Nov. 18, 1930. C. G. TIEFEL ET AL 1,781,739

APPARATUS FOR PRINTING NEGOTIABLE PAPER

Filed Oct. 18, 1926 7 Sheets-Sheet 1

Fig. 1

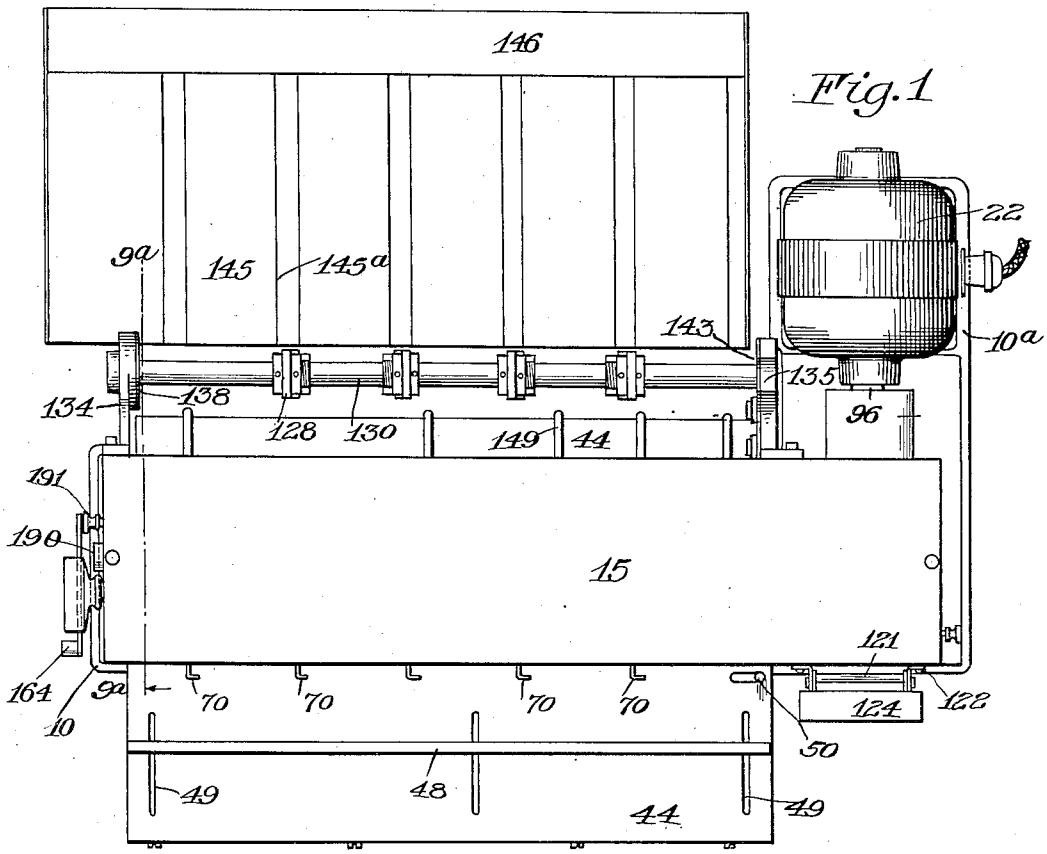
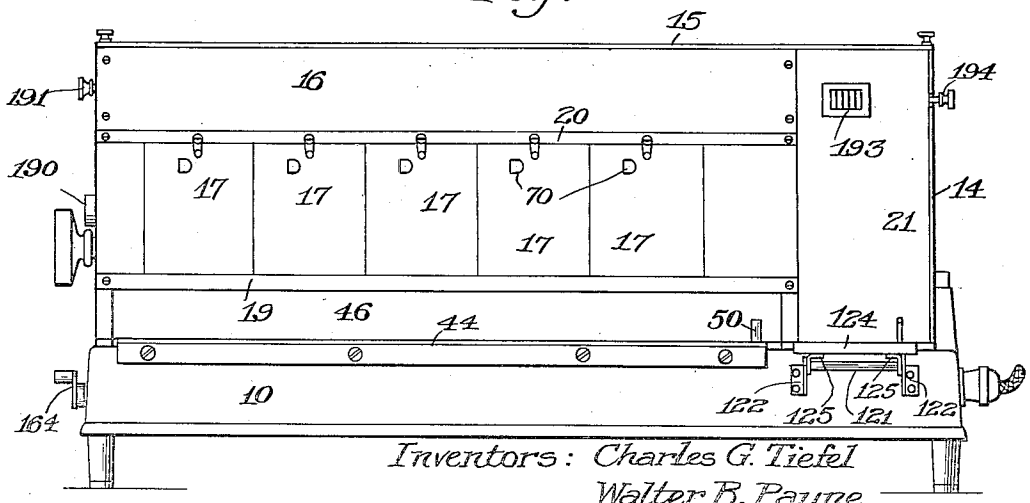


Fig. 2



Inventors: Charles G. Tiefel
Walter B. Payne
by Crumpton & Griffith ATTORNEYS.

