

No. 748,421.

PATENTED DEC. 29, 1903.

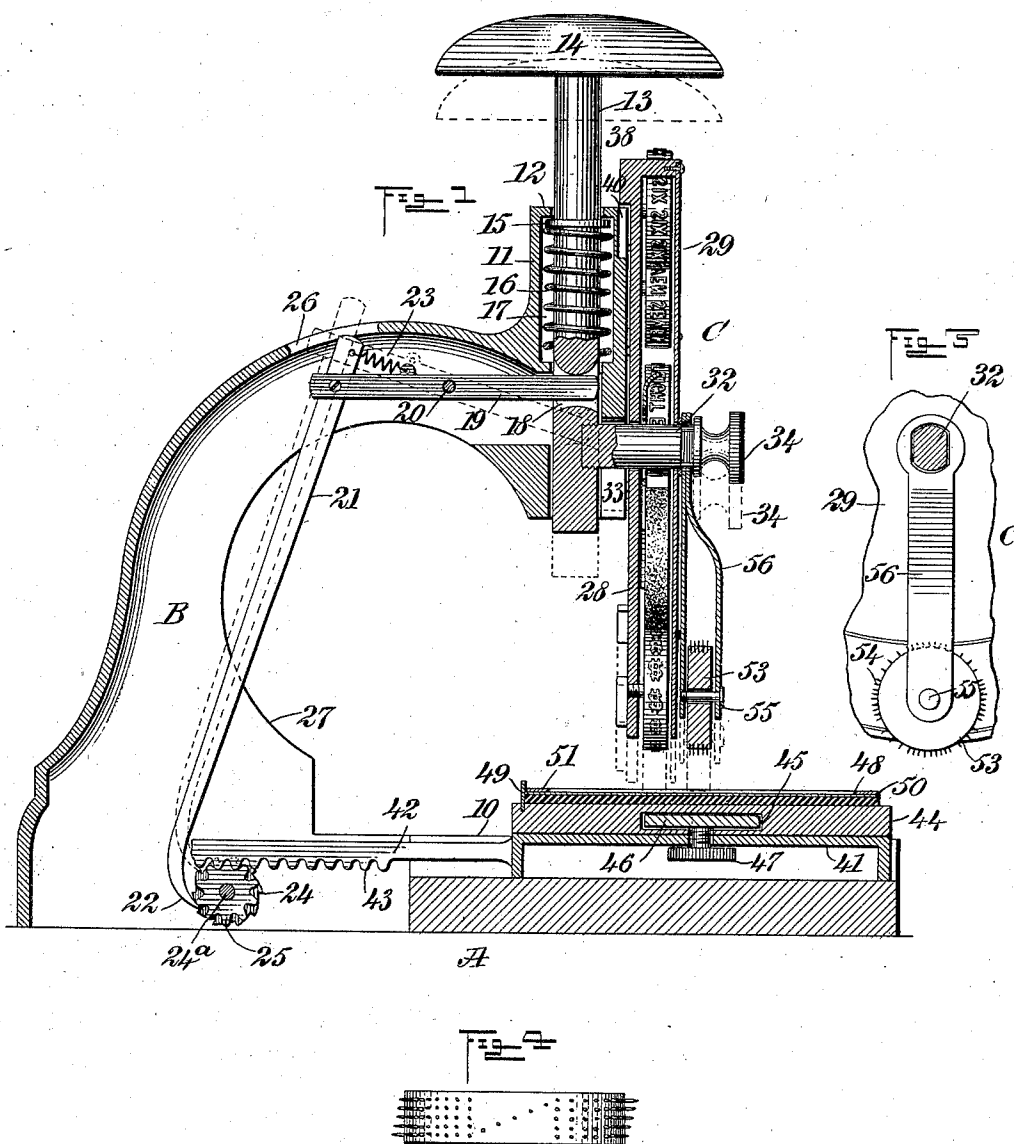
G. F. ROBERTSON.

