}$ within the casing and which approaches as near the opening a^0 as the setting of the type-block will permit. The guide-strip $A^{0'}$ may be conveniently attached to the frame S, as indicated in Figs. 9 and 11.

The platen mechanism may also comprise, if desired, a consecutive numbering or counting device and a dating device, which move with the platen P and operate through an aperture a^{00} in the casing, through which the type of the counting device and dating device may press the check against a stationary block U. The inking-ribbon I and the record-strip R' pass underneath said block U, so that the check is pressed against both of them and against the set type-block T' , &c., and E' , &c. The record-strip R' passes out of the machine through a pair of feed-rollers r' r^0 , operated as hereinafter described, to feed the record-strip R' along as occasion requires. In the form shown in the drawings the impression on the record-strip will be reversed; but by employing translucent paper for the record-strip the impression may be read through the paper unreversed and complicated mechanism is avoided.

The platen mechanism is a rectangular frame p , having on one side the upwardly-projecting platen-bar P and carrying also a dating device X of any suitable form and adapted to be set by means of the outwardly-projecting rod x . The platen-frame p carries also a consecutive-numbering mechanism

Y of any suitable form and adapted to be reset automatically at each printing operation of the machine. It may be locked so as to print a series of duplicate checks, drafts, or the like. The platen-frame p with the platen P and the dating mechanism X and consecutive-numbering mechanism Y are all raised at each operation of the machine by means of a frame having a pair of bars Q, carrying wedges q q , (see Fig. 3,) each operating on the lower side of the platen-frame p to lift the said frame and produce the printing impression. In order that the platen-frame p may retain its position, one or more links p^{70} (see Fig. 3) may connect said platen-frame with the casing of the base B and secure it in position.

The operating-lever C is connected with a shaft c , that carries a cam-plate C' , having upon it a rib c' , operating upon a rock-arm r^0 , that is connected with the shaft r and rocks the universal rocking bar R for locking the drums D' to D^5 and the segments E' to E^8 in their set positions. The cam-plate C' also has a cam-slot c^0 , in which moves a pin q' upon a rock-lever Q' , that is pivoted at its middle by the screw q^0 and having its lower end extending into a socket in the platen-operating frame Q, so that at each operation of the lever C the rock-lever Q' is shifted to and fro and the locking-bar R is also oscillated to and fro.

The rear end of the shaft C carries a crank C^2 , having a slot-and-pin connection with a lever W, that is pivoted at its upper end on the standard Z and has connection at its lower end with the shifting bar V, so that at each operation of the machine the oscillation of the crank C' causes one to-and-fro movement of the shifting bar V.

In the present embodiment of this device the crank C^2 has an elongated slot c^2 , in which is a pin w , which is attached to a link W^0 , hung on the same shaft w' that carries the lever W. The link has an arm w^0 , that rests against the back or right-hand face of the lever W. The lower end of the bar W has a slot w^0 , which fits upon a pin v' on the shifting bar V. A spring W^2 is attached to the link W^0 and rests against the lug w^2 on the lever W, so that in case of violent movement of the lever C the spring W^2 will cushion the action.

The shaft E, carrying the universal bar e for unlatching the pawls a'^2 , is operated by an arm w^0 , attached to the lever W and adapted to make contact with a lug e^0 on said shaft E when the bar W reaches its normal position of rest.

The platen-frame p by its movement actuates the feed mechanism for the inking-ribbon and the record-strip and the consecutive-numbering device. The shafts of the rollers I^2 and r^0 are properly supported in any suitable manner within the casing of the machine, and each has a ratchet-wheel 1 and a swinging arm 2 hung upon said shaft and

carrying on one end a pawl 3, adapted to engage said ratchet-wheel. The other end of the swinging arm 2 is suitably connected with the platen-operating frame Q—as, for instance, in the paper-feed mechanism by means of an arm 4, controlled by said frame Q. In the case of the inking-ribbon mechanism an extension 5 of said arm rests in a socket in the arm 4. A bell-crank lever 6 is hung on the base, and one arm is connected by a pivot 7 with said arm 4, while the other arm carries a pin 8, adapted to be operated by a notch in the frame Q or its equivalent two pins 9 9' on said frame. Hence whenever said frame moves to make an impression the pawl is carried over one tooth of the ratchet-wheel of each mechanism, and when the frame returns the arm 2 of each mechanism is rocked, the roller is revolved to the extent of one tooth, and the inking-ribbon and paper are fed along in preparation for a new impression.