Nov. 18, 1930. C. G. TIEFEL ET AL 1,781,739

APPARATUS FOR PRINTING NEGOTIABLE PAPER

Filed Oct. 18, 1926 7 Sheets-Sheet 2

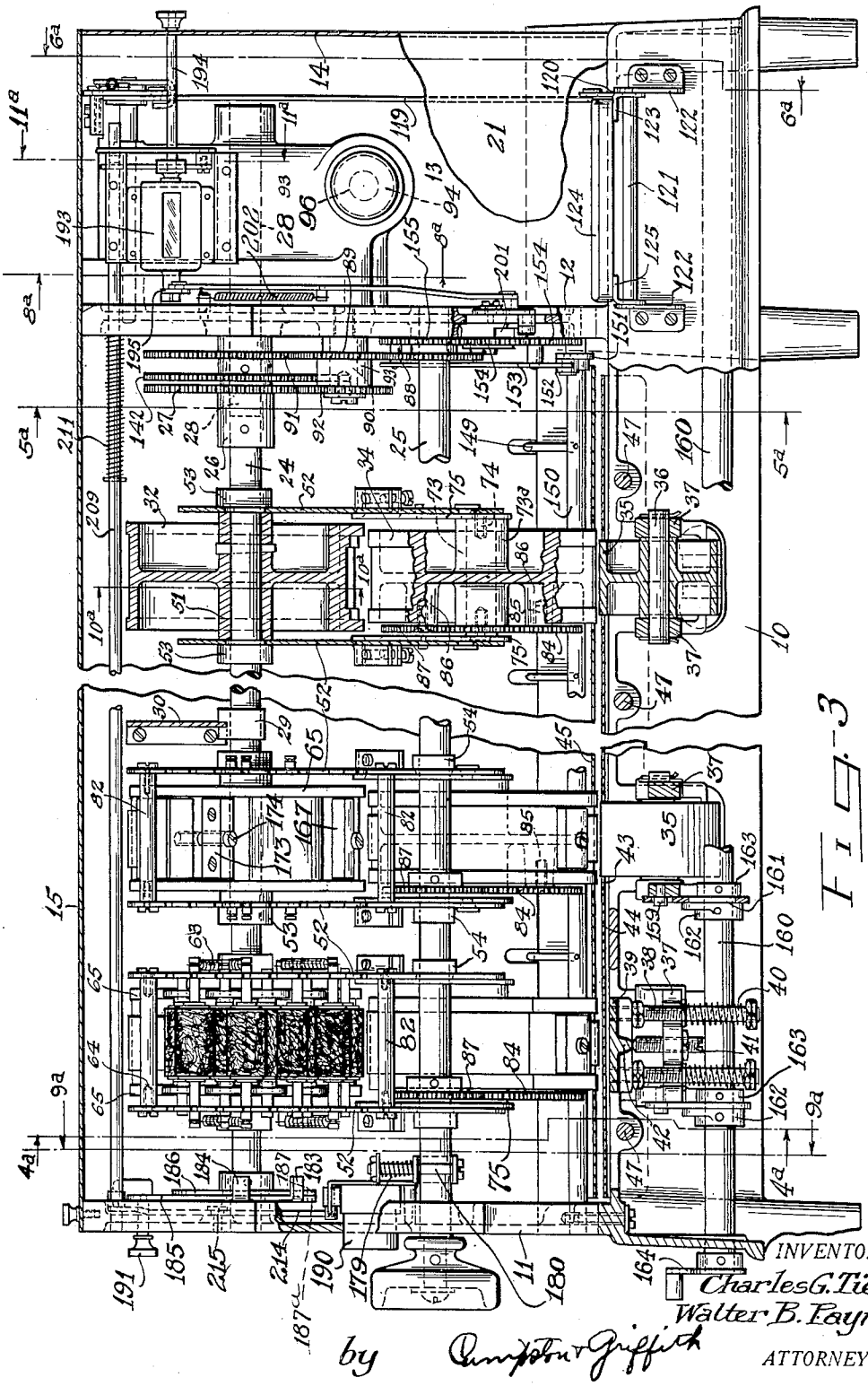


FIG. 3

INVENTORS
Charles G. Tiefel
Walter B. Payne
by Crumpton & Griffith
ATTORNEYS.

Nov. 18, 1930. C. G. TIEFEL ET AL 1,781,739

APPARATUS FOR PRINTING NEGOTIABLE PAPER

Filed Oct. 18, 1926 7 Sheets-Sheet 3

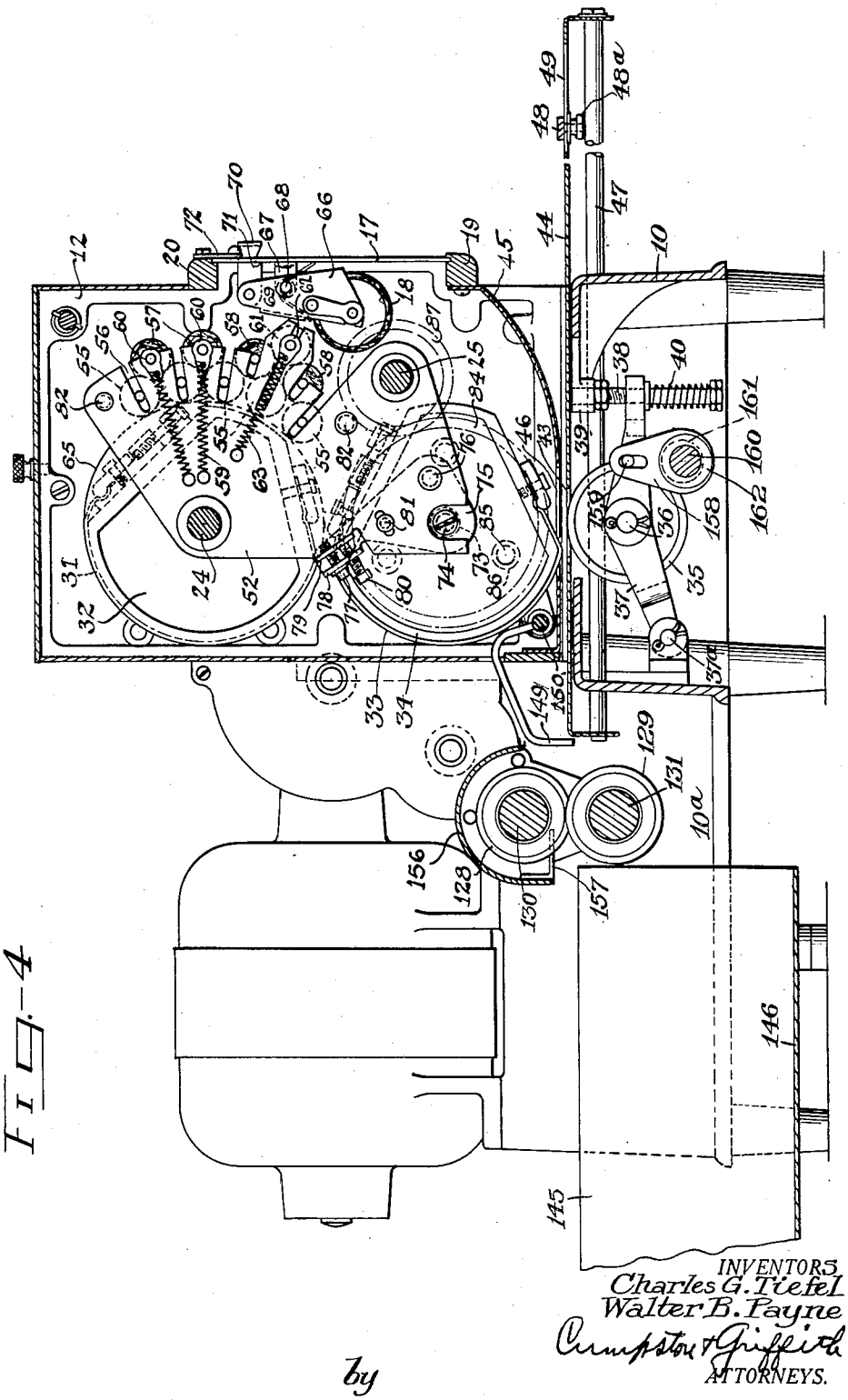


FIG.-4

INVENTORS
Charles G. Tiefel
Walter B. Payne
Crumpston & Griffith
ATTORNEYS.

