

(No Model.)

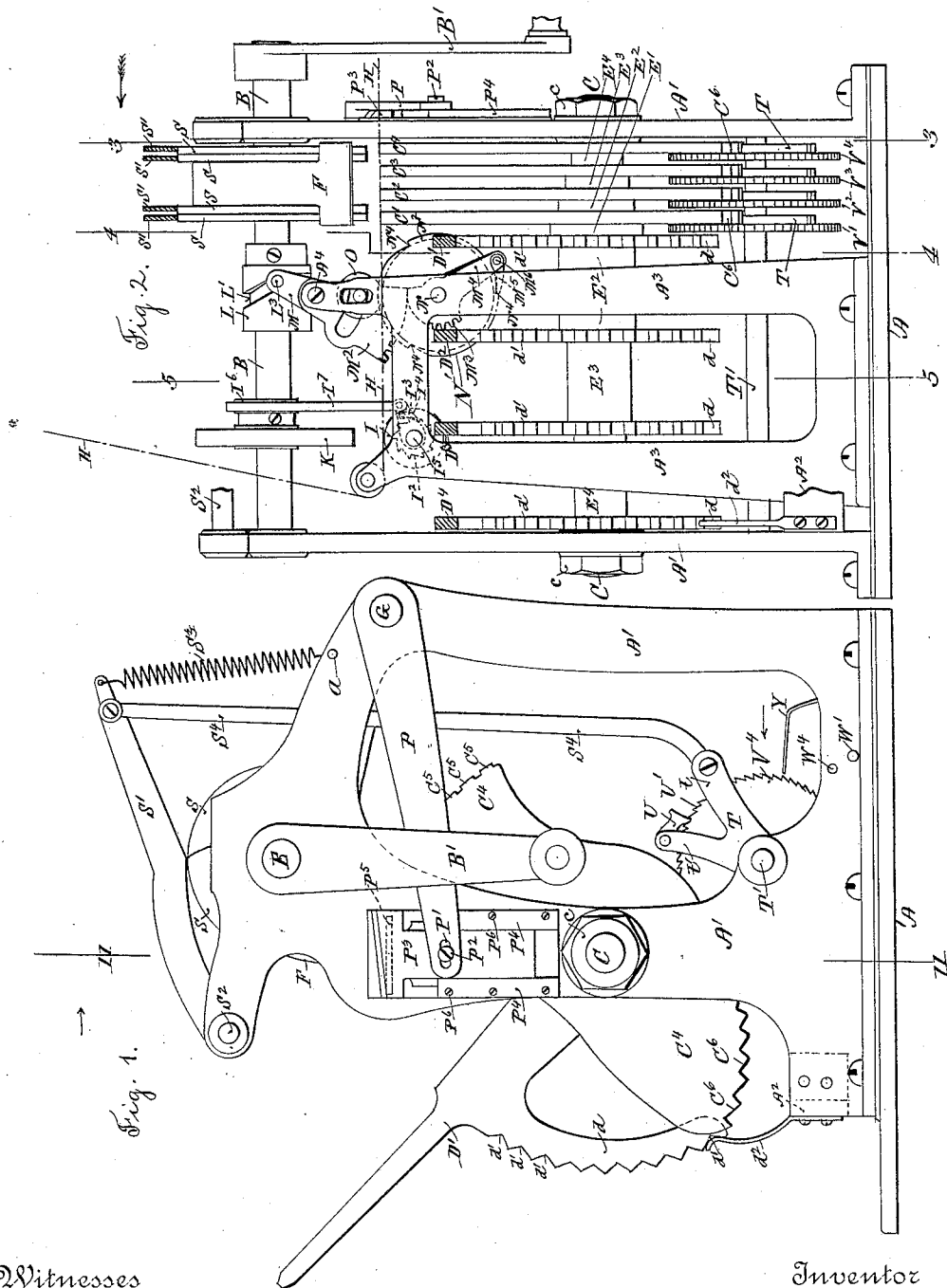
4 Sheets—Sheet 1.

C. F. SCHMELZ.

MACHINE FOR ISSUING PURCHASE CHECKS AND ADDING THE AMOUNTS.

No. 467,483.

Patented Jan. 19, 1892.