The consecutive-numbering mechanism Y is operated in any suitable well-known manner, so that when the platen-frame descends the said consecutive-numbering mechanism is shifted one unit.

The operation of the machine is therefore, in short, as follows: If a number—say “Three hundred fourteen dollars”—is to be printed upon a check, the setting-lever A' is depressed until the pointer a^0 is opposite the word “Three” on the name-plate, the lever A⁰ is depressed until its pointer is opposite the word “Hundred,” the lever A⁴ is depressed until its pointer is opposite the word “Fourteen,” the lever B³ is depressed until its pointer is opposite the word “Dollars,” and the levers B⁶, B⁷, and B⁸ are depressed until their pointers are opposite, respectively, the numerals “Three,” “One,” and “Four.” The cents in the present machine are omitted from the numerals-printing mechanism, (levers B to B⁸,) because they are printed by setting the levers B' and B². The setting of the levers just described sets the type-blocks T', T², and T⁴ so that they connect with the arms S', S², and S⁴ and the type-blocks are ready to print the words “Three hundred fourteen dollars” (\$314). The operating-lever C is now depressed, rocking the cam-plate C', swinging the universal bar R, and locking in position all the drums D' to D⁸ and all the segments E' to E⁸ so that they cannot be revolved. This locking occurs at the first portion of the operation of the lever C, and at the same time the lever W⁰ is swung, pushing the type-blocks T', T², and T⁴ toward the right in the figures and setting them close together in printing position. It is understood, of course, that the printing-segments E' to E⁸ have no longitudinal movement. As the lever C approaches the end of its downward stroke the cam-slot c^0 , having the form shown in Fig. 3, operates the lever Q', shifts the platen-operating bar Q toward the right, and raises the platen-frame P, pressing any check that has been inserted in the slot

A⁰ upward against the inking-ribbon, and produces an impression not only from the type-blocks T' T² T⁴ and from the segments E³ E⁶ E⁷ E⁸, but also from the consecutive-numbering device Y and the dating mechanism X, as well as from the crosses on the shift-bar V. When the lever C is raised, the lever W returns the frame Q, permits the platen to descend, feeds the rollers r^0 and I² for the record-sheet and inking-ribbon, respectively, releases the bar R from the drums and segments, with which it had been in contact, returns the lever W and shift-bar V to place, and at the end of the stroke of the lever W rocks the shaft E and releases all the pawls a^{12} from the arms a^{11} of the setting-levers, thus allowing the springs d to operate, and resetting the setting-levers, the drums D' to D⁵, and the segments E' to E⁸ to their original positions. When the shift-bar V is returned, its connection with the bars s' to s^5 resets all the set type-blocks T', T², and T⁴, so as to be in position upon their drums D', D², and D⁴ when the springs d come into operation to carry the said type-blocks and their drums around to their original positions.

What I claim is—

1. In a printing mechanism, the combination of a series of type-blocks, movable supporting means therefor, means for moving selected type-blocks laterally along the supporting means to a position thereon adapted to print without undue spaces between the printed characters, and platen mechanism.

2. In a printing mechanism, the combination of a series of type-blocks, movable supporting means therefor, setting mechanism for moving said supporting means and setting one or more of said type-blocks to the printing-line in one direction, means for moving the type-blocks in their set positions in another direction to a position on the supporting means adapted to print without undue spaces between the printed characters, platen mechanism, and means for restoring the type-blocks used in such printing to their initial positions.

3. In a printing mechanism, the combination of a series of type-blocks, each having a series of printing characters thereon, movable supporting means therefor, setting mechanism for moving said supporting means and setting one or more of said type-blocks to the printing-line in one direction, means for moving the type-blocks in their set positions transversely to said direction to a position on the supporting means adapted to print without undue spaces between the printed characters, platen mechanism, and means for restoring the type-blocks used in such printing to their initial positions.