by

Nov. 18, 1930. C. G. TIEFEL ET AL 1,781,739

APPARATUS FOR PRINTING NEGOTIABLE PAPER

Filed Oct. 18, 1926 7 Sheets-Sheet 4

Fig. 5

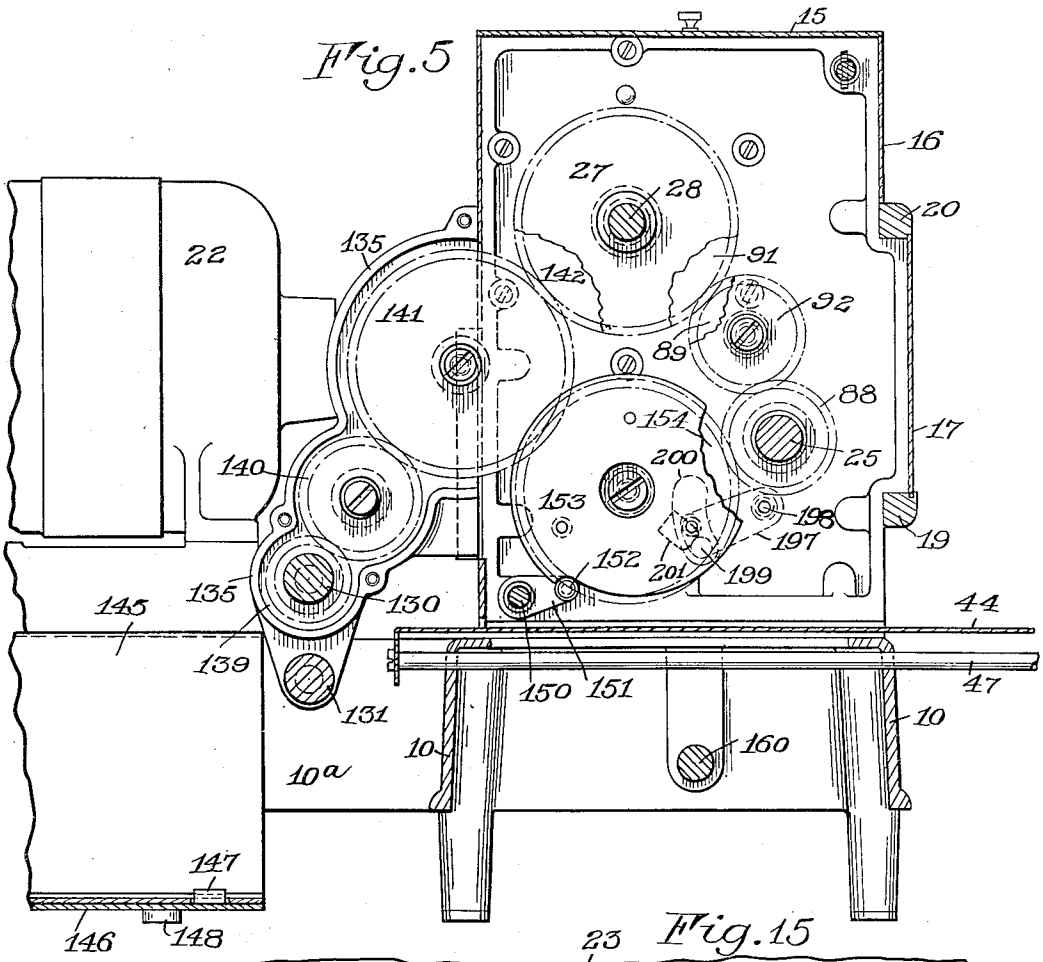


Fig. 15

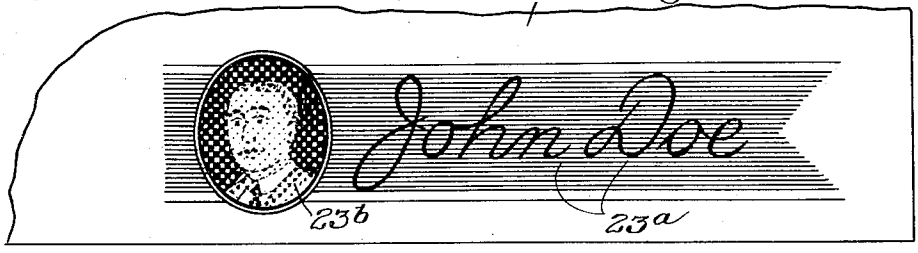
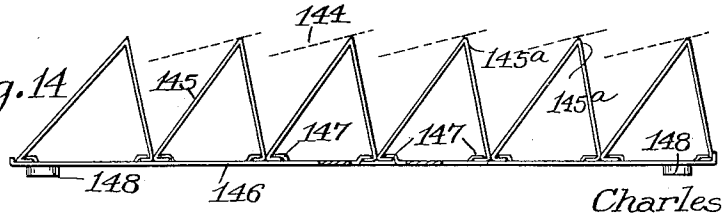


Fig. 14



INVENTORS
Charles G. Tiefel
Walter B. Payne
by Crumpton & Griffith
ATTORNEYS.