MACHINE FOR PERFORATING CHECKS AND PRINTING THEREON.

APPLICATION FILED AUG. 6, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

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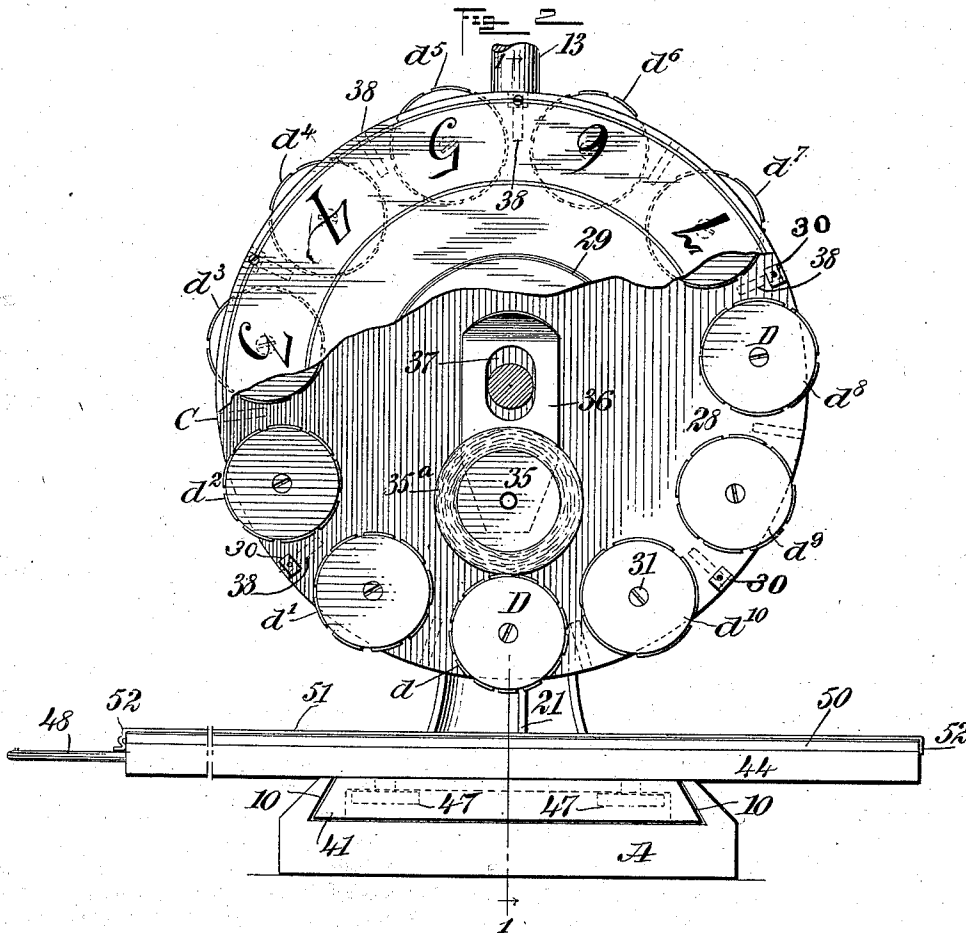
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2 SHEETS—SHEET 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE FRANCIS ROBERTSON, OF PARIS, TEXAS.

MACHINE FOR PERFORATING CHECKS AND PRINTING THEREON.

SPECIFICATION forming part of Letters Patent No. 748,421, dated December 29, 1903.

Application filed August 6, 1903. Serial No. 168,458. (No model.)

To all whom it may concern:

Be it known that I, GEORGE FRANCIS ROBERTSON, a citizen of the United States, and a resident of Paris, in the county of Lamar and State of Texas, have invented a new and Improved Machine for Perforating Checks and Printing Thereon, of which the following is a full, clear, and exact description.

The purpose of my invention is to provide a machine for repeating on the face or on the back of a check, or upon both surfaces, the figure in numerals or in letters representing the amount of dollars called for by the written portion of the check, so as to render it impossible to change the amount first expressed without commercially destroying the check.