4. In a printing mechanism, the combination of a series of type-blocks having teeth, supporting means therefor consisting of a series of supports having teeth matching with those of the other supports and of the type-blocks, means for moving each support in one

direction to set the selected printing-block to the printing-line, and means for moving the type-blocks so set laterally along the series of supports whereby the characters are set to printing positions on the supports without undue spaces between them, platen mechanism, and means for restoring said type-blocks and said supports to their initial positions.

5. In a printing mechanism, the combination of a series of type-blocks, movable supporting means therefor, mechanism for setting one or more of said type-blocks in printing position on the movable supporting means by two movements transverse to each other, whereby the blocks may print without undue space between the printed characters, platen mechanism, and means for restoring the type-blocks used in such printing to their initial positions on said supporting means.

6. In a printing mechanism, the combination of a series of type-blocks, each having a series of printing characters thereon, movable supporting means therefor, mechanism for setting one or more of said type-blocks to the printing-line, means for moving the type-blocks so set laterally to positions on said supporting means adapted to print without undue spaces between the printed characters, platen mechanism, and means for restoring the type-blocks used in such printing to their initial positions on said supporting means.

7. In a printing mechanism, the combination of a series of type-blocks, movable supporting means therefor, setting mechanism for setting one or more of said type-blocks to the printing-line in one direction, means for moving the type-blocks in their set positions in another direction to positions on said supporting means adapted to print without undue spaces between the printed characters, platen mechanism, means for restoring the type-blocks used in such printing to their initial positions, and ink-ribbon-feed mechanism operated by the platen mechanism.

8. In a printing mechanism, the combination of a series of type-blocks, movable supporting means therefor, setting mechanism for setting one or more of said type-blocks to the printing-line in one direction, means for moving the type-blocks in their set positions in another direction to positions on said supporting means adapted to print without undue spaces between the printed characters, platen mechanism, means for restoring the type-blocks used in such printing to their initial positions; and ink-ribbon-feed mechanism and record-strip mechanism operated by the platen mechanism.

9. In a printing mechanism, the combination of a series of rotary toothed drums having transverse matching teeth, a toothed type-block on each drum adapted to move longitudinally along the series of drums, stationary supporting means for holding said type-blocks to said drums, a series of movable arms one for each type-block and adapted to carry said block when moved off said supporting

means, and platen mechanism for cooperating with said type-blocks.

10. In a printing mechanism, the combination of a series of rotary toothed drums having transverse matching teeth, a toothed type-block on each drum and adapted to move longitudinally along the series of drums, stationary supporting means for holding said type-blocks to said drums, a series of movable arms one for each type-block and adapted to carry said block when moved off said supporting means, platen mechanism for cooperating with said type-blocks, and returning means for replacing the various parts in their initial positions.

11. In a printing mechanism, the combination of a series of rotary toothed drums having transverse matching teeth, a toothed type-block on each drum adapted to move longitudinally along the series of drums, stationary supporting means for holding said type-blocks to said drums, a series of movable arms one for each type-block and adapted to carry said block when moved off said supporting means, platen mechanism for cooperating with said type-blocks, and means for locking said drums in the position in which the type-blocks are at the printing-line.

12. In a printing mechanism, the combination of a series of rotary toothed drums having transverse matching teeth, a toothed type-block on each drum and adapted to move longitudinally along the series of drums, stationary supporting means for holding said type-blocks to said drums, a series of movable arms one for each type-block and adapted to carry said block when moved off said supporting means, platen mechanism for cooperating with said type-blocks, means for locking said drums in the position in which the type-blocks are at the printing-line, and returning means for replacing the various parts in their initial positions.