Witnesses
James W. Beaman
Daniel R. Laff

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(No Model.)

4 Sheets—Sheet 2.

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Fig. 4.

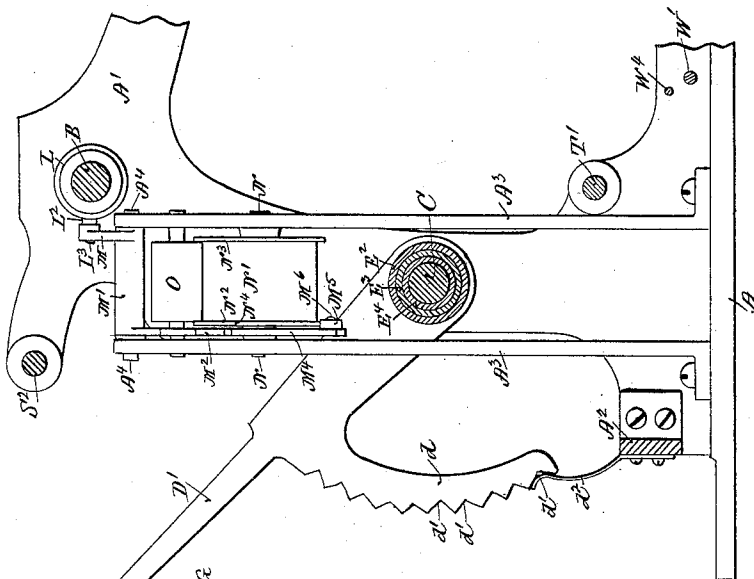
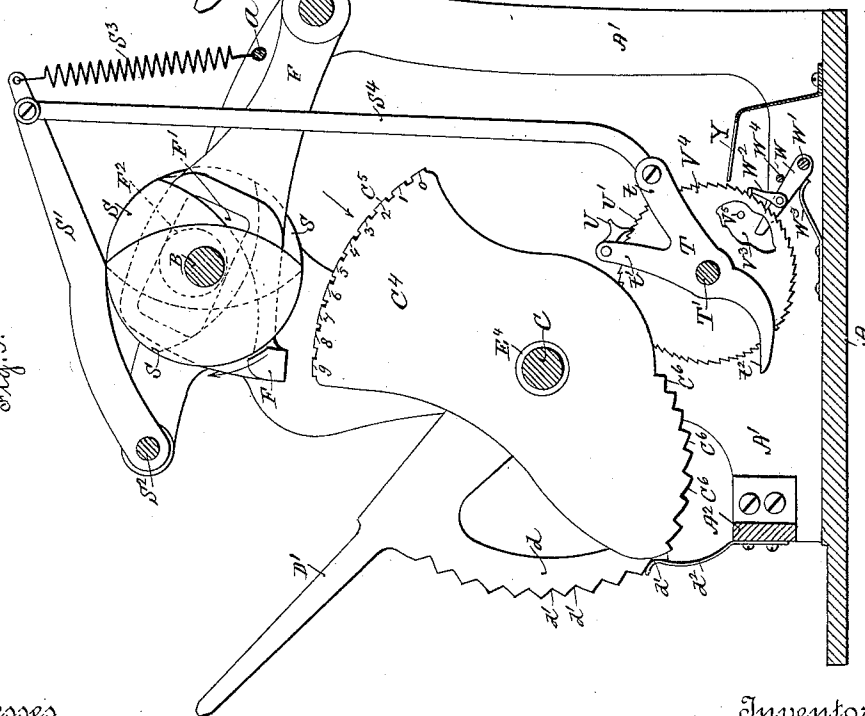


Fig. 3.



