Feb. 19, 1929. 1,702,763

P. J. CLARK

CHECK INDORSING MACHINE

Filed March 16, 1927 4 Sheets-Sheet 1

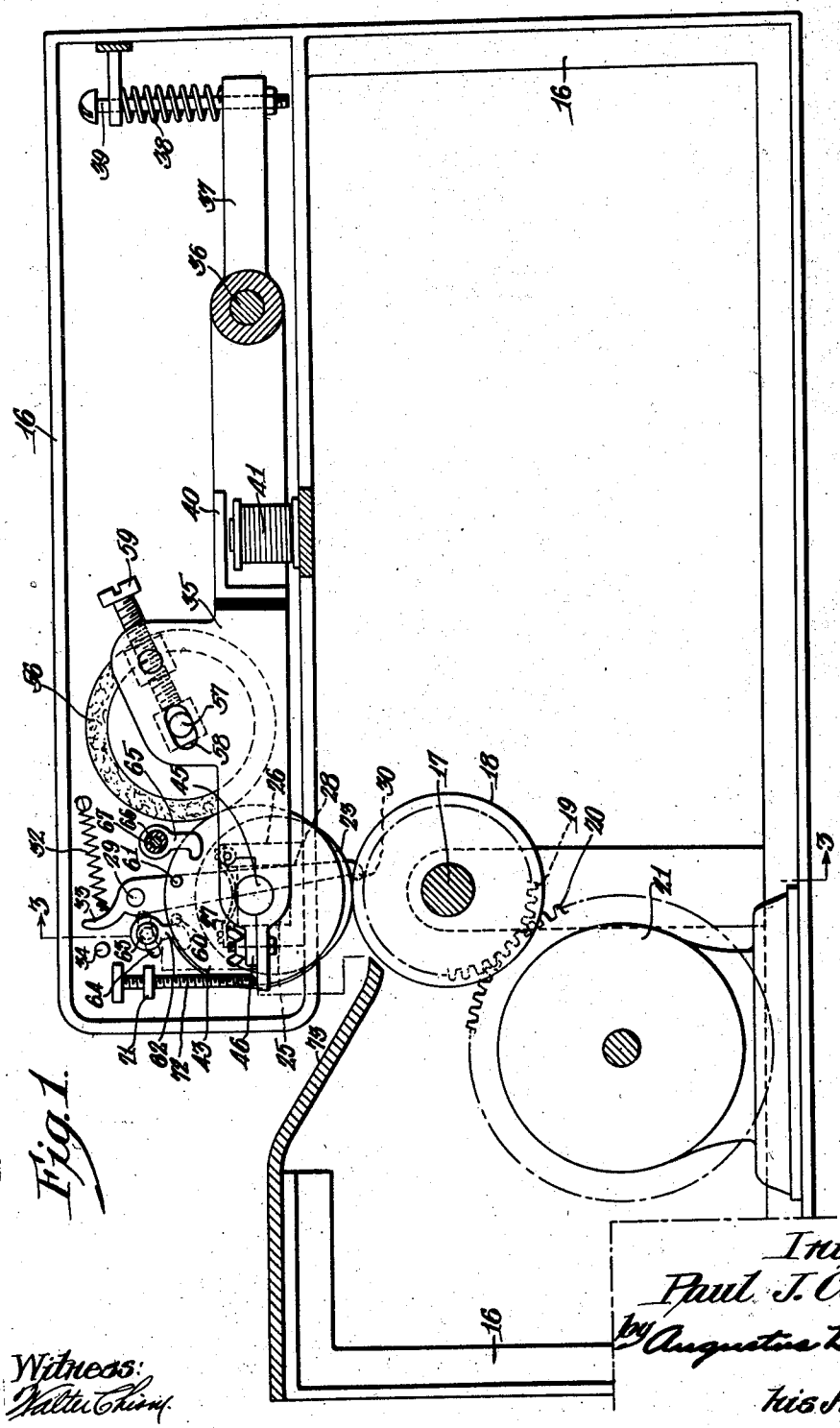

Fig. 1.

Witness:
Walter Chinn

Inventor:
Paul J. Clark
by Augustus B. Coppa
his Attorney

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Filed March 16, 1927 4 Sheets-Sheet 2

