

Sept. 16, 1958

H. E. HUTZELMAN

2,851,946

TYPE WHEEL ASSEMBLY IN CHECK WRITING MACHINES

Filed Feb. 11, 1955

4 Sheets-Sheet 1

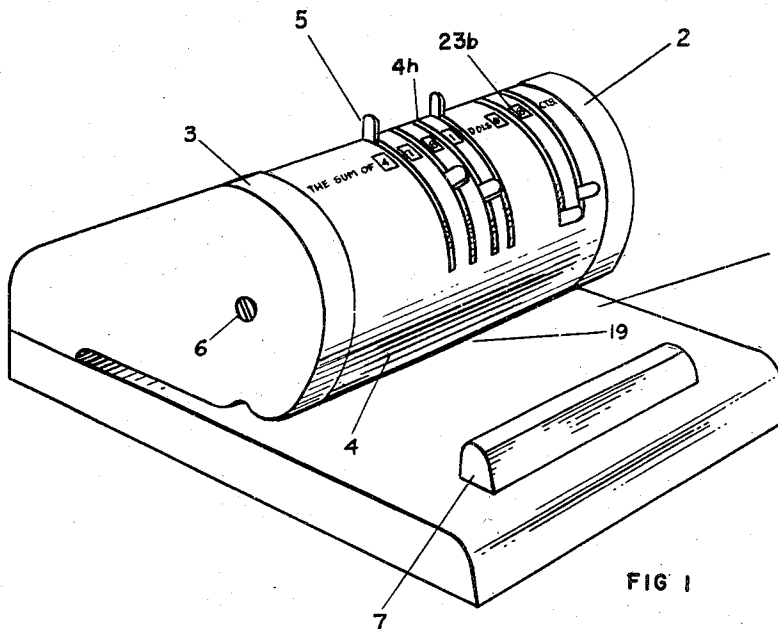


FIG 1

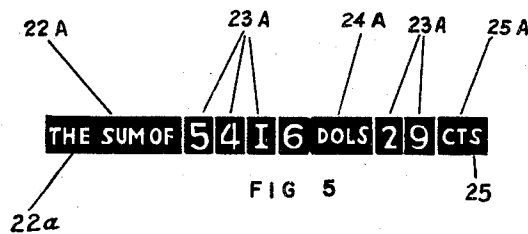


FIG 5

Inventor

HOWARD E. HUTZELMAN

By

Charles L. Loveland

Attorney

Sept. 16, 1958

H. E. HUTZELMAN

2,851,946

TYPE WHEEL ASSEMBLY IN CHECK WRITING MACHINES

Filed Feb. 11, 1955

4 Sheets-Sheet 2

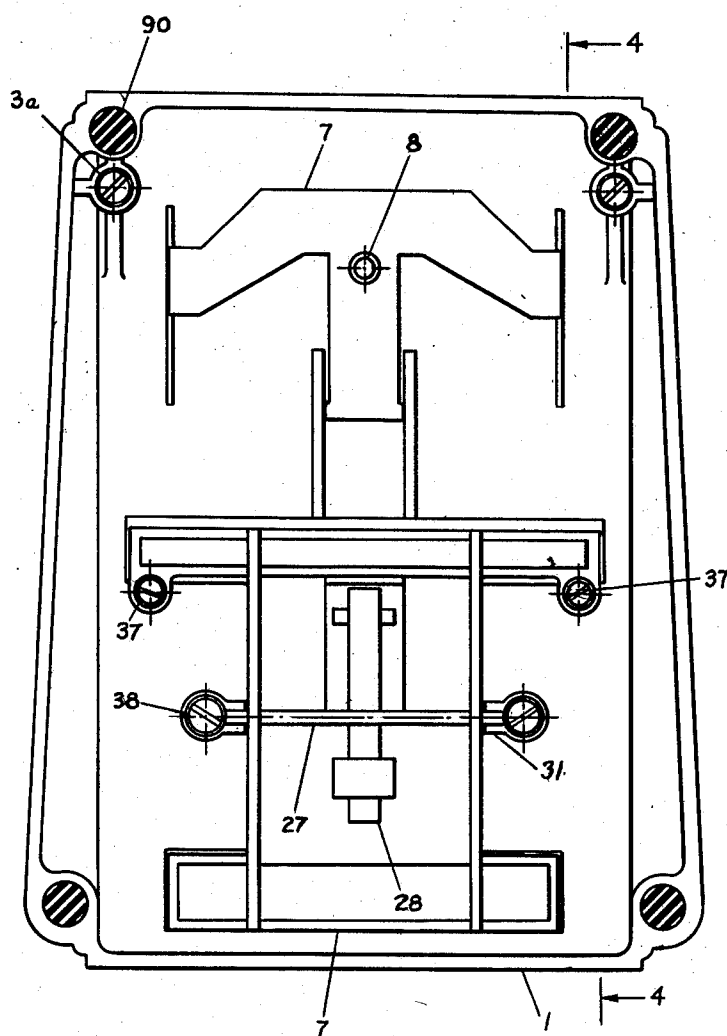


FIG 2

Inventor

HOWARD E. HUTZELMAN

 \mathfrak{Z}_H

Charles T. Lovercheck

Attorney

Sept. 16, 1958

H. E. HUTZELMAN	2,851,946
-----------------	-----------

2,851,946

TYPE WHEEL ASSEMBLY IN CHECK WRITING MACHINES

Filed Feb. 11, 1955

4 Sheets-Sheet 3

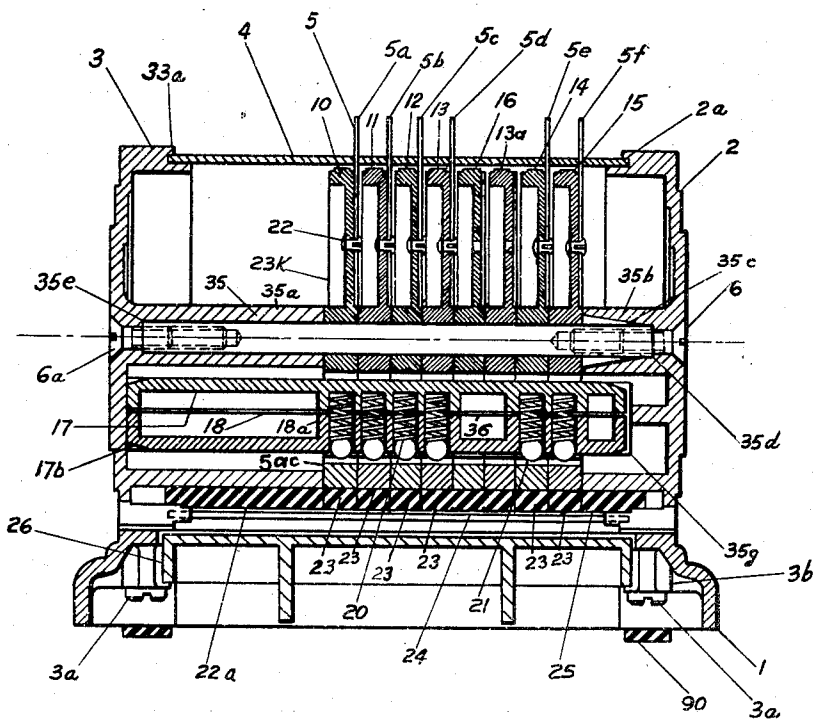


FIG. 3

Inventor

HOWARD E. HUTZELMAN

 \mathfrak{Z}_M

Charles L. Lovelock

Attorney

Sept. 16, 1958

H. E. HUTZELMAN

2,851,946

TYPE WHEEL ASSEMBLY IN CHECK WRITING MACHINES

Filed Feb. 11, 1955

4 Sheets-Sheet 4