Another purpose of the invention is to provide a portable, light, and readily-operated machine so constructed that the dollar-sign and the numerals from "1" to "0" will be produced in series upon the peripheries of independent disks or mounted upon a common rotatable and slidable carrier, whereby the amount to be repeated is expressed in columns on the check, one numeral above the other, repeated as many times as may be desired in each line, and to further provide an automatic perforating device which will perforate those portions of the check upon which the amounts are to be printed, the perforation taking place in advance of the printing, thus causing the impression to be made upon a perforated surface and rendering it impossible for the printing to be erased or the value to be cut out and a different value inserted.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical section through the machine, taken practically on the line 1 1 of Fig. 2. Fig. 2 is a sectional front elevation of the machine; and Fig. 3 is a transverse section through the pivot of the printing-wheel, a front elevation of a portion of the wheel, and a front elevation of the perforating-wheel and its support. Fig. 4 is a detail plan view of one form of perforating-wheel.

A represents the base of the machine, and the said base is provided with a dovetail recess 10 in its upper face, as is clearly shown in Figs. 1 and 2. An arm or standard B is preferably made integral with the rear end of the base. This arm or standard is hollow and curves upward and forward, so that its forward end is brought over the base. At the forward end of the standard or arm B a tubular head 11 is formed extending in a vertical direction, and the said head is open at the top and at the bottom; but at the top the head is provided with an inwardly-extending flange 12, as is shown in Fig. 1. A plunger 13 is adapted to slide in the said head, having movement to and from the base, as is also shown in Fig. 1, and the said plunger is provided with a cap-plate 14, upon which the hand may conveniently rest to press downward the plunger 13. The upward movement of the plunger 13 is limited by placing a collar 15 on the said plunger adapted for engagement with the flange 12 of the head of the arm or standard B, as is also shown in Fig. 1. A spring 16 is coiled around the plunger 13 within the upper portion of the head, which upper portion of the head is enlarged to form a chamber 17, the said spring 16 having bearing at its upper end against the collar 15 on the plunger and at its lower end against the lower wall of the aforesaid head-chamber 17. The plunger 13 has an opening 18 made therein which is in communication with the interior of the standard or arm B at its head portion, and the forward end of a bar 19 extends into the opening 18, the upper and lower walls of which opening are segmental or convexed, as shown in Fig. 1. This bar 19 is pivoted about centrally between its ends in the upper portion of the standard or arm B, extending from the base, the pivot-pin for the bar being designated as 20. The rear end of the bar 19 is pivotally attached to a downwardly-extending bar 21 at a point near the upper end of the said downwardly-extending bar, as is shown in Fig. 1, and the said downwardly-extending bar 21 at its lower end has formed, preferably integral therewith, a forwardly-curved section 22, which acts in the capacity of a dog. A spring 23 is connected with the bar 19 at a point to the rear of its fulcrum and with the