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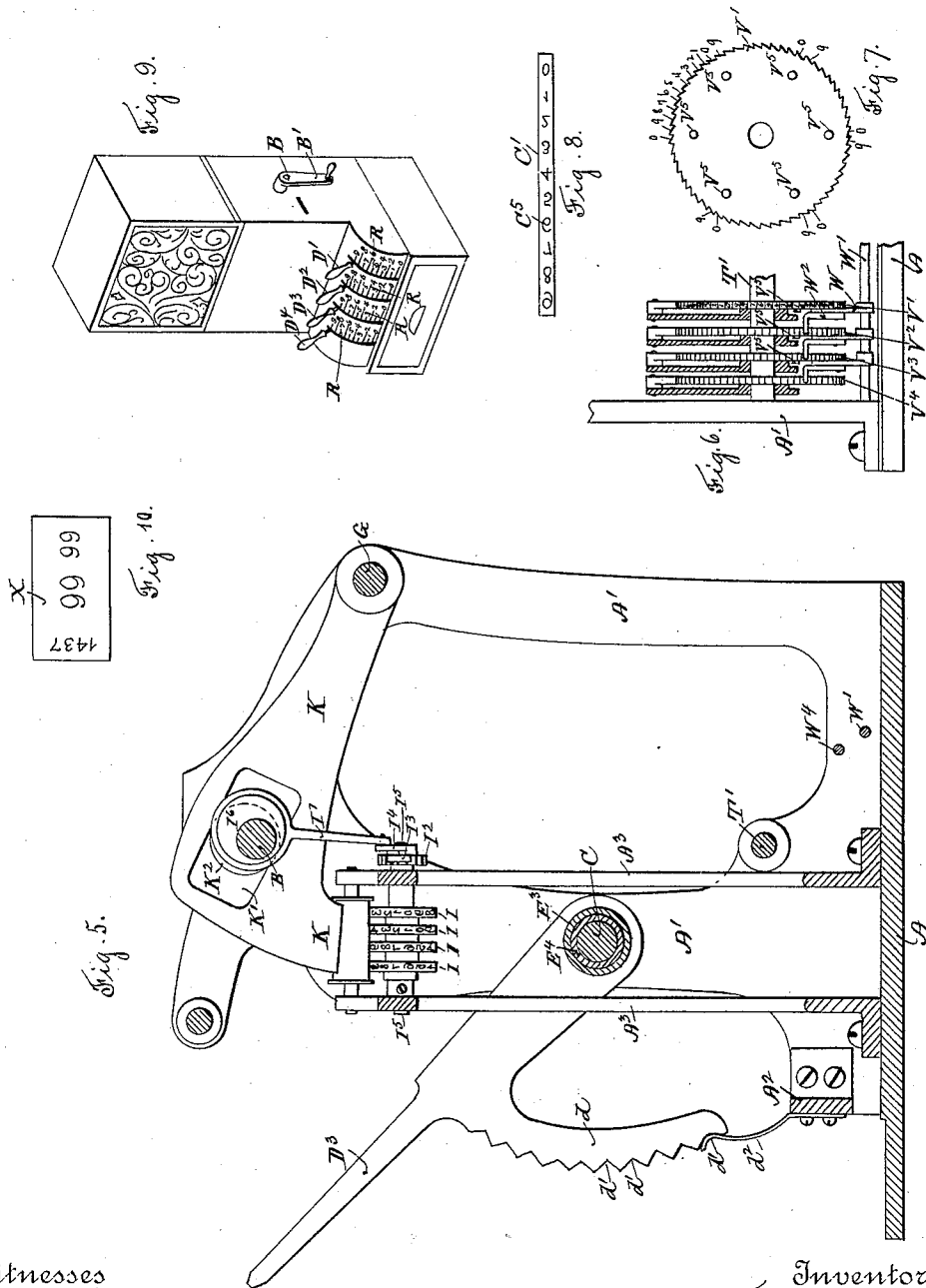
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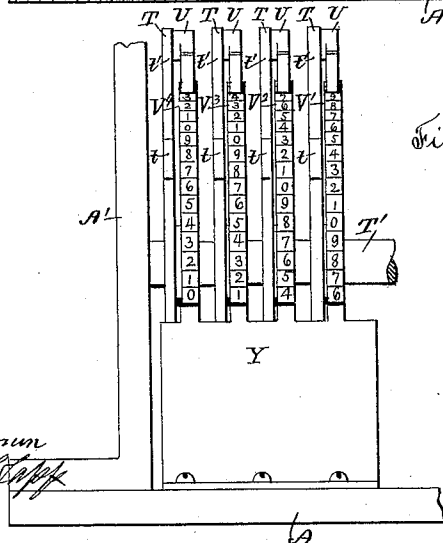
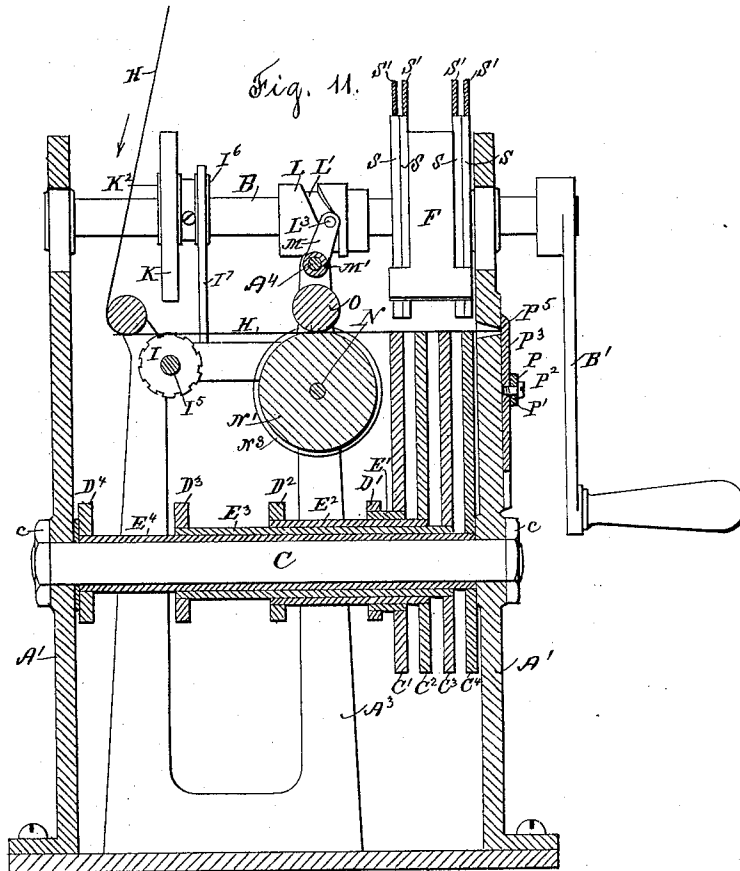
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MACHINE FOR ISSUING PURCHASE CHECKS AND ADDING THE AMOUNTS.