Nov. 18, 1930. C. G. TIEFEL ET AL 1,781,739

APPARATUS FOR PRINTING NEGOTIABLE PAPER

Filed Oct. 18, 1926 7 Sheets-Sheet 5

Fig. 6

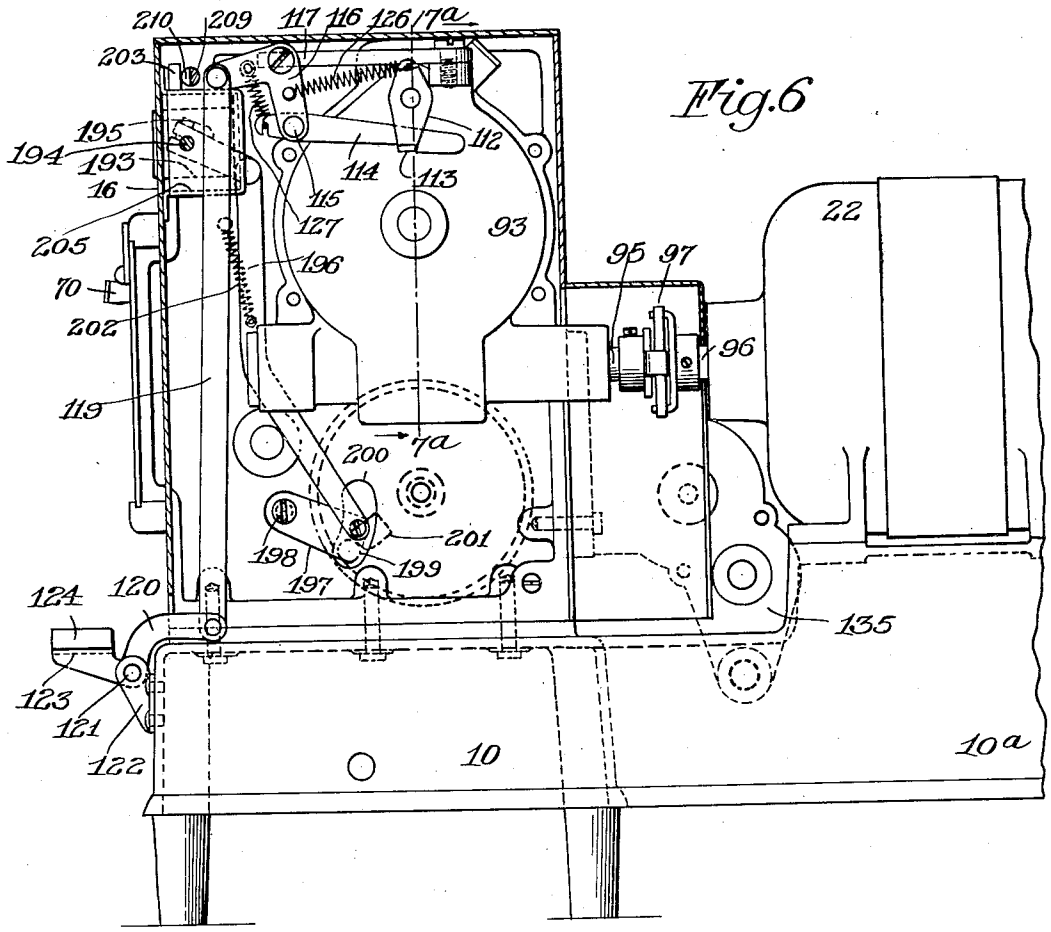


Fig. 8

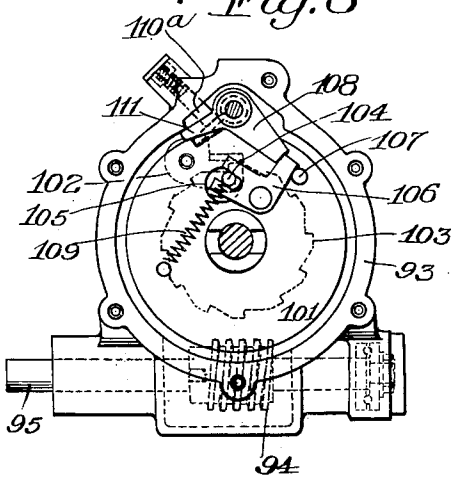
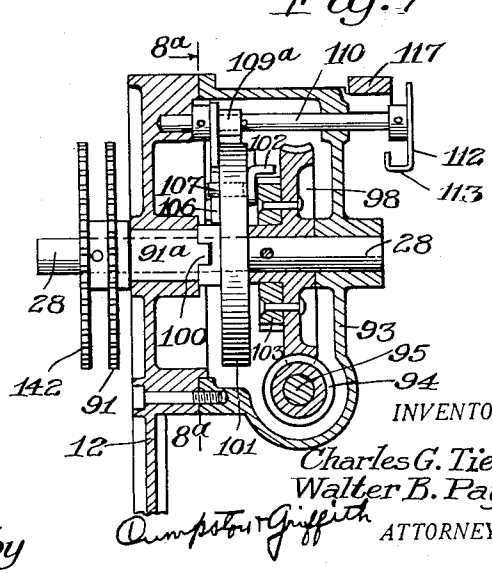


Fig. 7



INVENTORS
Charles G. Tiefel
Walter B. Payne
by Dumpston & Griffith ATTORNEYS.