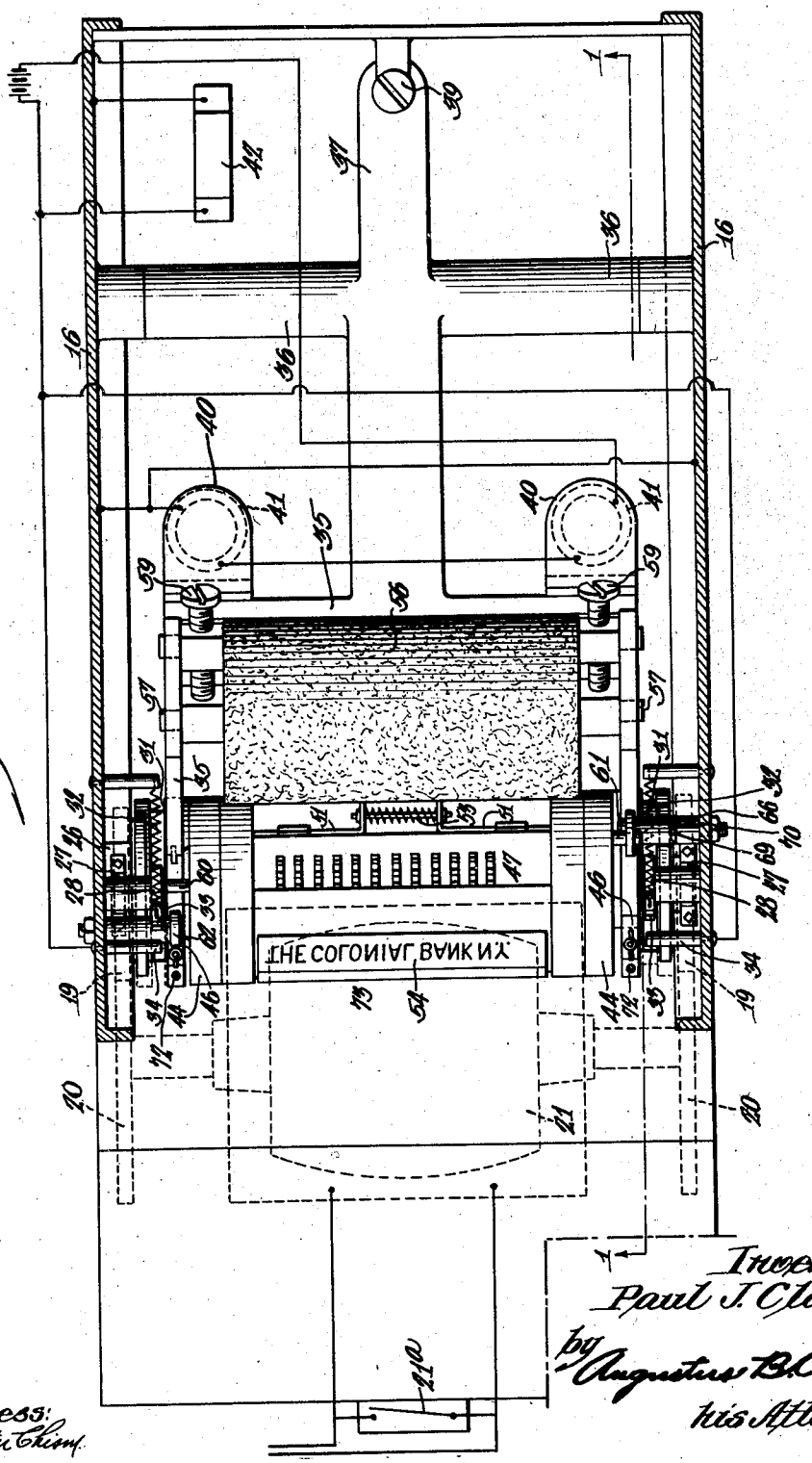

Fig. 2.

Witness:
Walter Chinn

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Paul J. Clark
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his Attorney

Feb. 19, 1929. 1,702,763

P. J. CLARK

CHECK INDORSING MACHINE

Filed March 16, 1927 4 Sheets-Sheet 3

Fig. 3.

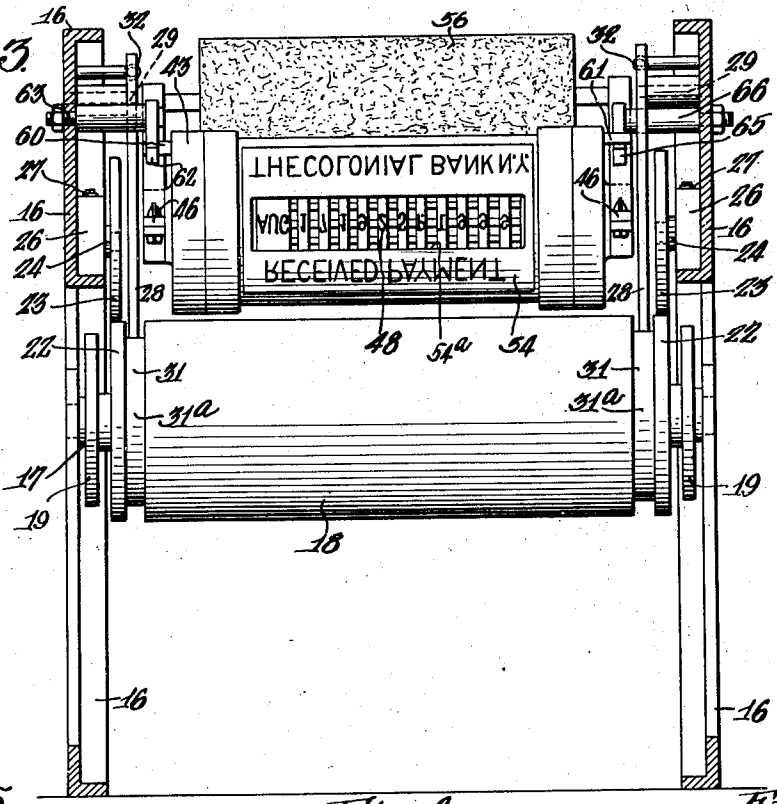


Fig. 5.