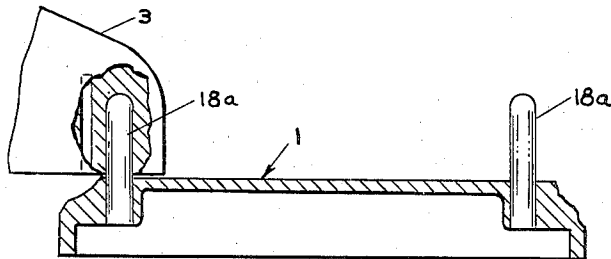


FIG. 7

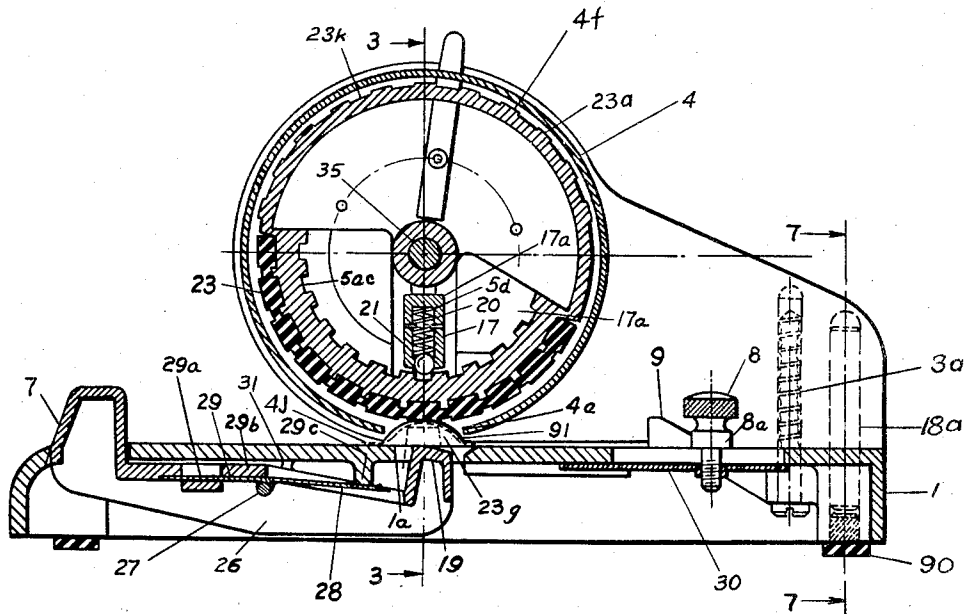


FIG. 4

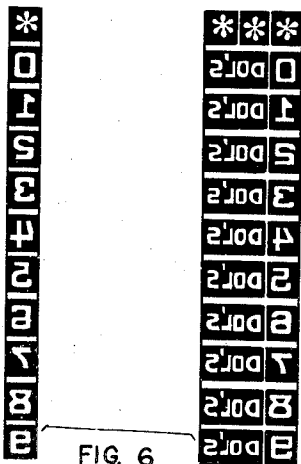


FIG. 6

INVENTOR.

HOWARD E. HUTZELMAN

BY

Charles L. Lorsch
Attorney

1

2,851,946

TYPE WHEEL ASSEMBLY IN CHECK WRITING MACHINES

Howard E. Hutzelman, Corry, Pa., assignor to Applied Research Corporation, Erie, Pa., a corporation of Pennsylvania

Application February 11, 1955, Serial No. 487,571

7 Claims. (Cl. 101—95)

This invention relates to printing devices and more particularly to devices for printing checks drawn on banks wherein the bank is ordered to pay to the person whose name appears on the check, who is the payee, the amount of money indicated on the check.

Check protecting and printing devices made according to prior designs have ordinarily been complicated, heavy, and expensive to construct. They have involved the use of heavy printing members and devices. The offset printing arrangement in the present invention, coupled with the special indelible ink in the rubber stamps as disclosed in Patent No. 2,318,465 and special eraser proof check papers which are in common use at present, results in a printed amount line for checks which is completely safe from the increasing of an amount and completely safe from the adding of any other numerals by any means which would result in an increased amount shown on a check. Protection for checks such as these has been accomplished with existing machines which perforate the check paper when the amount is printed. These machines are costly, complex, bulky, and require maintenance by factory trained mechanics. This invention affords the same degree of check protection, clearness of print to afford faster check handling, and less errors than with hand written checks. This unit is a small compact device which may be produced at a small fraction of the cost of existing machines and will contribute to making printed alter-proof checks available for home and small business use.