Nov. 18, 1930. C. G. TIEFEL ET AL 1,781,739

APPARATUS FOR PRINTING NEGOTIABLE PAPER

Filed Oct. 18, 1926 7 Sheets-Sheet 6

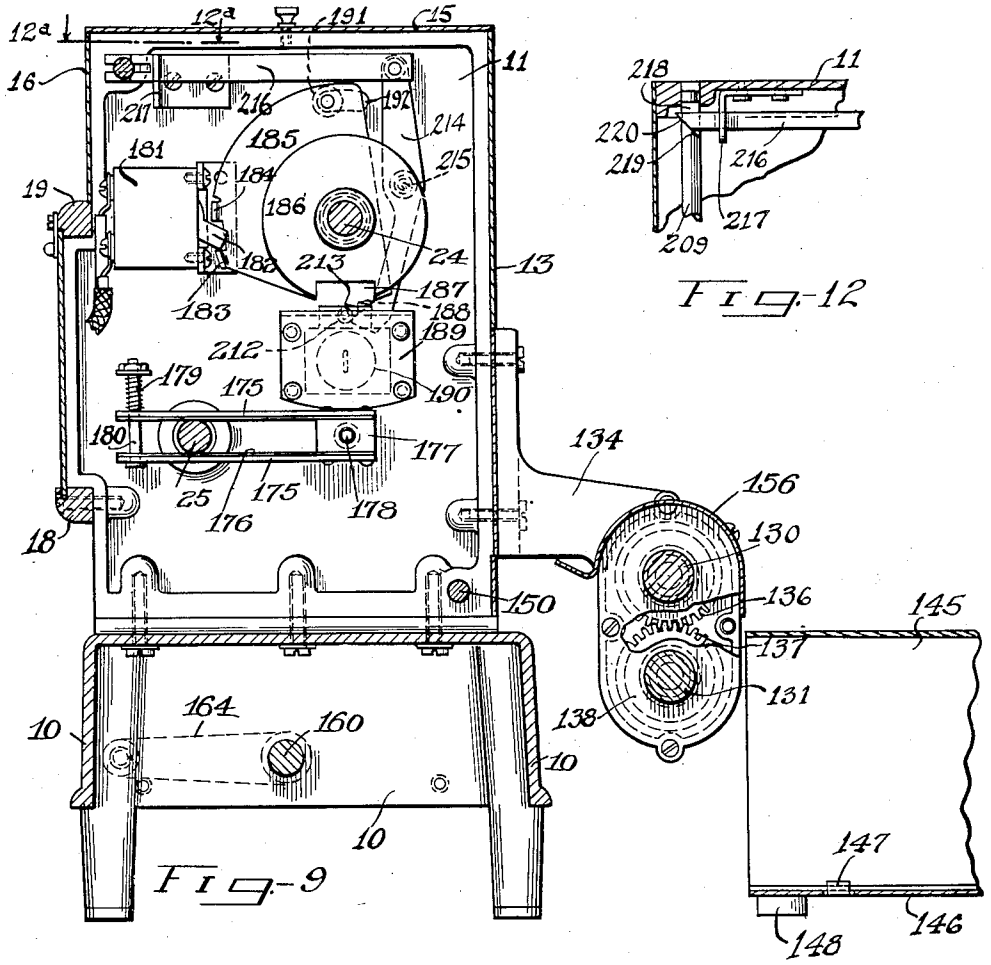


Fig.-9

Fig.-12

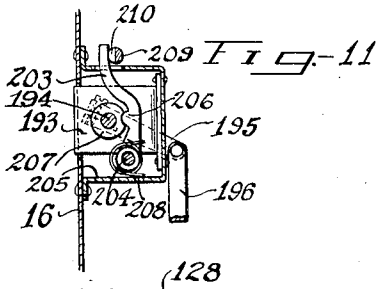


Fig.-11

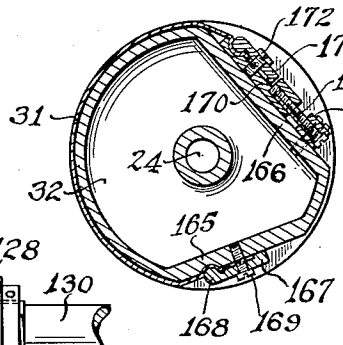


Fig.-10

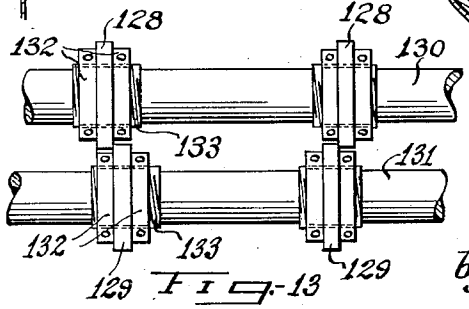


Fig.-13

by

INVENTORS
Charles G. Tiefel
Walter B. Payne
Crumpton & Griffith
ATTORNEYS.

Nov. 18, 1930. C. G. TIEFEL ET AL 1,781,739

APPARATUS FOR PRINTING NEGOTIABLE PAPER

Filed Oct. 18, 1926 7 Sheets-Sheet 7

B----- MOTOR COMPANY INC. No. 920
ROCHESTER N.Y. Oct.15,1926
PAY TO THE ORDER OF John Doe $ 55.12
EXACTLY 55 DOLLARS 12 CTS
TRUST COMPANY ROCHESTER N.Y.

B----- MOTOR COMPANY INC. No. 921
ROCHESTER N.Y. Oct.15,1926
PAY TO THE ORDER OF Harry Brown $ 125.30
EXACTLY 125 DOLLARS 30 CTS
TRUST COMPANY ROCHESTER N.Y.

23

B----- MOTOR COMPANY INC. No. 922
ROCHESTER N.Y. Oct.15,1926
PAY TO THE ORDER OF Joe Smith $ 12.50
EXACTLY 12 DOLLARS 50 CTS
TRUST COMPANY ROCHESTER N.Y.

B----- MOTOR COMPANY INC. No. 923
ROCHESTER N.Y. Oct.15,1926
PAY TO THE ORDER OF John Black $ 63.75
EXACTLY 63 DOLLARS 75 CTS
TRUST COMPANY ROCHESTER N.Y.

B----- MOTOR COMPANY INC. No. 924
ROCHESTER N.Y. Oct.15,1926
PAY TO THE ORDER OF R.E. Green $ 75.29
EXACTLY 75 DOLLARS 29 CTS
TRUST COMPANY ROCHESTER N.Y.

Fig.-16

INVENTOR.
Charles G. Tiefel
BY Walter B. Payne
Crumpton & Griffith
ATTORNEYS.

Patented Nov. 18, 1930

1,781,739

UNITED STATES PATENT OFFICE

CHARLES G. TIEFEL AND WALTER B. PAYNE, OF ROCHESTER, NEW YORK, ASSIGNORS TO THE TODD COMPANY, OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK

APPARATUS FOR PRINTING NEGOTIABLE PAPER

Application filed October 18, 1926. Serial No. 142,194.

The present invention relates to apparatus for printing negotiable paper, the object being to provide more particularly an improved apparatus for printing upon sheets containing blank checks, drafts and the like, the signature of the maker of the checks or some other identifying mark at the time of issuing the checks whereby to render them negotiable, or printing in conjunction with the signatures an identifying mark or character which will make duplication or forgery of the checks or drafts extremely difficult.

A further object of the invention is a provision of apparatus of this character which can be economically employed by banks, corporations, manufacturers and others having relatively large payrolls, who desire to avoid the risk and inconvenience of handling large sums of money in paying off their employees and who find the signing of the checks, in large numbers, in the ordinary way an inefficient, troublesome and unsatisfactory method of distributing the wages of the men from week to week, or as often as may be required.

A further object is to provide an improved printing machine of the class described herein and one which is convenient to operate, efficient in service and of comparatively simple construction.

To these and other ends the invention consists in certain improvements and combinations of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings:

Figure 1 is a plan view of a machine embodying the invention;

Figure 2 is a front elevation of the same;

Figure 3 is a fragmentary sectional elevation taken longitudinally through the machine with one of the printing units shown in section, and two others in elevation, from one of which the inking rolls have been removed;

Figure 4 is a transverse sectional elevation taken on line 4^a—4^a of Figure 3;

Figure 5 is a transverse sectional elevation taken on line 5^a—5^a of Figure 3;

Figure 6 is a transverse sectional elevation taken on line 6^a—6^a of Figure 3;

Figure 7 is a detail sectional elevation taken on line 7^a—7^a of Figure 6 showing the worm and ratchet drive for rotating the several shafts which serve to drive the rolls of the printing units;

Figure 8 is a detailed sectional elevation taken on line 8^a—8^a of Figures 3 and 7;

Figure 9 is a transverse sectional elevation through the machine taken on lines 9^a—9^a of Figures 1 and 3;

Figure 10 is a detail sectional elevation taken on line 10^a—10^a of Figure 3 showing the manner of clamping one of the printed elements upon its supporting roll.