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UNITED STATES PATENT OFFICE.

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MACHINE FOR ISSUING PURCHASE-CHECKS AND ADDING THE AMOUNTS.

SPECIFICATION forming part of Letters Patent No. 467,483, dated January 19, 1892.

Application filed August 15, 1891. Serial No. 402,761. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. SCHMELZ, a citizen of the United States, and a resident of Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Machines for Issuing Purchase-Checks and Automatically Adding the Several Amounts, of which the following is a specification.

Figure 1 represents a side view of the machine with the casing removed. Fig. 2 represents a front view of the same, partly broken away to disclose rear portions. Fig. 3 is a section taken in line 3 3 of Fig. 1. Fig. 4 represents a partial section taken on line 4 4 of Fig. 1. Fig. 5 shows a section taken on line 5 5 of Fig. 1. Fig. 6 represents a rear view of the adding-wheels. Fig. 7 is a detail view of one of the adding-wheels. Fig. 8 represents an edge view of one of the type-plates, by means of which the amount of the purchase is impressed upon the strip of paper. Fig. 9 shows a perspective view of the case in which the machine is placed. Fig. 10 represents a purchase-check produced by the machine. Fig. 11 represents a vertical section taken on line 11 11 of Fig. 1. Fig. 12 represents a partial rear view of the machine, showing the adding-wheels.

In the accompanying drawings, A represents the base-plate of the machine, which supports the end frames A' A', by means of which most of the working parts are supported. B is the main shaft, having at its end the crank B'.

C is a stationary spindle held in the opposite frames A' by means of the nuts c, the said spindle serving to support a series of type-plates C' C² C³ C⁴ and their adjusting-levers D' D² D³ D⁴, the said plates and levers being connected to each other in pairs by means of the sleeves E' E² E³ E⁴, respectively, so that each type-plate will be positively controlled by its particular lever, which is preferably provided with a downwardly-projecting arm d, having the notches d' at its front edge, to engage with a spring d², which is secured to the cross-girt A². It will thus be seen that the springs d² will hold the type-plates properly in their adjusted position, and also that the adjustment can be readily made,

since the spring will ride into and out of the notches d' whenever the levers are raised or depressed. The upper edges of the plate C' C² C³ C⁴ are provided with a series of numeral-type C⁵, preferably of steel or a hard metal, and ranging from 0 to 9, inclusive, as shown in Fig. 8.