upper end of the downwardly-extending bar 21, which downwardly-extending bar 21 may be denominated an actuating-bar. The spring 23 serves normally to hold the actuating-bar 21 in such position that its lower curved end or dog 22 will engage with a ratchet-wheel 24, secured upon a shaft 24^a, fulcrumed in the lower or base portion of the arm or standard B, and on this shaft 24^a a pinion 25 is firmly secured. The arm or standard B has an opening 26 at its upper portion through which the upper end of the actuating-bar 21 may extend in one position of the said bar. The standard or arm B is open at its forward edge from a point near its connection with the head to the base, and the base portion of the said standard or arm B is likewise open at the top and at the bottom, as is shown in Fig. 1. It will be understood, however, that I do not restrict myself to the construction of the aforesaid arm or standard B. When the plunger 13 is forced downward, the actuating-bar 21 is carried out of engagement with the ratchet-wheel 24; but the moment that the plunger 13 is released from pressure and is restored to its normal position by the action of the spring 16 the bar 19, pivoted in the arm B, will be restored to its horizontal position (shown in positive lines in Fig. 1) and will force the actuating-bar 21 downward, while the spring 23 will act to force the lower dog extremity 22 of the said actuating-bar forward again to an engagement with the teeth of the ratchet-wheel 24. As the pivoted bar 19 is restored to its normal position the dog extremity 22 of the actuating-bar 21 will cause the ratchet-wheel 24 to revolve and likewise the pinion 25, and thus move the support for the check to be hereinafter described. In connection with the said arm or standard B, I employ a printing-wheel C. This printing-wheel consists of a back plate 28 and a front plate 29, spaced a suitable distance from the back plate. The front and the back plates of the said printing-wheel are connected at what may be termed their "normal" upper portion by one or a number of straps 30, extending, preferably, from the front plate 29 to an attachment with the rear plate 28, as is shown in Figs. 1 and 2, and although a single strap is shown I contemplate placing the straps between all of the disks, or a connecting-flange may be employed for the plates having apertures through which the disks may extend. Disks D are pivoted by suitable pins 31 to the back plate 28 of the printing-wheel C, as is best shown in Fig. 2. These disks are eleven in number and are spaced at equal distances apart and are so pivoted on the bottom plate of the said printing-wheel C that a portion of their peripheral surfaces will extend out through the opening or space at the peripheral portion of the said wheel. Normally the lower disk *d* has the dollar-sign produced upon its periphery in suitable number, and the next disk *d'* to the left, as shown in Fig.

2, is preferably provided with type upon its face reading "One." The next disk *d''* has type upon its peripheral surface reading "Two," and the following disks *d'''*, *d⁴*, *d⁵*, *d⁶*, *d⁷*, *d⁸*, *d⁹*, and *d¹⁰* have produced, respectively, upon their peripheral surfaces in type the words "Three," "Four," "Five," "Six," "Seven," "Eight," "Nine," and "Naught." I desire it to be understood, however, that although the numerals are produced on the said disks in words they may be produced in character, if so desired. Opposite each of the disks D at the central portion of the disks corresponding numerals are produced upon the outer plate 29, as is shown in Fig. 2, thus enabling the operator to turn the wheel C to bring any particular disk in printing position as may be desired. The wheel is usually manually operated.

The printing-wheel C is mounted to turn at its center upon a stud 32, which stud is secured at its inner or rear end to the lower portion of the plunger 13, a suitable opening 33 being provided for the front of the head 11 of the standard or arm B to admit of a vertical movement of the said stud 32 as the plunger 13 is operated. A set-screw 34 is made to enter the outer or forward end of the stud 32, whereby to prevent the printing-wheel C from leaving its pivotal support, as is also best shown in Fig. 1.

It will be observed that each printing-disk D is independently mounted in the printing-wheel, and the type-surfaces of the said printing-disks D are inked by means of an inking-roller 35, which roller is pivoted at the lower end of the hanger 36, having an elongated slot 37 produced therein above the inking-roller, which slot 37 receives the stud 32, pivoting the printing-wheel C. Thus it will be observed that the inking-roller will gravitate downward at the central vertical portion of the impression-wheel and its inking-surface will be automatically brought into engagement with the type-surface of the printing-disk D, which is the lowermost disk and which is in position to produce an impression. The inking-roller 35 may be constructed of any suitable or approved material, but is provided with a peripheral covering 35^a, of an absorbent material capable of carrying ink.

The disks D may be made of wood covered with rubber type or may be made of hard rubber provided with metal-faced type, or the said disks D may be made altogether of metal, if so desired.