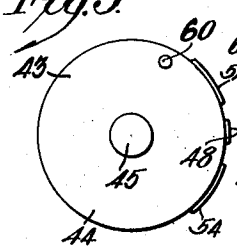


Fig. 4.

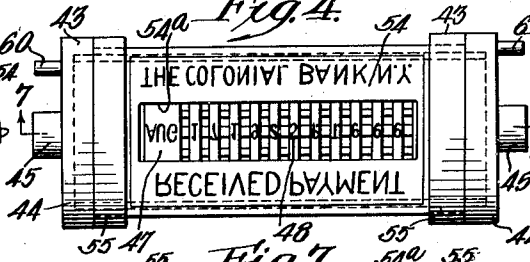


Fig. 6.

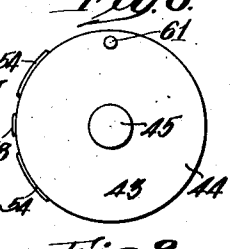


Fig. 9.

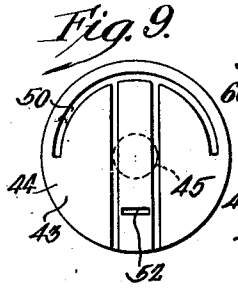


Fig. 7.

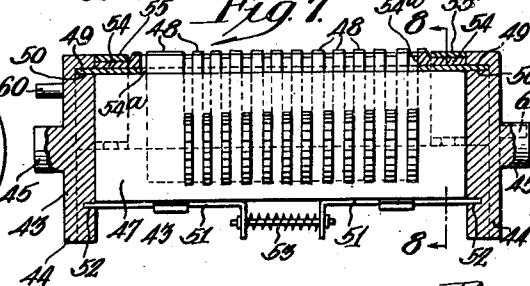
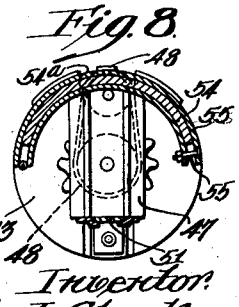


Fig. 8.



Witness:
Walter Chum.

Inventor:
Paul J. Clark
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Feb. 19, 1929. 1,702,763

P. J. CLARK

CHECK INDORSING MACHINE

Filed March 16, 1927 4 Sheets-Sheet 4

Fig. 10.

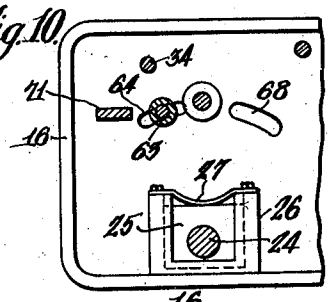


Fig. 11.

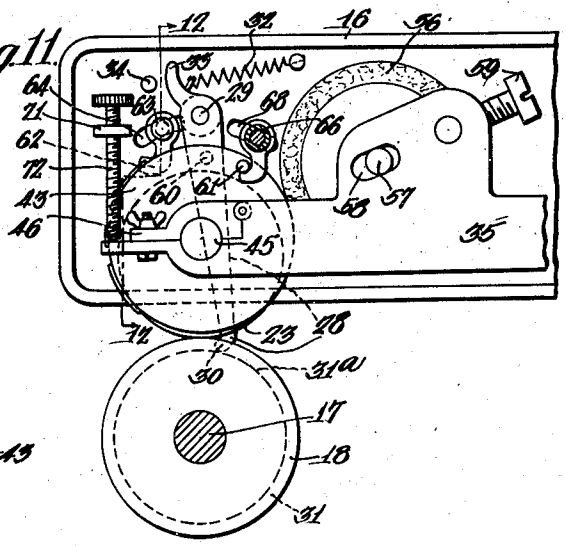


Fig. 12.

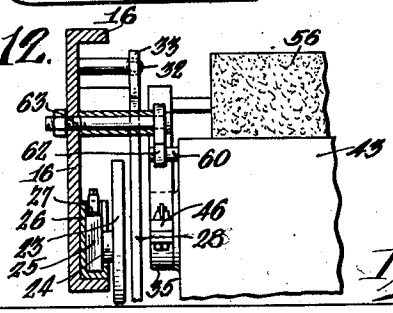


Fig. 13.