It is, accordingly, an object of this invention to provide a check protecting device which is simple in construction, economical to manufacture, and simple and efficient to use.

Another object of this invention is to provide a check printing device wherein the numerals impressed thereby on the check paper are not obscured by the machine perforating the paper.

A further object of this invention is to provide a check printing device wherein the numerals printed by the device are easy to read, thereby eliminating the probability of error, yet the manner in which they are printed by the device prohibits the possibility of an unauthorized person increasing the amount of the check by altering the printed numeral amount on the check and, therefore, the amount cannot be increased in value.

A further object of the invention is to provide a check printing machine which may be easily and expeditiously operated by inexperienced persons and which is light in weight for convenience in handling.

Another object of the invention is to provide a check protecting device utilizing an ink retaining rubber stamp type printing indicia and a structure whereby the paper to be printed will be pushed through a slot and against the platen bar, thereby flexing the paper so that the check paper to be printed on will make contact on the line to be printed by the indicia.

A further object of the invention is to provide an improved slotted cover shell produced from transparent

2

material providing clear indicia windows between slots wherein simple construction results.

Another object of this invention is to provide a means for holding a plurality of printer wheels registering alignment in printing position.

A further object of the invention is to provide a single one piece wheel to carry rubber printing strips and opposing indicator characters and means for indexing.

Another object of the invention is to provide a one piece wheel for carrying rubber printing strips and opposing indicator characters in combination with means for indexing for each printing position, the movement to be through at least one hundred eighty degrees of a total angular movement.

Another object of the invention is to provide an improved cylindrical cover shell for the indicia wheels.

Another object of the invention is to provide an improved suspension for indicia wheels and detent pieces in a check printing machine.

A still further object of this invention is to provide an improved printer platen adjustment to control the printing impression from one side or the other.

With the above and other objects in view, the present invention consists of the combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings and more particularly pointed out in the appended claims, it being understood that changes may be made in the form, size, proportions, and minor details of construction without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:

Fig. 1 is a perspective view of a check writing machine according to the invention;

Fig. 2 is a bottom view of the check writing machine;

Fig. 3 is a sectional view of the machine taken on line 3—3 of Fig. 4;

Fig. 4 is a sectional view of the machine taken on line 4—4 of Fig. 2;

Fig. 5 is a facsimile of a printed amount produced by the unit;

Fig. 6 is an expanded view of part of the printing indicia; and

Fig. 7 is a cross sectional view taken on line 7—7 of Fig. 4 showing the sides of one of the wheels.

Now with more specific reference to the drawings, the check protecting machine is made up of a base plate 1 to which end brackets 2 and 3 are rigidly attached by means of screws 3a which extend through bosses 3b in the base 1 and threadably engage the end brackets 2 and 3, respectively, in threaded holes therein. Indicia wheels 10, 11, 12, 13, 14, and 15 are pivotally supported on shaft 35 which is supported between a boss 35a which is integrally attached to the end bracket 3 and a boss 35b which is integrally attached to the end bracket 2. The boss 35b has a tapered bore 35c which terminates in a shoulder 35d against which the end of the shaft 35 abuts and is held in firm engagement therewith by means of screw 6 which extends through a hole in the bracket 2 and holds the end of the shaft 35 in firm engagement with the shoulder 35d. A similar screw 6a extends through a hole in the end bracket 3 and threadably engages the other end of the shaft 35, drawing the shaft 35 into firm engagement with the shoulder 35e. The inside ends of the bosses 35a and 35b firmly support the indicia wheels 10 to 15 therebetween.

The indicia wheels 10 to 15 are fitted with operating handles 5a, 5b, 5c, 5d, 5e, and 5f, respectively, which are attached to each respective wheel by means of rivets 22. Bands of porous rubber indicia carrying stamps

3

are attached to a segment of the periphery of the wheels 10 to 15 by cement or other suitable means. The porous rubber is a type of rubber well known to those skilled in the art and is adapted to hold a supply of printing ink within the cellular structure of the rubber material.