13. In a printing mechanism, the combination of a series of rotary toothed drums having transverse matching teeth, a toothed type-block on each drum adapted to move longitudinally along the series of drums, stationary supporting means for holding said type-blocks to said drums, a series of movable arms one for each type-block and adapted to carry said block when moved off said supporting means, platen mechanism for cooperating with said type-blocks, and a series of toothed setting-segments engaging the toothed drums, a returning-spring for each segment, an automatic catch for said segment, and means for releasing said catch.

14. In a printing mechanism, the combination of a series of rotary toothed drums having transverse matching teeth, a toothed type-block on each drum and adapted to move longitudinally along the series of drums, stationary supporting means for holding said type-blocks to said drums, a series of movable arms one for each type-block and adapted to carry said block when moved off said sup-

porting means, platen mechanism for cooperating with said type-blocks, returning means for replacing the various parts in their initial positions, and a series of toothed setting-segments engaging the toothed drums, a returning-spring for each segment an automatic catch for said segment, and means for releasing said catch.

15. In a printing mechanism, the combination of a series of rotary toothed drums having transverse matching teeth, a toothed type-block on each drum adapted to move longitudinally along the series of drums, stationary supporting means for holding said type-blocks to said drums, a series of movable arms one for each type-block and adapted to carry said block when moved off said supporting means, platen mechanism for cooperating with said type-blocks, and ink-ribbon-feed mechanism operated by the platen mechanism.

16. In a printing mechanism, the combination of a series of rotary toothed drums having transverse matching teeth, a toothed type-block on each drum adapted to move longitudinally along the series of drums, stationary supporting means for holding said type-blocks to said drums, a series of movable arms one for each type-block and adapted to carry said block when moved off said supporting means, platen mechanism for cooperating with said type-blocks, and ink-ribbon-feed mechanism and record-strip-feed mechanism, both operated by the platen mechanism.

17. In a printing mechanism, the combination of a series of rotary toothed drums having transverse matching teeth, a toothed type-block on each drum and adapted to move longitudinally along the series of drums, stationary supporting means for holding said type-blocks to said drums, a series of movable arms one for each type-block and adapted to carry said block when moved off said supporting means, platen mechanism for cooperating with said type-blocks, returning means for replacing the various parts in their initial positions, and ink-ribbon-feed mechanism operated by the platen mechanism.

18. In a printing mechanism, the combination of a series of rotary toothed drums having transverse matching teeth, a toothed type-block on each drum and adapted to move longitudinally along the series of drums, stationary supporting means for holding said type-blocks to said drums, a series of movable arms one for each type-block and adapted to carry said block when moved off said supporting means, platen mechanism for cooperating with said type-blocks, returning mechanism for replacing the various parts in their initial positions, ink-ribbon-feed mechanism and record-strip-feed mechanism, both operated by the platen mechanism.

19. In a printing mechanism, the combination of a series of rotary toothed drums having

transverse matching teeth, a toothed type-block on each drum and adapted to move longitudinally along the series of drums, stationary supporting means for holding said type-blocks to said drums, a series of movable arms one for each type-block and adapted to carry said block when moved off said supporting means, a shifting device adapted to move all the set type-blocks along the series of drums, a series of plates each carrying one of said arms, connections between said plates whereby resetting one resets all to their initial positions, platen mechanism for cooperating with said type-blocks, and a common operating-lever whereby after the type-blocks are set to the printing-line the remaining operations are performed from said lever and the parts are returned to place.

20. In a printing mechanism, the combination of a series of rotary toothed drums having transverse matching teeth, a toothed type-block on each drum and adapted to move longitudinally along the series of drums, stationary supporting means for holding said type-blocks to said drums, a series of movable arms one for each type-block and adapted to carry said block when moved off said supporting means, a shifting device adapted to move all the set type-blocks along the series of drums, a series of plates each carrying one of said arms, connections between said plates whereby resetting one resets all to their initial positions, platen mechanism for cooperating with said type-blocks, ink-ribbon-feed mechanism operated by the platen mechanism, and a common operating-lever whereby after the type-blocks are set to the printing-line the remaining operations are performed from said lever and the parts are returned to place.