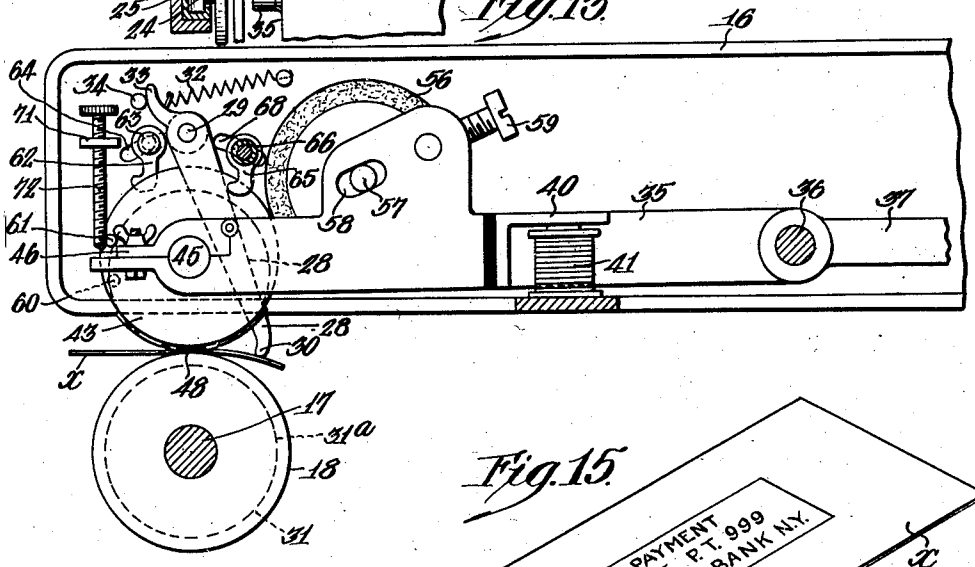


Fig. 14.

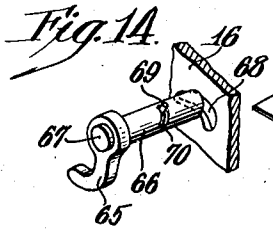
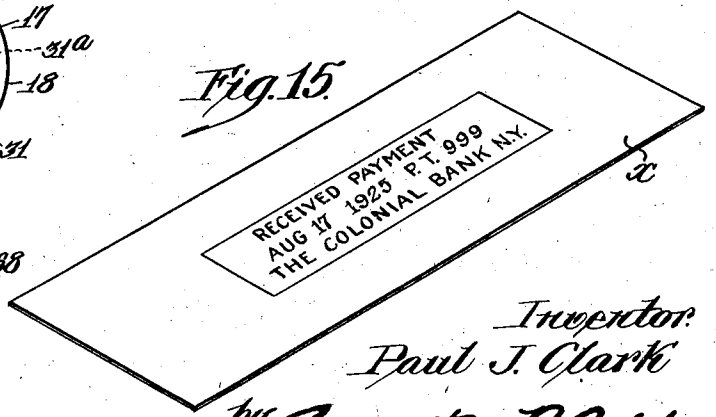


Fig. 15.



Inventor:
Paul J. Clark
by Augustus B. Coppes
his Attorney

Witness:
Walter Claim.

Patented Feb. 19, 1929. 1,702,763

UNITED STATES PATENT OFFICE.

PAUL J. CLARK, OF PLEASANTVILLE, NEW JERSEY.

CHECK-INDORSING MACHINE.

Application filed March 16, 1927. Serial No. 175,819.

My invention relates to indorsing machines such for example as machines used in banks, trust companies, and other places where it is required to indorse large numbers of checks and other paper, said indorsement usually requiring the printing or stamping of dates and other numbers which must be changed from time to time and also requiring the printing of a permanent setting such for example as the name of the bank and the wording "Received payment."

Prior to my present invention, a number of machines have been designed and put on the market which machines operate to indorse the backs of checks, but up to the time of my present invention these prior machines have not been entirely successful; one of the disadvantages being the marring and tearing of the checks; another disadvantage being the failure at times for the printing operation to properly indorse the check, the check sometimes passing through without receiving any indorsement whatever.

In said prior art machines the detector arms employed in each instance, were connected with the stop mechanism for the type cylinder or die-hub which imposed a great amount of strain on the checks or other papers while passing through the machine. In some instances, according to the strength and resistance of the paper out of which the checks were made, this strain was too much for the checks and they were often torn and mutilated. If the adjustments were changed on the arms of said prior art machines to prevent the mutilation of the checks, the spring tension adjustment would not be sufficient to hold the die or type cylinder on its return rotation to normal position and hence there was no assurance of the proper starting and control of the type cylinder. Furthermore, there was no assurance of the point of contact of the printed type with the check, sometimes the printing occurring only partly on the check; there being practically no control or assurance of controlling the type carrier or cylinder. Taking into consideration that to be of practical value such machines must operate quickly and accurately in order for great numbers of checks to be put through in a short time, it is believed to be obvious that if such assurance cannot be had that the machine is of practically little value.

With said prior art conditions in view, I have invented a machine in which the check-engaging trip arms are in no way connected with any type cylinder stops, so that the work imposed on the checks is practically nil, at the same time said arms are effective to quickly and accurately move the type carrier or cylinder into a positive printing position with respect to the checks, as they are fed into the machine. In carrying out this object I have employed electro-magnetic means, illustrated in the form of electric magnets which magnets are energized through the action of said trip-arms to attract an armature, said armature, during its movement, being effective to lower the type carrier or cylinder in close proximity to the platen roll, so that the check passing therebetween will receive an accurate and predetermined printing of the indorsement.

The above objects and advantageous ends I attain in the following manner, reference being had to the accompanying drawings in which

Figure 1 is a sectional elevation of a machine made in accordance with my invention, the section being taken on the line 1—1 of Figure 2,

Figure 2 is a plan view of my improved machine, part of the frame being shown in section,

Figure 3 is a transverse sectional elevation taken on the line 3—3 of Figure 1.