Figure 11 is a detail sectional elevation taken on line 11^a—11^a of Figure 3 showing a portion of the counter locking and operating mechanisms;

Figure 12 is a fragmentary sectional plan taken on line 12^a—12^a of Figure 9 showing a portion of the operating bar for moving the locking rod for the counter to locking position when the motor control switch is unlocked;

Figure 13 is a fragmentary view in elevation showing the manner of mounting the cutting disks for severing the individual checks from the printed sheets when fed through the machine;

Figure 14 is a side elevation of a holding device for receiving and directing the severed checks from each printing unit into a single pile or stack.

Figure 15 is a face view of a portion of a check showing the signature and photograph of the maker as printed thereon; and

Figure 16 is a view illustrating a sheet of blank checks upon which the signatures and photographs are to be printed;

Similar reference numerals throughout the several views indicate the same parts.

The present invention provides one form of mechanism for advantageously carrying out the method described and claimed in our divisional application, Serial No. 343,436, filed February 28, 1929.

The present apparatus for signing checks, drafts, bills and other negotiable paper is de-

signed for applying or printing on sheets, of a given size, a number or series of blank checks of the usual form which may be printed in relatively large numbers ready for use when desired. The next step is that of simultaneously applying upon the checks of each sheet, preferably by printing, a signature of the maker and a suitable identifying mark, seal, or character such as a picture or photograph of the maker, this being done preferably at the time of issuing the checks and upon a protective background such as the series of closely related lines shown in conjunction with the signature and picture indicated in Figure 15, which renders duplication of the check more difficult. The amounts for which the checks are to be issued and the dates and names of those to whom they are made payable can then be filled in, or if preferred this can be done previous to applying the signatures. By simultaneously applying or printing a facsimile of the signature of the maker of the check and his picture or that of an officer of his company, or any suitable identifying character, the checks are rendered negotiable and recognition of this fact can be obtained from the bank on which the checks are drawn. This method of rendering the checks negotiable not only saves the maker the time required for signing the same, but it renders duplication or forgery more difficult since not only the signature must be duplicated but the picture of the maker as well, or whatever character may be employed in conjunction with the signature. Forgery under these conditions is far more difficult than in the present method of signing checks, where only the signature has to be forged. With the present method the would-be forger is put to the expense of employing an engraver to make the necessary plates for printing the signature and picture, thereby laying himself liable to detection. It will be understood that the machines for printing the checks will be kept under lock and key in the care of some responsible person who can be trusted to prevent unauthorized use of the machine.

Referring to the drawings, 10 represents the base of the machine to which is suitably bolted to an upstanding frame 11 at the left hand end of the machine and an additional upstanding frame 12 adjacent the opposite end of the machine. The base carries a casing for the printing and drive mechanisms of the machine which comprises a rear wall 13, and end wall 14 at the right hand end of the machine, a removable cover 15 and a top panel 16 at the front of the machine, the frame member 11 constituting the end wall for the left hand end of the machine. At the front of the machine below the panel 16 a series of removable panels 17 are shown, one for each printing unit, the same being adapted to carry the ink supply rolls 18 in a manner described hereinafter. The panels 17 are supported by a longitudinally extending bar 19 having a groove or slot therein to receive the lower edges of the panels as shown in Figure 4, the upper edges of the panels being disposed upon a somewhat similar bar 20. Both of the bars have their opposite ends suitably secured to the frames 11 and 12. A vertically disposed panel 21 is positioned at the right hand end of the bars 19 and 20 for closing the front of the compartment containing the drive mechanism shown in Figures 7 and 8.

Mounted on a lateral extension 10^a of the base 10 is a small electric motor 22 for driving the revoluble parts of the printing and check cutting mechanisms, which will be hereinafter described.

In the present machine there are provided five separate printing units for simultaneously printing upon a single sheet, one of which is indicated at 23, five signatures of the maker of the checks shown by way of example at 23^a and a corresponding number of photographs indicated at 23^b, Figure 15. It will be understood of course, that the number of printing units may be increased or decreased as desired according to the demands of those using the machines. The sheets 23 are preferably of a width corresponding to the length of the individual checks and of a length sufficient to afford a number of checks corresponding to the number of printing units.

As all of the printing units are of the same construction, a description of one will suffice for all. These units are mounted on upper and lower longitudinally extending shafts 24 and 25 respectively. The upper shaft has its left hand end suitably journaled in the frame 11, its opposite end being keyed within the hub 26 of a gear 27, supported by a stub shaft 28 journaled in the frame 12 as shown in Figure 3 and adapted to be driven by mechanism which will be subsequently described. The lower shaft 25 has its opposite ends journaled in the end frame members 11 and 12 and is adapted to be driven by the upper shaft through the medium of suitable gearing which will presently be described.

A suitable number of intermediate bearings are provided for taking the upward thrust on the shaft 24, one of which is indicated at 29 in Figure 3, said bearings being suitably supported by transversely extending plate members 30 overlying the shaft and having their opposite ends connected with the front and rear walls of the casing.

The printing forms or plates upon which the signatures and photographs of the maker of the checks are etched for reproduction preferably constitute thin zinc plates one of which is indicated at 31 in Figure 10. The plates are in the form of circular bands

clamped upon the rollers 32, fixed upon and adapted to be driven by the shaft 24.

The signatures 23[a] and photographs 23[b] are transferred from the plates 31 to printing strips or blankets 33 suitably clamped in the grooved faces of the blanket rolls 34 which are supported by the shaft 25 in a manner which will subsequently be described.

The platens for holding the sheets in contact with the blanket rolls are indicated at 35 in Figure 4, each being free to rotate upon a short shaft 36 carried by an arm or lever 37 pivoted upon the base 10 at 37[a]. The free end of the arm 37 is slotted to receive a pair of downwardly projecting studs 38 suitably connected at their upper ends to a support 39 preferably formed integral with the base 10. Coil springs 40 carried by the studs 38, Figure 4, serve to press upwardly on the arm to afford the desired pressure between the platen and the sheets to be printed when the latter are run through the machine. An adjusting screw 41, Figure 3, is threaded through the arm 37 between the studs 38 and engages the support 39 to limit the upward movement of the arm, and consequently the pressure of the platen upon the blanket roll when the paper is fed between the two. The platen operates through an opening 43 in a tray 44 upon which the sheets to be printed are properly placed for movement through the machine by the blanket rolls when rotated in a clockwise direction as viewed in Figure 4. An upper guide plate 45 for the sheets is provided with an opening 46 through which the blanket rolls operate, said plate being curved upwardly at the front of the machine where it is secured to the bar 19. It is flanged upwardly at its opposite side and suitably connected with the rear wall of the casing. The tray 44 is flanged downwardly at its front and rear edges to receive a plurality of supporting rods 47 which extend transversely through the base, by which they are supported. The tray is provided with an adjustable positioning bar 48 for the printed sheets of paper and carries depending pins or projections operating in slots 49 in the tray and serving to hold the bar in proper alignment when adjusted inwardly or outwardly to the desired point on the tray. The pins carry thumb nuts 48[a] by which the bar is clamped in the desired position. The tray is provided at its right hand end with an adjustable positioning pin 50 for effecting the proper alignment of the sheets with the printing units.