21. In a printing mechanism, the combination of a series of rotary toothed drums having transverse matching teeth, a toothed type-block on each drum and adapted to move longitudinally along the series of drums, stationary supporting means for holding said type-blocks to said drums, a series of movable arms one for each type-block and adapted to carry said block when moved off said supporting means, a shifting device adapted to move all the set type-blocks along the series of drums, a series of plates each carrying one of said arms, connections between said plates whereby resetting one resets all to their initial positions, platen mechanism for cooperating with said type-blocks, ink-ribbon-feed mechanism and record-strip-feed mechanism, operated by the platen mechanism, and a common operating-lever whereby after the type-blocks are set to the printing-line the remaining operations are performed from said lever, and the parts are returned to place.

22. In a printing mechanism, the combination of a series of rotary toothed drums having transverse matching teeth, a toothed type-block on each drum and adapted to move longitudinally along the series of drums, station-

any supporting means for holding said type-blocks to said drums, a series of movable arms one for each type-block and adapted to carry said block when moved off said supporting means, a shifting device adapted to move all the set type-blocks along the series of drums, a series of plates each carrying one of said arms, connections between said plates whereby resetting one resets all to their initial positions, platen mechanism for cooperating with said type-blocks, said platen mechanism comprising consecutive-numbering mechanism, and a common operating-lever whereby after the type-blocks are set to the printing-line the remaining operations are performed from said lever and the parts are returned to place.

23. In a printing mechanism, the combination of a series of rotary toothed drums having transverse matching teeth, a toothed type-block on each drum and adapted to move longitudinally along the series of drums, stationary supporting means for holding said type-blocks to said drums, a series of movable arms one for each type-block and adapted to carry said block when moved off said supporting means, a shifting device adapted to move all the set type-blocks along the series of drums, a series of plates each carrying one of said arms, connections between said plates whereby resetting one resets all to their initial positions, platen mechanism for cooperating with said type-blocks, said platen mechanism comprising date-printing mechanism, and a common operating-lever whereby after the type-blocks are set to the printing-line the remaining operations are performed from said lever and the parts are returned to place.

24. In a printing mechanism, the combination of a series of type-blocks, supporting means therefor, means for moving selected type-blocks laterally along the supporting means so as to print without undue spaces between the printed characters, platen mechanism, an operating device, and connections therefrom to produce lateral movement of the type-blocks, to actuate the platen mechanism and to produce return movement of the type-blocks.

25. In a printing mechanism, the combination of a series of type-blocks, supporting means therefor, setting mechanism for setting one or more of said type-blocks to the printing-line in one direction, means for moving the type-blocks in their set positions in another direction so as to print without undue spaces between the printed characters, platen mechanism, an operating device, and connections therefrom to produce movement of the type-blocks in the last-mentioned direction, to actuate the platen mechanism and to produce return movement of the type-blocks, and means for returning said setting mechanism with the type-blocks to their initial positions.

26. In a printing mechanism, the combination of a series of type-blocks, each having a

series of printing characters thereon, supporting means therefor, setting mechanism for setting one or more of said type-blocks to the printing-line in one direction, means for moving the type-blocks in their set positions transversely to said direction so as to print without undue spaces between the printed characters, platen mechanism, an operating device, and connections therefrom to produce said transverse movement of the type-blocks, to actuate the platen mechanism and to produce return movement of the type-blocks, and means for returning said setting mechanism with the type-blocks to their initial positions.

27. In a printing mechanism, the combination of a series of type-blocks having teeth, supporting means therefor consisting of a series of supports having teeth matching with those of the other supports and of the type-blocks, means for moving each support in one direction to set the selected printing-block to the printing-line, means for moving the type-blocks so set laterally along the series of supports whereby the characters are set to printing positions without undue spaces between them, platen mechanism, an operating device, and connections therefrom to produce said lateral movement of the type-blocks, to actuate the printing mechanism and to produce return movement of the type-blocks, and means for restoring said supports with the type-blocks to their initial positions.

28. In a printing mechanism, the combination of a series of type-blocks, supporting means therefor, mechanism for setting one or more of said type-blocks in printing position by two movements transverse to each other, whereby the blocks may print without undue space between the printed characters, platen mechanism, an operating device, and connections therefrom to produce movement of the type-blocks, to actuate the platen mechanism and to produce return movement of the type-blocks.