Figure 4 is a longitudinal elevation of my improved type cylinder or carrier,

Figures 5 and 6 are respectively views of the opposite ends of the type carrier shown in Figure 4,

Figure 7 is a longitudinal sectional view taken on the line 7—7 of Figure 4,

Figure 8 is a transverse sectional elevation taken on the line 8—8 of Figure 7,

Figure 9 is an elevation showing the inner surface of one of the ends of said type carrier, both of the inner parts of said ends being similarly constructed,

Figure 10 is a fragmentary side elevation, partly in section, showing certain of the features of my improved machine,

Figure 11 is a fragmentary elevation partly in section showing certain positions of the elements of my invention, such for example as when an attempted back lash takes place,

Figure 12 is a fragmentary elevation taken on the line 12—12 of Figure 11,

Figure 13 is a fragmentary sectional elevation illustrating certain of the parts, while a check or other paper is being passed therethrough and receiving a printed indorsement,

Figure 14 is a fragmentary sectional perspective view illustrating one of the swingable and independently adjustable stops forming a part of my invention, and

Figure 15 is a perspective view showing an indorsement capable of being printed upon the back of a check or other paper by my improved machine.

Referring particularly to the drawings, 16 represents a frame structure, the opposite sides of which form the bearing for the ends of an axle 17, said axle being connected to the platen roll 18. Gear wheels 19 on the axle 17 mesh with gear wheels 20 on the shaft of an electric motor 21, said motor being set in motion through the medium of a switch which is diagrammatically indicated at 21ª in Figure 2. The platen roll 18, adjacent its opposite ends, is cut to form integral friction discs 22 so that said discs operate in unison with the platen roll 18. Other friction discs 23 are rotatably mounted on trunnions 24, said trunnions projecting from blocks 25 which are slidably mounted within grooves of housings 26 which are secured to the opposite sides of the frame structure. These housings have bowed springs 27 secured thereto which press resiliently on the upper edge surfaces of the blocks 25 in order to keep a downward resilient pressure of the discs 23 upon the discs 22, it being noted that when the checks or other papers are fed into the machine they pass between the discs 22 and 23 adjacent opposite sides of the machine, and are thus frictionally engaged and conveyed; the discs 23 resiliently yielding upwardly to the extent of the thickness of said checks.

Trip or detector arms 28 are pivotally mounted at 29 adjacent opposite sides of the frame structure, said arms having lower curved end portions 30 which normally extend within annular grooves or channels 31 existing between the friction discs 22 and the adjacent ends of the platen roll 18; it thus being noted that said ends 30 of the arms 28 are normally within the path of a check or other paper fed between the friction discs 22 and 23 and that said ends 30 will be engaged by the check, as shown in Figure 13, when the check is passing between said friction discs and that the arms 28 will be swung on their pivots 29 against the tension of springs 32. The lower ends 30 of the arms 28, due to the action of the springs 32, are normally held in contact with the surfaces 31ª of the grooves or channels 31 below their uppermost portions so as to be in position for engagement by the checks or other papers as they are passing between said friction discs 22 and 23. The other ends of the arms 28 have electric contact portions 33 which when the arms 28 are swung as just noted, will engage electric contact pins 34, said contact pins being electrically insulated from the metallic frame structure 16.

A carriage 35 is pivotally mounted at 36 so as to swing upwardly and downwardly, said carriage having a rear extension 37 which is pressed by a spring 38 on an adjusting screw or bolt 39, said adjusting screw or bolt being operative to vary the tension of the spring 38. The carriage 35 forward of the pivot 36 has an armature 40 which is directly above the cores of electro-magnets 41, said electro-magnets being in electric circuit with the pins 34 and with a condenser diagrammatically illustrated at 42 in Figure 2, said condenser being included in the circuit to avoid the formation of an arc during the breaking of the circuit which action occurs during the operation of the machine. Any suitable electric circuit can be used and I have diagrammatically illustrated one form of wiring including a battery or other suitable electric generator.

The forward end of the carriage 35 is bifurcated, and between the furcations thereof is mounted the type cylinder or carrier 43, said carrier being clearly illustrated in Figures 5 to 9 inclusive. The carrier is made up so as to include two end portions 44 which have trunnions 45 pivotally mounted in furcations of the forward end of the carriage 35, said furcations having removable lap sections 46 for the purpose of easily inserting and removing the trunnions of the type carrier. A frame 47 includes the movable type 48 such for example as bands or wheels including projecting letters and numbers which may be independently moved to produce the month, date and year and any other markings, such as numbers and letters to designate certain banks or trust companies, etc. The upper part of the frame 47 is retained by an arcuate plate 49 which has its end portions positioned within arcuate grooves 50 in the ends 44 of the type carrier. A bolt 51 is made in two slidable sections carried by the frame 47 and the opposite ends of said sections move within transverse grooves or notches 52 in the ends 44, by the action of a spring 53, as clearly shown in Figures 7 and 8. A type plate 54 is secured on the arcuate plate 49 by hinged clamping bands 55. This plate 54 has permanent type thereon, such for example as type reading Received payment—the Colonial Bank N. Y. The plate 54 has an opening 54ª out of which project the movable type 48.