When the printing-wheel has been turned so as to bring the desired printing-disk to a lower central position on the wheel, the wheel is bodily forced downward by pressing upon the head or cap 14 of the plunger 13, thus effecting an impression. It is very desirable while an impression is being made that the printing-wheel shall not have lateral movement, but only a vertical movement. To that end between each of the printing-disks D radial lugs 38 are produced upon the back

plate 28 of the said wheel and at the front upper portion of the head 11 of the arm or standard B a vertical slot 40 is made. When the printing-disk has been brought into position for printing and the plunger 13 is forced downward to effect an impression, one of the lugs 38 will be at the top portion of the printing-wheel in direct vertical alinement with the center of the lower disk to be brought into action, and as the plunger 13 is forced downward its uppermost lug 38 will enter and slide in the slot 40 in the head of the standard or arm B.

A carriage 41 is made to slide in the dovetail recess 10 of the base A in direction of the front and the rear of said base, as is shown in Figs. 1 and 2. This carriage is provided with a rearwardly-extending member 42, having teeth 43 produced in its under edge, adapted for engagement with the aforesaid gear-wheel 25, operated by the actuating-bar 21, as is especially shown in Fig. 1. A platen 44 is located upon the carriage 41, and this platen is provided with a longitudinal T-shaped opening 45 at its central portion. In the said opening 45 a plate 46 is located, which plate is firmly held attached to the carriage 41 by one or more thumb-screws 47, as is also shown in Figs. 1 and 2. The opening 45 in the platen is of such dimensions that the said platen may have sliding movement in direction of the sides of the carriage or sides of the machine, being guided by the fixed plate 46. At one end of the said platen a handle 48 is formed, whereby the said platen may be moved by hand when occasion may demand, such movement being transversely of the base; but the movement of the platen and its carriage is produced longitudinally of the base by the actuating-bar 21, causing the dog 22 to engage with the ratchet-wheel 44 to turn the pinion or gear-wheel 25 when the plunger 13 is carried upward by its controlling-spring 16. A bed 48^a, of rubber or a like material, is placed upon the upper face of the platen 44, and near the rear edge of the said platen a guide-rule 49 is located, against which a longitudinal edge 50 of a check to be operated upon is made to bear when the said check is placed upon the bed 48^a of said platen. In order that the check shall have no movement at any time upon the platen, a skeleton frame 51 is made to bear upon the upper face of the check at its marginal portion, and the said frame 51 is provided with spring members 52 for engagement with the edges of the platen 44, which spring members serve as clamps to hold the retaining-frame in place, as is shown in Fig. 2. I desire it to be understood, however, that any equivalent form of fastening device for the retaining-frame may be employed.

In connection with the printing-wheel C, I employ a perforating-disk 53, which perforating-disk is particularly shown in Fig. 3, where it is provided with a series of needle-points at its periphery arranged in sections,

each section being spaced from the other a uniform and desired distance. Ordinarily four sections of needle-points are employed in connection with a perforating-disk. This perforating-disk 53 is mounted to turn on a suitable spindle 55, passed through the members of the bifurcated hanger 56, between which members the perforating-disk revolves. The members of the said hanger 56 are brought together at their upper ends and have an opening therein which is adapted to loosely receive the stud 32, so that the hanger 56 always hangs perpendicularly downward at the central portion of the printing-wheel, no matter what printing-disk is brought to printing position.

If desired, the perforating disk or wheel 53 may be constructed as shown in Fig. 4, wherein the groups of needles are connected by interposed single rows of needles, so as to make the perforations practically continuous.

In the operation of the machine the check is placed upon the platen, and the disk D, carrying the dollar-sign, is then brought into position for printing, and the plunger 13 is forced downward to produce an impression. Any desired number of such impressions may be obtained by moving the platen by means of its attached handle 48. When the plunger 13 is released and at the upward movement of the said plunger, the ratchet mechanism connecting the plunger with the carriage to which the platen is secured moves the carriage a certain distance toward the rear, thus bringing the check in position to receive another impression, and the part of the check that is next brought into position to receive an impression has been previously perforated by the points on the perforating wheel or disk 53. Before the next operation the printing-wheel is turned to bring the desired numbered disk in printing position, and the plunger is then again operated, producing an impression of the number of the disk on the perforated surface of the check one or more times, according to whether the platen 44 is moved or not. It will thus be observed that at each downward operation of the plunger 13 a surface of the check is perforated, upon which surface the next impression is to be produced. This operation is continued until the amount of dollars written in the check has been duplicated in printing in colors on the body of the check and over perforated surfaces.