The plate rolls 32 carrying the printing forms 31 have extended hub portions 51, Figure 3, which form abutments for a pair of plates 52, the shape of which is best indicated in Figure 4. Both the upper and lower shafts 24 and 25 extend through these plates. The plates are provided with bearing hubs 53 and 54 and are held in proper position on the shafts by contact with the ends of the hub 51. The plates form supports for the inking rolls 55 which distribute the ink to the printing form 31, five of the rolls being shown in Figure 4 in position to contact with the printing form when rotated by the shaft 24. The rolls have trunnions at their ends which are guided in slots 56 in the plates, the rolls being yieldably held in engagement with the printing form by two upper rolls 57 and two lower rolls 58 each having trunnions free to move in slots formed in the plates 52. The rolls 57 are yieldably held in the position shown in Figure 4 by a pair of springs 59 connected at their inner ends to the plates 52 and at their outer ends to a pair of arms 60 fixed on the trunnions of said rolls. The two lower rolls 58 are yieldably held upon three of the inner rolls 55 by a single roller 61, the trunnions of which are free to move in slots formed in the plates 52, said trunnions carrying arms 62 with which are connected the outer ends of springs 63 which have their inner ends suitably connected with the plates 52 as shown in Figure 4. The trunnions for the inner set of inking rolls 55 are provided with small rollers 64, Figure 3, adapted to travel on the flanged portions 65 of the plate roll 32 whereby said inner rolls are supported for contact with the printing plate 31. The rollers 64 are preferably made slightly smaller in diameter than the inking rolls so that the latter will be free to engage the printing plate under the action of the springs 59 and 63. The supply roll 18 is carried by a U-shaped lever 66 into which projects a lug 67 on the inner face of the panel 17, the lug carrying a pin 68 upon which the lever is pivoted. A torsion spring 69 wound about the pivot pin tends to swing the lower end of the lever inwardly to move the supply roll into engagement with the inking roll 61. The supply roll is normally held out of engagement with the roll 61 by a latch 70 pivoted upon the upper end of the lever and projecting through a slot in the panel 17. The latch is provided with a shoulder portion 71 which normally bears against the inner face of the panel 17 as shown in Figure 4. To release the latch it is only necessary to raise its outer end slightly, at which time it will be projected through said slot by the action of the spring 69 which will throw the supply roll 18 into engagement with the inking roll 61, from which ink will be carried to the remaining rolls as will be understood. The supply roll may be removed for inking whenever desired by removing the panels 17 which are held in position by pivoted guards or latch members 72 as shown in Figures 2 and 4.

The blanket rolls 34 are each rotatably mounted upon a pin 73 extended through hubs 73[a] of the roll, the pin being supported by a screw 74 projecting into each end thereof. The studs are carried by a pair of arms

75 disposed inwardly of the plates 52 and pivoted thereon at 76, Figure 4. The plates 75 constitute adjustable arms for supporting the blanket roll to permit it to be adjusted toward and from the plate roll whereby to regulate the pressure between the printing plate 31 and the blanket 33. This is done by means of an adjusting screw 77 which extends through an outwardly turned lug 78 on the arm, and which is threaded into an outwardly turned lug 79 on the plate 52. It will be readily seen that by turning the screw 77 the arm 75 can be swung upon its pivot 76 either to move the blanket roll toward or from the plate roll according to whether it is desired to increase or decrease the pressure between the plate and the blanket. A locking screw 80 is threaded through the lug 78 to hold the arm 75 in adjusted position. The arm in addition to being secured to the plate 52 by the pivot pin 76 is held by a second headed pin 81 extended through a slot in the plate 52 as indicated in Figure 4.

The plates 52 of each blanket roll are provided with suitable connections 82 for bracing and tying them together as indicated in Figures 3 and 4. The blanket rolls each carry a gear 84 secured at one side thereof by three screws 85 threaded into a corresponding number of bosses 86 formed upon the roll, the gear being disposed inwardly of one of the arms 75. The gears 84 mesh with a series of smaller gears 87 fixed on the shaft 25 which serve to drive each of the blanket rolls. The shaft 25 carries a gear 88 at its right hand end which meshes with a gear 89 of the same size rotatably supported by a stud 90 suitably secured upon and projecting inwardly from the end frame 12, Figure 3. The gear 89 is driven by a gear 91 loose on the stub shaft 28, Figures 3 and 7. The gear 27 which drives the shaft 24 and the plate rolls thereon is driven by a gear 92 having a hub 93 to which the gear 89 is fixed, the hub being journaled upon the stud 90 carried by the frame 12. Thus it will be seen that by rotating the stub shaft 28 the gear 91 when coupled therewith as hereinafter explained, will drive the gear 89 which in turn will drive the gear 88 on the shaft 25 for rotating the blanket rolls. The shaft 24 will be driven at the same speed as the shaft 25 since the gears 27 and 91 are the same size, the gears 88, 89 and 92 being also the same size.

Secured to the end frame 12 is a gear casing 93 carrying a worm 94 on a shaft 95 having its opposite ends suitably journaled in bearings formed upon the casing. The shaft 95 is connected with the motor shaft 96 by a suitable coupling 97 of a well known type, the same being shown in Figure 6. The worm 94 meshes with a worm wheel 98 fixed upon the stub shaft 28, the outer end of which is journaled in the casing 93 and the inner end being journaled in a sleeve 91[a] fixed to the gear 91, said sleeve having projections 100 entering notches in the hub of a disc 101 on the arbor 28. The disc carries a driving pawl 102 pivoted thereon for movement into engagement with a ratchet wheel 103 on the worm gear 98. The driving pawl carries a pin 104 projecting through an opening 105 in the disc and is engaged by the forked end of a dog 106 pivoted upon the disc. A stop pin 107 is carried by the disc for engagement with the dog, the latter being normally held against the stop pin by a latch 108, Figure 8. With the latch in the normal position shown in Figure 8, the pawl 102 is held out of engagement with the ratchet wheel to permit rotation of the motor without operation of the printing units. Upon release of the latch a spring 109 connected with the dog serves to move the latter upon its pivot which in turn swings the pin 104 downwardly and moves the pawl into engagement with the ratchet wheel whereby the disc 101 is coupled with the stub shaft 28 to be driven by the latter. The latch is carried on the inner end of a rod 110 which is journaled in the frame 12 and casing 93, and which projects from the latter as shown in Figure 7. The latch carries an arm 111 adapted to engage the wall of the casing which forms a stop to limit the downward movement of the latch. A dog 109[a] pivoted loosely on the rod 110 engages a notch in the periphery of the disc 101 to prevent the backward movement of the latter under the influence of the spring 109. A spring pressed plunger 110[a] serves to hold the dog in the notch. The outer end of the rod is provided with an arm 112 which carries an inwardly turned portion 113 at its lower end adapted to receive the shouldered end of an operating lever 114 pivoted at 115 to a bell crank lever 116 which is pivoted upon an arm 117 projecting from the casing 93, Figure 6. The bell crank lever is adapted to be operated by a vertically extending link 119, the lower end of which is connected with an angular lever 120 carried by a rod 121 having its opposite ends journaled in brackets 122 on the base 10, Figure 3. The lever 120 is provided with an offset portion 123 forming a support for one end of a trip bar 124, the other end of the bar being carried by an L-shaped plate 125 secured to the inner end of the rod. Depression of the trip bar causes the lever 120 to push up on the link 119 which swings the lower arm of the bell crank lever forwardly thereby exerting a pull on the arm 112 of the rod 110 whereby the latter is rocked to release the latch 108 from engagement with the dog 106 to permit the spring 109 to move the operating pawl 102 into engagement with the teeth of the ratchet wheel 103. In this manner the worm wheel is coupled with