Arranged above the type-plates is the presser F, which is secured with its rearward end to the spindle G, as shown in Fig. 3, and having at its forward end a slot F', in which is placed the eccentric F², secured to the shaft B and serving to impart a swinging movement to the presser F, whereby the paper strip H, upon which the figures are to be impressed, will be pressed against the presented type C⁵ upon the several plates C' C² C³ C⁴.

Supported in a secondary frame A³ is a series of type-disks I, (shown in Figs. 2 and 5,) the end disk of the series being operated by means of the ratchet-wheel I², which is engaged by the dog I³ upon the lever I⁴, the said lever being pivoted upon the spindle I⁵ and obtaining a vibrating movement by means of the connecting-rod I⁷ and the eccentric I⁶, which is secured to the shaft B. The series of type-disks I will serve to serially number the purchase-checks, and it will be understood that any well-known means may be employed to advance the succeeding disk of the series one notch or figure whenever the one before it has completed one revolution. Arranged above the type-disks I is a presser K, which is loosely pivoted with its rear end to the spindle G and provided at its forward end with a slot K', adapted to receive the eccentric K², secured to the shaft B, and serving to impart a swinging movement to the said presser, so as to force the paper strip H against the numbering-disks I.

Secured to the shaft B is a cam L, (shown in Figs. 2 and 11,) the groove L' of which receives the stud L³ of the lever M, which is either attached to or forms a part of a sleeve M', held upon the spindle A⁴, and the opposite end of which carries a segment-gear M², adapted to engage the teeth M³ of an arm M⁴, the lower end of which carries a dog M⁵, pivoted upon the pin M⁶. The arm M⁴ is loosely supported on a spindle N, which carries the feed-roller N', having flanges N² N³, the flange

N^2 being provided with the notches N^1 , which are engaged by the dog M^5 , and by these means the roller N' is rotated to feed the paper strip H, and the loose roller O serves to form a close frictional contact between the paper strip H and the feed-roller N' .

By referring to Figs. 1 and 2 it will be seen that the spindle G, which is operated from the shaft B by the movement of the attached presser F, carries a lever P, the forward end of which is slotted at P' to receive the screw-stud P^2 , which projects from the side of the cutting-blade P^3 , the said blade having a vertical movement in the ways P^4 , attached to the frame by means of screws P^6 . A slot P^5 (shown in dotted lines in Fig. 1) is provided for the passage of the paper strip and allows the end of the same to protrude from the frame, while the blade P^3 will upon its upward movement cut off the projecting portion of the strip.

The operation of forming the purchase-checks from the paper strip H will be as follows: The levers $D' D^2 D^3 D^4$ are to be set as required at the proper indicating-figures of the indexes R (shown in Fig. 9) and the main shaft B rotated one revolution, and upon the said rotation of the shaft B the paper strip H will be consecutively numbered transversely of the strip by means of the presser K, which serves to press the strip against the presented type upon the wheels I, and the amount of the purchase, as indicated by the position of the levers $D' D^2 D^3 D^4$ will be recorded upon the previously-numbered check-strip by means of the presser F, which serves to press the strip H upon the type-plates $C' C^2 C^3 C^4$, which is then fed along by the feed-roll N' and cut off by the blade P^3 , thus forming the individual purchase-check X. (Shown in Fig. 10.)