29. In a printing mechanism, the combination of a series of type-blocks, each having a series of printing characters thereon, supporting means therefor, mechanism for setting one or more of said type-blocks to the printing-line, means for moving the type-blocks so set laterally so as to print without undue spaces between the printed characters, platen mechanism, an operating device, and connections therefrom to produce said lateral movement of the type-blocks, to actuate the platen mechanism and to produce return movement of the type-blocks.

30. In a printing mechanism, the combination of a series of type-blocks having teeth, supporting means therefor consisting of a series of supports having teeth matching with those of the other supports and of the type-blocks, means for moving each toothed support to set the selected printing-block to the printing-line, means for moving the type-blocks so set laterally along the series of sup-

ports, whereby the characters are set to printing positions without undue spaces between them, platen mechanism, an operating device, and connections therefrom to produce said lateral movement of the type-blocks, to actuate the platen mechanism and to produce return movement of the type-blocks.

31. In a printing mechanism, the combination of a series of type-blocks, supporting means therefor, setting mechanism for setting one or more of said type-blocks to the printing-line in one direction, means for moving the type-blocks in their set positions in another direction to printing positions adapted to print without undue spaces between the printed characters, platen mechanism, an ink-ribbon-feed mechanism, an operating device, and connections therefrom to produce said last-mentioned movement of the type-blocks, to actuate the printing mechanism, to produce return movement of the type-blocks and to operate said ink-ribbon-feed mechanism.

32. In a printing mechanism, the combination of a series of type-blocks, supporting means therefor, setting mechanism for setting one or more of said type-blocks to the printing-line in one direction, means for preventing movement of the setting mechanism from the set position, means for moving the type-blocks in their set positions in another direction so as to print without undue spaces between the printed characters, platen mechanism, and means for operating said platen mechanism, for releasing said setting mechanism and for restoring the type-blocks used in such printing to their initial positions.

33. In a printing mechanism, the combination of a series of type-blocks, each having a series of printing characters thereon, supporting means therefor, setting mechanism for setting one or more of said type-blocks to the printing-line in one direction, means for preventing movement of the setting mechanism from the set position, means for moving the type-blocks in their set positions transversely to said direction so as to print without undue spaces between the printed characters, platen mechanism, and means for operating said platen mechanism for releasing said setting mechanism and for restoring the type-blocks used in such printing to their initial positions.

34. In a printing mechanism, the combination of a series of type-blocks having teeth, supporting means therefor consisting of a series of supports having teeth matching with those of the other supports and of the type-blocks, means for moving each support in one direction to set the selected printing-block to the printing-line, means for locking the series of supports in the set position, means for moving the type-blocks so set laterally along the series of supports whereby the characters are set to printing positions without undue spaces between them, platen mechanism, and means for operating said platen mechanism, for releasing said setting mechanism and for restoring said type-blocks and said supports to their initial positions.

35. In a printing mechanism, the combination of a series of type-blocks, supporting means therefor, setting mechanism for setting one or more of said type-blocks to the printing-line in one direction, shifting means for moving the type-blocks in their set positions in another direction so as to print without undue spaces between the printed characters, platen mechanism, a printing-bar movable by said shifting means in the printing-line with the type-blocks and adapted to print in that portion of the printing-space not filled by set type-blocks, an operating device, and connections therefrom to produce movement of the type-blocks in the last-mentioned direction, to actuate the platen mechanism and to produce return movement of the type-blocks, and means for returning said setting mechanism with the type-blocks to their initial positions.

36. In a printing mechanism, the combination of a series of type-blocks, supporting means therefor, shifting means for moving selected type-blocks laterally along the supporting means so as to print without undue spaces between the printed characters, a printing-bar movable by said shifting means in the printing-line with the type-blocks and adapted to print in that portion of the printing-space not filled by said set type-blocks, and platen mechanism.

FREDERICK MUTSCHLER.

Witnesses:

F. BISSELL,
D. GURNEE.