An indicia wheel 16 is attached to the wheel 13 by means of the rubber indicia member 24. It may also be pinned thereto by means of a rivet extending through the two wheels 16 and 13. The indicia member 24 has a width three times the width of the other indicia members 23 and the member 24 carries the indicia in transverse relation which is shown in Fig. 6. In the first position, the indicia member 24 prints three asterisks, that is, "***" when an amount of less than a dollar is to be printed and it is not desired to print a zero before the amount of cents. If it is desired to print a zero before the amount of cents, the wheel 16 is moved to the second position where the indicia prints "0 DOLS." The wheel 16 prints the letters "DOLS" to all positions except the first position. In the first position, it prints three asterisks "****" and in the second "0 DOLS." The third position prints "1 DOLS," etc. Wheel 16 doesn't have an operating handle but is fastened to indicia wheel 13 as explained above and is thereby positioned by the operation of the indicia wheel 13.

The lower half of each indicia wheel has a segment cut out as shown at 17a in Fig. 4 so that the fixed indexing bar 17 may extend through the openings 17a in all seven of the indicia wheels 10 to 15 and allow the indicia wheels to be operated through approximately one hundred eighty degrees. The indexing bar 17 is made of two halves which lie together along slot 18 and the two edges of the bar 17 are inserted in the opening 17b and are held together by the edges thereof. The indexing bar 17 is inserted into the opening 17b in the bossed portion 35a and extends across through the opening in the indicia wheels 10 to 15 and may extend into an opening at 35g in the bossed portion 35a whereby both ends may be supported.

The top cylindrical surfaces of each indicia wheel 10 to 15 remote from the porous rubber stamp band 23 thereon carry positive indicator characters or indicia at 23a which are visible through windows 23b in the top of the cylindrical cover member 4. These windows 23b may be formed in a number of ways, one being constructing the cylindrical member 4 of transparent material and painting all but the areas where the windows are to be exposed. The cylindrical cover member 4 extends into the groove 33a in the bracket member 3 and the groove 2a in the bracket member 2 and is held in firm engagement therewith by the screws 6 and 6a which hold the bracket members 2 and 3 together. The cylindrical cover member 4 is, in effect, a sheet of material but in the form of a cylinder and its ends terminate in spaced relation to form a slot 4a in the bottom thereof through which the check paper 4j to be printed is forced during the printing operation as will be explained later. Bands 23 each have thereon from one end to the other *, 0, and numbers 1 to 9. When an indicia member on band 23 is disposed as shown for the indicia member 23a in Fig. 4 and the printing lever is actuated, the indicia which appears at the windows 23b which correspond to the indicia 23 facing the groove 4a will print the indicia on the check paper 4j through groove 4a.

The inner peripheral cylindrical surface of the cut out portion on each wheel 10 to 15 is provided with locating grooves 5ac which co-act with detent balls 21 and one of each of the grooves 5ac is directly opposite one of the indicia bearing rubber bands 23 whereby when each indicator wheel is moved to its proper position, the detent ball 21 will be urged by the spring 20 which is confined in a blind hole at the top 5d in the bar 17 and extends through and is held in the bar 17 by the ball 21 at the bottom. The end of the hole adjacent the ball 21 is of reduced size, preventing the ball 21 from being forced

4

out of the indexing member when the indexing bar 17 is removed from the device. Therefore, the ball 21 will be urged into engagement with the groove 5ac to hold the wheel in the desired position.

The bossed portion 35a carries the porous rubber block 22a and bossed portion 35b carries porous rubber block 25 which print a predetermined indicia on the check to be printed. The blocks 22a and 25 are fixed in position and, in the example shown, will print the word "THE SUM OF" before the amount being printed and "CTS" after the amount being printed.