It will be noted that if the forward end of the carriage 35 is moved downwardly on the pivot 36 that both the movable and permanent type of the carrier 43 will be moved into printing position with respect to a check or other paper while being conveyed by and between the friction discs 22 and 23 and across the platen 18.

An inkling roll 56 has trunnions 57 mounted within slots 58 in the furcations of the carriage 35 and is adjustable toward and from the type carrier by adjusting screws 59. This inking roll is made of a felt or matted wool

on its face upon which liquid ink can be applied.

One end 44 of the type carrier or cylinder 43 has a pin 60 projecting therefrom while the other end 44 has a pin 61 projecting therefrom. The pin 60 is arranged forward of the pin 61, while the type carrier is in its normal raised position as shown in Figure 1. The pin 60 when in said latter position is adapted to engage a stop 62 which is rigidly secured to a stud 63, the stud being adjustably secured to a side of the frame structure 16 through the medium of an arcuate slot 64. In other words, while the stop 62 is rigid, it can be adjusted forwardly or rearwardly from the position shown in Figure 1 for the purposes hereinafter described. A second stop 65 is connected to a sleeve 66 which is pivotally or rockably mounted on a pin 67, the pin 67 being adjustably secured to the frame structure 16 through the medium of an arcuate slot 68. The pin 67 has a transversely extending pin 69 which projects out of a slot 70 in the sleeve 66. Thus the stop 65 is free to swing to the extent of movement of the pin 69 in the slot 70. This structure prevents the stop 65 from swinging too far in either direction for a purpose hereinafter set forth. It may be here stated, however, that the pin 60 coacts with the stop 62 and that the pin 61 coacts with the lower end of the stop 65, and thus the type carrier is prevented from accidentally moving too far forward or back lashing to a detrimental extent as will be more obvious from the following description.

Lugs 71 project from the opposite sides of the frame structure 16 and have screw threaded holes in which fit adjustable screw threaded stops 72, the lower ends of which are adapted to engage and coact with the extreme forward end portions of the furcations of the carriage 35 to limit the extent of upward swing of the forward end portion of the carriage 35. It may be here noted that by turning the adjustable screw threaded stops 72 that the pins 60 and 61 will vary their relation with their respective stops 62 and 65, and thus the "get away" or starting movement of the type carrier can be varied at will to suit various conditions. Furthermore, it may be here stated that until the pin 60 is moved below the lower end of the stop 62 that the type carrier will be prevented from rotating and also that said pin 60, by engagement with the stop 62 will prevent the inertia of the type carrier from causing it to rotate too far forward after each printing operation. The pin 61, on the other hand, prevents any accidental back lash for the reason that if a back lash starts to occur, the pin 61 will engage the forward part of the stop 65 and, from the normal position, as illustrated in Figure 1, the stop 65 cannot swing rearwardly for the reason that the pin 69 is at the end of the arcuate slot 70, hence the stop 65 will act as an abutment and thereby prevent the further rearward turning of the type carrier.

In the operation of my machine, considering for example that bank checks, one of which is illustrated at x, are to be indorsed on their backs, the checks are individually moved by an operator down the inclined portion 73 of the frame structure so that the advanced edge of the check will be gripped between the friction discs 22 and 23 and will be moved or conveyed thereby over the top of the platen roll 18. Said advanced edge of the check will engage and swing the arms 28 until the portions 33 thereof contact with the electrically energized pins 34. This action will complete an electric circuit through the coils of the electro-magnets 41, thereby temporarily magnetizing their cores so as to attract and move the armature 40, and consequently swing the forward part of the carriage 35 downwardly on the pivot 36. This action will move the type carrier or cylinder 43 downwardly to such extent as to move the pin 60 below the stop 62 and the type carrier will engage the moving check thereby causing the rotation of the type carrier or cylinder to form an impression or printing of the movable and fixed type upon the back of the check. As soon as the arms 28 are freed by the check, the springs 32 will operate to move the portions 33 of said arms out of contact with the electrified pins 34 and the electric circuit through the electro-magnets 41 will be broken and the electro-magnets will be de-energized allowing the spring 38 to swing the forward part of the carriage 35 upwardly so as to raise the type carrier into its normal position. During this upward movement of the type carrier the momentum imparted by the rotation of the type carrier will move the type face into contact with the inking roll 56 and past the same until the pin 60 again engages the stop 62, the pin 61 being operative to swing the stop 65 on its pivot in order to allow the pin 61 to pass said stop 65 and then the stop 65 will swing downwardly into its normal position so that if any rebound or back lash of the type cylinder attempts to take place, the pin 61 will strike the forward part of the pendant portion of the stop 65 and further rearward movement of the type carrier will be stopped. After being indorsed, the checks will fall to the bottom of the frame structure where they can be removed through the opening in the side thereof.