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

1. In a machine for duplicating amounts on checks, a printing-wheel provided with a series of independently-pivoted printing-disks having type-matter at their peripheries, a pivotal support for the said wheel, a plunger connected with the pivotal support, whereby to impart vertical movement to the wheel, and a perforating-disk acting in conjunction with the said printing-disks, which perforat-

ing-disk is provided with needle-points arranged in groups, as described.

2. In a machine for duplicating amounts of checks, a printing-wheel, a series of disks independently pivoted on the said wheel, lugs extending from the back of the wheel between the disks, the disks being provided with type-matter on their peripheral faces, an inking-roller arranged to engage with the type-surface of the lowermost printing-disk, which inking-roller is carried by the said printing-wheel, a support provided with a slot at the top to receive the uppermost lug on the printing-wheel, a plunger operating in the said support, a pivot for the wheel attached to the said plunger, and a perforating-disk carried by the pivot for the said wheel, as set forth.

3. In a machine for duplicating amounts on checks, a support, a spring-controlled plunger vertically operating in the said support, a stud attached to the plunger, the said support above the said stud having a slot therein, a printing-wheel mounted to turn on the said stud, which printing-wheel consists of a front and a rear plate, a series of printing-disks mounted to turn independently on the rear plate, each disk having peripheral type-matter produced thereon, lugs located at the back plate on the said wheel, between the printing-disks, the uppermost lug being adapted to enter the said slot in the support, an inking-roller having pendulum-support in the said wheel between its plates, being adapted for engagement with the type-surface of the lowermost printing-disk, a pendulum-hanger carried by the said stud at the outside of the front plate of the said printing-wheel, and a perforating-disk pivoted at the lower portion of the hanger, as described.

4. In a machine for duplicating amounts on checks, a base, an arm extending from the base, having a tubular head, a spring-controlled plunger operating in said head, a carriage having sliding movement on the base, a pinion carried by the base, a rack connected with the carriage, engaging the pinion, a ratchet connected with the pinion, an actuating-arm actuated by the plunger and operating on the said ratchet to turn the same

at the return movement of the plunger, a platen having sliding movement on the said carriage, at right angles to the plane of movement of the carriage, a stud connected with the said plunger, having sliding movement in the head of the said support, a printing-wheel mounted to turn on the said stud, which printing-wheel is provided with a series of independently-pivoted printing-disks, and a pendulum inking-roller for the disks, as described.

5. In a machine for duplicating amounts on checks, a base, an arm extending from the base, having a tubular head, a spring-controlled plunger operating in such head, a carriage having sliding movement on the base, a pinion carried by the base, a rack connected with the carriage, engaging the pinion, a ratchet connected with the pinion, an actuating-arm actuated by the plunger and operating on the said ratchet to turn the same at the return movement of the plunger, a platen having sliding movement on the said carriage, at right angles to the plane of movement of the carriage, a stud connected with said plunger, having sliding movement in the head of the said support, a printing-wheel mounted to turn on the said stud, which printing-wheel consists of a front and a rear plate, printing-disks independently mounted to turn between the two plates, and a pendulum inking-roller for the said disks, the said rear plate of the printing-wheel having lugs between the impression-disks, adapted for sliding movement in a slot in the support, a perforating-disk located at the front lower portion of the said printing-wheel, and a hanger in which the said perforating-disk is mounted to turn, which hanger is loosely mounted on the said stud, all operating in the manner described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE FRANCIS ROBERTSON.

Witnesses:

WM. J. THOMAS,
W. J. CALDWELL.