The several amounts recorded upon the issued checks are automatically added together to form a registered total by means of a series of ratchet-wheels $V' V^2 V^3 V^4$, as follows: A series of cams S are secured to the shaft B, the said cams being arranged to act one after the other upon the levers S' , which are loosely pivoted upon the spindle S^2 , and to the loose ends of which are attached the spiral springs S^3 , which are connected to the rod a , held in the frame, whereby the levers are each held against its respective cam S. The free ends of the four levers S' are connected by means of links S^4 with the arms t of the feeler-levers T and impart to the same a rocking motion upon the shaft T' . The arm t' of the feeler-lever T carries at its end a catch U, engaging with the teeth of one of the ratchet-wheels $V' V^2 V^3 V^4$, whose periphery may be marked with six sets of figures—from 0 to 9, inclusive—in each set, the said figures being marked at the back of the ratchet-teeth, as shown in Fig. 12. It will now be seen that when the shaft B is rotated the springs S^3 will cause a downward movement one after the other of the levers S' and links S^4 , thereby tending to

rock the feeler-levers T around their axis, and thus cause the turning of each of the numbered ratchet-wheels $V' V^2 V^3 V^4$, or any one of them, to an amount not exceeding one-sixth of a revolution.

By referring to Fig. 3 it will be seen that the type-plates $C' C^2 C^3 C^4$ are each provided with a series of steps C^6 , whose distances from the axis of the spindle C changes evenly and consecutively, and which are preferably placed diametrically opposite the series of type-figures C^5 —extending from 0 to 9, inclusive—and bear a numerical relation thereto, and it will be seen that when all of the levers $D' D^2 D^3 D^4$ are raised to their highest point, as shown in Figs. 1, 3, 4, 5, and 9, so that the type 9 of each of the type-plates C^4 will be in line under the presser F, thus serving to impress the figures 9 9 9 9 upon the purchase-check, as shown in Fig. 10. Then the several levers T' will be moved one after the other by the action of the springs S^3 until the ends t^2 of the several feeler-levers T bring up against the surface at the bottom of the first step C^6 , thus serving to move the figured ratchet-wheels $V' V^2 V^3 V^4$ for the space of nine teeth, and showing at the reading-plate Y the horizontal row of figures 9 9 9 9 as impressed upon the purchase-check X; but as another of the step-surfaces, which correspond to the type-figures 0 to 9, inclusive, will be thrown into the path of the end t^2 of the feeler-levers T whenever the type-plates, or either of them, are placed in a different position, the ratchet-wheels will be turned only to such a degree as is determined by the position of the feeler-lever when in contact with the particular step-surface in its path, which, owing to the yielding nature of the spring S^3 , serves to stop all further movement of the feeler-lever, and as there is a step-surface for each differently-numbered tooth upon the ratchet-wheels, the said wheels will always be moved for a number of teeth corresponding exactly with the proper number of the step-surface.

The ratchet-wheels $V' V^2 V^3$ are each provided with six pins V^5 , adapted to engage with the levers W, which are pivoted upon a rod W' and carry dogs W^2 , which engage with the teeth of the adjacent succeeding ratchet-wheels of the series, so that when the first or units wheel V' is completing its full sixth of a revolution the dog W^2 will rotate the succeeding tens-wheel V^2 for one notch, and so on throughout the series, while the springs W^3 will serve to return their respective levers W to their normal position against the stop-bar W^4 as soon as the pin V^5 passes off of the end of the lever W. The several cams S are set on the shaft B, so that when the crank B' is in its normal position, as shown in the drawings, all of the levers S' are in their highest position, and also that they will act one after the other, in order to allow each individual feeler-lever T to complete its full movement before the movement of the adjacent lever of the series commences.

I claim as my invention—

1. The combination, with the series of numbering-type wheels and the presser for forcing the paper strip against the type of said
5 wheels, of a series of recording-type plates for marking the value of the check, the presser for forcing the paper strip against the recording-type, means for simultaneously operating the pressers, and mechanism for feeding the
10 numbered paper strip into proper position over the recording-type, substantially as described.

2. The combination, with a series of step-surfaces and means for adjusting the position
15 of the said surfaces, of a ratchet-wheel provided with a numbered index, a feeler-lever provided with a catch adapted for engagement with the teeth of the ratchet-wheel, and

yielding means for operating the feeler-lever to engagement with the step-surfaces, substantially as described. 20

3. The combination, with a series of step-surfaces and a corresponding series of numeral-type, means for adjusting the position of the step-surfaces, a presser for forcing the
25 paper strip against the type, and means for operating the same, of a ratchet-wheel provided with a numbered index, a feeler-lever provided with a catch adapted for engagement with the teeth of the ratchet-wheel, and
30 yielding means for operating the feeler-lever, substantially as described.

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