It was previously stated that the adjustable stop 72 can be used to vary the relation between the pin 60 and the stop 62 and from the foregoing description of the operation, it will be obvious that the time of clearance of the pin 60 from the stop 62 can be varied and that the electro-magnets 41 can be compelled to move the carriage 35 on its pivot to various extents, thus allowing the printing of the in-

dorsement in any desirable position upon the back of the check. Furthermore, the tension of the spring 38 can be varied so that the speed of return movement or lift of the type carrier can be varied.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a machine of the character described for indorsing papers, the combination of a platen; rotatable type; stopping means for limiting the rotation of said type; means operative for conveying the papers; electrically controlled means rendered operative by said papers, while being conveyed, to relatively move the type and said platen toward each other to form an impression of said type on said papers and to thereby impart rotation to said rotatable type by contact with the papers; and means for relatively moving said type and platen away from each other and to cause said type to be stopped in its rotation by said stopping means.

2. In a machine of the character described for indorsing papers, the combination of a platen; rotatable type; means operative for conveying the papers; detector means adapted to be moved by said papers, while being conveyed; electrically operative means; an electric contact in circuit with said electrically operative means, said detector means having a portion for engagement with said electric contact for completing an electric circuit through said electrically operative means to effect movement of said type toward the platen to form an impression on said papers; means for moving said engagement portion of the detector means out of engagement with said electric contact when the detector means is released by said papers to break the electric circuit through said electrically operative means whereby said type is free to be moved away from said platen; and stopping means operative to prevent rotation of said type when moved to a predetermined position away from said platen.

3. In a machine of the character described for indorsing papers, the combination of a platen; a carriage; a rotatable type carrier on said carriage; type on said carrier; a movably mounted detector arm; means for conveying papers across the platen whereby the papers will move said detector arm; electric means operative when energized to move said carriage to cause said carrier to move the type in printing contact with the paper on said platen and to cause rotation of said carrier by the conveying action of the paper; electric contact means, in electric connection with said electrically operative means, said detector arm having a portion which, when the arm is moved by the paper, will engage said contact means and thereby complete an electric circuit through said electrically operative means to electrically energize the latter; and an adjustable stop adapted to limit to various extents the movement of said type carrier away from said platen.

4. In a machine of the character described for indorsing papers, the combination of a platen; a carriage; a rotatable type carrier on said carriage; type on said carrier; a movably mounted detector arm; means for conveying papers across the platen whereby the papers will move said detector arm; electric means operative when energized to move said carriage to cause said carrier to move the type in printing contact with the paper on said platen and to cause rotation of said carrier by the conveying action of the paper; electric contact means in electric connection with said electrically operative means, said detector arm having a portion which, when the arm is moved by the paper, will engage said contact means and thereby complete an electric circuit through said electrically operative means to electrically energize the latter; and stopping means for arresting the rotatable movement of said type carrier after the latter has been moved away from said platen.

5. In a machine of the character described for indorsing papers, the combination of a platen; a carriage; a rotatable type carrier on said carriage; type on said carrier; a movably mounted detector arm; means for conveying papers across the platen whereby the papers will move said detector arm; electric means operative when energized to move said carriage to cause said carrier to move the type in printing contact with the paper on said platen and to cause rotation of said carrier by the conveying action of the paper; electric contact means, in electric connection with said electrically operative means, said detector arm having a portion which, when the arm is moved by the paper, will engage said contact means and thereby complete an electric circuit through said electrically operative means to electrically energize the latter; stopping means for arresting the rotatable movement of said type carrier after the latter has been moved away from said platen; and an adjustable stop adapted to limit to various extents the movement of said type carrier away from said platen.

6. In a machine of the character described for indorsing papers, the combination of a platen; a carriage; a rotatable type carrier on said carriage; type on said carrier; a pivotally mounted detector arm; means for conveying papers across the platen whereby the papers will move said detector arm; a spring for moving said detector arm in an opposite direction when released by the papers; electric means operative when energized to move said carriage to cause said carrier to move the type in printing contact with the paper on said platen so as to cause rotation of said carrier by the conveying action of the paper; electric contact means in

electric connection with said electrically operative means, said detector arm having a portion which, when the arm is moved by the paper, will engage said contact means and thereby complete an electric circuit through said electrically operative means to electrically energize the latter; stopping means mounted independently of said carrier; and means carried by said type carrier for engagement with said stopping means to limit and stop the rotation of said type carrier.

7. In a machine of the character described for indorsing papers the combination of a platen; a carriage; a rotatable type carrier on said carriage; type on said carrier; a pivotally mounted detector arm; means for conveying papers across the platen whereby the papers will move said detector arm; a spring for moving said detector arm in an opposite direction when released by the papers; electric means operative when energized to move said carriage to cause said carrier to move the type into printing contact with the paper on said platen and so as to cause rotation of said carrier by the conveying action of the paper, electric contact means in electric connection with said electrically operative means, said detector arm having a portion which, when the arm is moved by the paper, will engage said contact means and thereby complete an electric circuit through said electrically operative means to electrically energize the latter; stopping means mounted independently of said type carrier; and means on said type carrier for engagement with said stopping means, said stopping means being adjustable in its position whereby the type carrier can be stopped in various positions in its rotation to vary the position of the indorsement of the paper with respect to the edges thereof.