The cylindrical case 4 has slots 4h through which handles 5 protrude in order for the actuating handles to be accessible to move the wheels to the desired position. The cylindrical cover 4 is also provided with the clear windows 23b which are formed by masking the window area from paint which is applied to the transparent plastic cylinder as explained above to indicate the amount to be imprinted on the check blank 4j so that the indicator characters 4f corresponding to the porous rubber type characters register with slot 4a in the position in which the respective wheel is set. Therefore, the indicia wheels can be in the printed position to bring any desired indicia to the operating position in alignment with the slot 4a. Further, the detent ball 21 will engage a depression on the inner side surface 21a of the indicia wheels to positively locate the indicia members at the desired position.

Referring now to Fig. 5, the specimen characters on the facsimile shown indicate such characters as would be printed from the rubber stamps shown in the drawings designated by the same index members as their corresponding rubber stamp members shown in Fig. 4; however, the letter A is affixed thereto. Blocks 22a and 25 on bossed extensions 35a and 35b of end members 3 and 2, respectively, will thereby print blocks 22A and 25A each time the check printing device is actuated. The particular indicia which will be impressed on the check is determined by the manually set position of the handles 5a through 5f. This arrangement is provided so that the words "DOLS" will be printed with every position of the indicia wheel 13 except when the indicia wheel 13 is positioned to print an asterisk. This will be done when it is desired for the device to print an amount less than one dollar. Each of the indicia wheels 10 to 13 will be positioned to print an asterisk and, in this position, indicia wheel 16 and corresponding rubber stamp band 24 will be positioned to print two more asterisks instead of the word "DOLS." Indicia wheels 14 and 15 may be positioned to correspond with the desired "CTS" amount to be printed. An example of this printing is shown in Fig. 6.

Base plate 1 is provided with an operating bar assembly by means of which each check form 4j inserted into the device may be forced upwardly to bring it into contact with the porous stamp bands and blocks which will thereby impart the desired printing upon the check 4j. This assembly consists of the operating bar 26 pivotally mounted on pin 27 having the hand engaging member 7 integrally attached thereto. The opposite end of the bar 26 carries the platen 19. The ends of the pin 27 are supported on lugs 31 which are integrally attached to the base plate 1. A flat spring 28 is inserted in a slot 29 between the lugs 29a and 29b in the operating bar 26, thereby holding the spring 28 in position, and one end of the spring 28 engages a lug 29c integrally attached to the underside of the base 1.

In order to insure the printed indicia falling on the desired line on the check 4j, a locating device is provided. Two spaced stop members 9 are attached to a slide 30 and the stops 9 extend upwardly through a slot in the base 1 and have a threaded opening therein which receives the screw 8. The screw 8 has a flat shoulder 8a thereon which is adapted to engage the top of the base 1 at either side of the slot so that when the screw 8 is loosened, the stops 9 can be slid toward or away from

5

the cylindrical member 4. Therefore, a check 4j inserted under the cylindrical member 4 can be stopped at a predetermined point so as to have the indicia impressed on the proper place on the check 4j. Fastening screws 37 are threadably attached to platen member 19 and extend upwardly therethrough and are adapted to engage the bottom of the base 1 to limit the upward movement of the platen 19. This adjustment can be made if it is desirable in order to insure equal pressure on all parts of the platen 19.

In order to insure that a neat print of only the rubber stamp characters is impressed on the check 4j without a portion of the adjacent stamp block marking the check form, the opening in the cylindrical member 4 is made of sufficient width to only permit the check 4j to be flexed in convex relation through the opening by the action of the platen 19. This restriction of the opening width also serves a secondary function because the resiliency of the material of which the check 4j is made causes the check to eject itself from the rubber stamps and down into engagement with the platen 19 when the platen 19 is lowered by release of the manual pressure on the handle 7 and the action of the spring 28 has forced the platen 19 downward.

The ink supply in the porous rubber stamp bands is sufficient for hundreds of printed impressions and will not dry out, even if not used for several years, when the proper ink is used in combination with the rubber material. The suitable type of ink is familiar to those skilled in the art and the type used with the porous rubber disclosed in the said patent. When the ink supply is nearly exhausted, the stamp bands may be reinked merely by brushing the ink on the rubber surface. In order to make these surfaces easily accessible to the user, the entire operating bar or printing platen 19 is removable. Pivot pin 27 is held in place in grooves in the bottom of the lugs 31 by the heads of cap screws 38 which extend up into the base 1 and, when removed, allow the pin 27 to be lifted out of the slot in which it rests. Removal of the two screws 38 permits removal of the operating bar assembly consisting of the parts 7, 26, 19, 29, 37, 27, and 28. Reinking may now be accomplished through the slot 1a in the base 1.

In order to disassemble the check printing device, the operator removes the right hand screw 3a and the screw 6. This will allow the bracket 2 to swing outwardly around locating pin 18a. When the bracket member 2 swings outward, cylindrical cover member 4 comes out of slot 2a. Then cover 4 can be pulled from slot 2a and expanded by spreading it at slot 4a and thereby lifting it up off handles 5a to 5f and indicia wheels 10 to 15. The members 10 to 15 can then be easily removed by sliding them sideways off shaft 35.

The foregoing specification sets forth the invention in its preferred practical forms but the structure shown is capable of modification within a range of equivalents without departing from the invention which is to be understood is broadly novel as is commensurate with the appended claims.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A check printing machine comprising a base, printing means comprising ink containing indicia members supported on said base, a shaft, said ink containing indicia members being supported on said base by means of said shaft and rotatable about said shaft, two spaced side members, said shaft being disposed between said side

6

members and attached thereto and supported thereby, locating pins, said locating pins being attached to said base and extending upwardly therefrom into said side members, and means to lock said side members to said base with said shaft disposed therebetween, said side members being swingable outwardly about said locating pins to release said shaft whereby said printing means may be removed.

2. The machine recited in claim 1 wherein said side members each have a circular groove therein in the side thereof facing the other side member and generally concentric with said shaft and a sheet of material formed into cylindrical shape forming a cover for said printing means having the cylindrical ends thereof disposed in said grooves whereby said sheet is supported.

3. The machine recited in claim 2 wherein said cover has axially spaced, circumferentially extending slots therein and actuating handles, said actuating handles being attached to said printing means and extending through said slots whereby said handles may be engaged by the fingers of an operator to set said printing means.

4. The machine recited in claim 2 wherein said printing means comprises spaced wheels having said indicia members thereon and said cover comprises resilient material split longitudinally along one side, said cover being adapted to be grasped by the one hand of an operator adjacent each side of said split and bent toward a flat shape, opening up said split to enable said wheels to move through said split and over said wheels.

5. The machine recited in claim 2 wherein said cover has a longitudinally extending slot down the side thereof adjacent said base and platen means on said base, said printing means being spaced inwardly from the inner periphery of said cylindrical cover, said platen being movable into said slot whereby a paper check blank may be forced into said slot into engagement with said printing means, bending said check against the edges of said slot.

6. The machine recited in claim 2 wherein said printing means is in spaced relation to said base and a stop member is attached to said base to limit the position of a check relative to said printing means, said stop member being adjustable on said base.

7. A check printing machine comprising a base, printing means comprising ink containing indicia members supported on said base and rotatable about a shaft, said shaft supported solely on two side members and disposed therebetween, each said side member being attached to said base by means of locating pins extending into said side members and attached to said base upwardly therefrom, and means to lock said side members to said base, said side members being swingable about said locating pins to release said shaft.

References Cited in the file of this patent

UNITED STATES PATENTS

611,926	Murray	Oct. 4, 1898
923,085	Smith	May 25, 1909
1,131,602	Doremus	Mar. 9, 1915
1,183,605	Todd	May 16, 1916
1,307,532	Angell	June 24, 1919
1,329,606	Johanson	Feb. 3, 1920
1,530,871	Welter	Mar. 24, 1925
1,868,997	Speicher	July 26, 1932
2,092,852	Payne	Sept. 14, 1937
2,318,465	Chollar	May 4, 1943
2,329,646	Payne	Sept. 14, 1943
2,339,188	Payne	Jan. 11, 1944
2,344,609	Hanson	Mar. 21, 1944