8. In a machine of the character described for indorsing papers, the combination of a platen; a carriage; a rotatable type carrier on said carriage; type on said carrier; a pivotally mounted detector arm; means for conveying papers across the platen whereby the papers will move said detector arm; a spring for moving said detector arm in an opposite direction when released by the papers; electric means operative when energized to move said carriage to cause said carrier to move the type into printing contact with the paper on said platen and to cause rotation of said carrier by the conveying action of the paper; electric contact means in electric connection with said electrically operative means, said detector arm having a portion which, when the arm is moved by the paper, will engage said contact means and thereby complete an electric circuit through said electrically operative means to electrically energize the latter; stopping means mounted independently of said type carrier; means on said type carried for engagement with said stopping means, said stopping means being adjustable in its position whereby the type carrier can be stopped in various positions in its rotation to vary the position of the indorsement of the paper with respect to the edges thereof; and an adjustable stop adapted to limit to various extents the movement of said type carrier away from said platen whereby the relative positions between said first stopping means and the engaging means on said type carrier can be varied to change the time of clearance of said carrier and the consequent impact of the type with the paper to be indorsed.

9. In a machine of the character described for indorsing papers, the combination of a platen; means for conveying papers over said platen; a movably mounted carriage; a type carrier rotatably mounted on said carriage; means for moving said carriage to cause said type carrier to move into and out of printing relation with said platen so that a paper fed between the platen and the type carrier will receive a printing from the type of said carrier, the friction exerted between the paper, the platen, and the type of the carrier causing said type carrier to receive a rotatable movement; and stopping means operative to stop the rotation of said type carrier when the latter is moved away from said platen.

10. In a machine of the character described for indorsing papers, the combination of a platen; a movable carriage; a freely rotatable type carrier on said carriage; an inking member; means operative to convey papers between the type carrier and the platen; means for moving said carriage in opposite directions to cause said type carrier to move into and out of contact with the papers and to receive a rotatable movement by contact of the type with said papers whereby the type is moved into engagement with and past said inking member; and stopping means operative to stop the rotation of said type carrier.

11. In a machine of the character described for indorsing papers, the combination of a platen; a rotatable type carrier; pins on said type carrier placed one in advance of the other; a normally fixed stop for abutment with the foremost of said pins; a swingable stop for the rearmost pin; means for conveying papers between said rotatable type carrier and the platen; and means for moving said type carrier to engage said papers and so as to receive rotation due to said engagement, said second stop being movable to allow the rearmost pin to swing it into such position that said latter mentioned pin will pass to a position forward thereof, said second stop being automatically movable to a limited extent in another direction to prevent said rearmost pin from passing it upon

an attempted back lash or rebound of the type carrier when said first pin engages said first stop.

12. In a machine of the character described for indorsing papers, the combination of a platen; a rotatable type carrier; pins on said type carrier placed one in advance of the other; a normally fixed stop for abutment with the foremost of said pins; a swingable stop for the rearmost pin; means for conveying papers between said rotatable type carrier and the platen; and means for moving said type carrier to engage said papers and so as to receive rotation due to said engagement, said second stop being movable to allow the rearmost pin to swing it into such position that said latter mentioned pin will pass to a position forward thereof, said second stop being automatically movable to a limited extent in another direction to prevent said rearmost pin from passing thereby upon an attempted back lash or rebound of the type carrier when said first pin engages said first stop, said stops being adjustably mounted.

13. In a machine of the character described for indorsing papers, the combination of a platen; a freely rotatable type carrier; stopping means for limiting the rotation of the type; means operative for conveying the papers; and means rendered operative by said papers, while being conveyed, to relatively move the type and said platen toward each other to effect rotation of the type carrier and to form an impression of said type on said papers, said latter means being releasable to effect relative movement of the type carrier and platen away from each other whereby the type carrier will rotate due to its inertia until it is stopped by said stopping means.

14. In a machine of the character described, a rotatable type carrier; a platen; means for relatively moving the type carrier and platen toward and from each other to produce indorsements on papers; stopping means; and means movable in conjunction with said type carrier for engagement with said stopping means, said stopping means and said latter means being adjustable with respect to each other to allow the type carrier to be stopped in various positions in its rotation to vary the position of the indorsements on the papers with respect to the edges thereof.

15. In a machine of the character described, a rotatable type carrier; a platen; means for relatively moving the type carrier and platen toward and from each other to produce indorsements on papers; stopping means; means movable in conjunction with said type carrier for engagement with said stopping means, said stopping means and said latter means being relatively adjustable whereby the type carrier can be stopped in various positions in its rotation to vary the position of the indorsements on the papers with respect to the edges thereof; and an adjustable stop adapted to limit to various extents the relative movement of the type carrier and platen away from each other whereby the relative positions between said first stopping means and said engaging means can be varied to change the time of clearance of said carrier and the consequent impact of the type with the paper to be indorsed.

16. In a machine of the character described, a rotatable type carrier; a platen; means for relatively moving the type carrier and platen toward and from each other to produce indorsements on papers; means for stopping the rotation of the carrier; and adjustable stopping means adapted to limit to various extents the relative movement of the type carrier and platen away from each other whereby the time of clearance of the type carrier from said first stopping means, and the consequent impact of the type with the paper to be indorsed, can be varied.

In testimony whereof I have signed my name to this specification.

PAUL J. CLARK.