the disc 101 which drives the gear 91 to start operation of the printing device upon depression of the trip bar by the operator. A spring 126 connects the bell crank lever with the arm 112 of the rod and serves to return said members to normal position upon release of the trip bar whereby the latch 108 is moved back into the path of the dog 106 and the latter is made to swing the pawl 102 out of driving engagement with the ratchet wheel at the end of each rotation of the disc 101. A light spring 127 connects the bell crank lever 116 with the front end of the lever 114 whereby the rear end of said lever is held in operating engagement with the arm 112 of the latch rod 110. With the driving mechanism described above one sheet containing the printed checks can be fed through the machine to receive the signatures and photographs indicated in Figure 15, each time the finger bar 124 is depressed by the operator.

The upper and lower knives 128 and 129 for severing the checks from the printed sheets as the latter are passed through the machine are best indicated in Figures 4 and 13, and are preferably in the form of discs mounted on shafts 130 and 131 with their cutting edges arranged to be rotated one adjacent the other. Each of the knives is clamped between a pair of collars 132 adjustable longitudinally upon the threaded portions 133 of the shafts so that their cutting edges may be properly adjusted one with respect to another from time to time. The different sets of knives are preferably staggered one with respect to another, as indicated in Figure 13, so that by providing suitable thrust bearings for one shaft the knives thereof, through engagement with certain of the knives of the other shaft, will prevent longitudinal movement of the latter, thus making it unnecessary to provide thrust bearings for both shafts. The ends of the shafts are journalled in suitable brackets 134 and 135 which are in the form of housings and which are bolted respectively to the frames 11 and 12 at the back thereof. Disposed within the housing 134 are upper and lower gears 136 and 137 meshing one with another and being keyed on the shafts 130 and 131 respectively. A cover plate 138 is carried by the housing 134 to protect the gears therein. The upper shaft 130 is provided at its opposite end, within the housing 135, with a gear 139 driven by an idler 140 which in turn is driven by a gear 141 meshing with and driven by a gear 142 on the stub shaft 28. The idlers 140 and 141 are suitably journaled in the housing 135 which is closed at its inner side by a cover plate 143, Figure 1.

The stub shaft 28, which is constantly driven by the motor will drive the knife shafts continuously, the gearing being so proportioned as to drive the knives at a somewhat greater speed than that of the printing rolls so that when the advancing ends of the sheets pass between the upper and lower sets of knives the latter will tend to exert a slight pull on the sheets which is advantageous in that the sheets are thus kept slightly tensioned during the printing operation.

The severed checks indicated at 144 are received as they pass from the knives by the holding device shown in Figure 14 which comprises a rack having a plurality of pockets formed from a series of bent plates 145 having flanges at their lower edges supported by a base plate 146, the flanges being extended beneath lugs 147 struck upwardly from the base plate, the latter being provided with suitable supports 148 preferably formed of rubber or other relatively soft material.

The rack, though shown separate from the machine proper may be suitably connected therewith if desired, both the rack and machine being carried by a suitable support such as a table, not shown. The relation of the rack to the machine is such that the upper edges of the plates 145 will occupy positions a little to one side of the knives so that all of the checks severed by a given set of knives will fall into a common pocket. This is due to the unbalanced position of the checks upon the plates 145 when the severing operations are completed, as indicated in Figure 14. The length of the pockets is preferably a little less than that of the checks so that the ends of the latter will project somewhat beyond the pockets in order that the checks may be more easily grasped for removal by the fingers.

In positioning the printed sheets upon the tray, they are first inserted between the latter and the plate 45, the back edges of the sheets being then brought into engagement with the rear edge of the positioning bar 48. This is done to insure proper positioning of the signatures and photographs on the checks when the sheets are run through the machine, it being understood that the blanket rolls are operated from the same starting point for each sheet printed, and that consequently the printing will occupy the same relative position on all of the checks.

To prevent the possibility of the sheets being passed into engagement with the knives, when positioned in the machine, a series of guards 149 are projected through openings in the back of the casing, said guards having their inner ends suitably connected with a rock shaft 150 extending longitudinally of the casing, Figure 4, and having their opposite ends journaled in the end frames 11 and 12. The rock shaft is provided at its right hand end with the arm 151 carrying a roller 152 in the path of a cam 153 fixed to a gear 154 rotatably mounted

on the end frame 12 and adapted to be driven by a smaller gear 155 on the right hand end of the shaft 25, Figure 3. The cam is so arranged as to depress the arm 151 whereby to rock the shaft in time to raise the guards before the sheets reach them.

A cover plate 156 is positioned over the knives as indicated in Figure 4, and carries at its rear edge a suitable number of guards 157 which project forwardly between the knives to prevent the sheets from passing upwardly beneath the cover plate.

At certain times it is desirable to prevent the platens 35 from contacting with the blanket rolls, as when the blankets have been freshly inked. At such times the arms 37 which support the platens are moved downwardly a slight amount by a set of links 158 which have slots in their upper ends to receive laterally projecting pins 159 on the arms. The links are carried by a shaft 160 journaled in the ends of the base and on which are mounted eccentrics 161 rotatable in openings formed in the lower ends of the links through which the shaft extends. The links and eccentrics are disposed between oppositely positioned collars 162 and 163 on the shaft, the eccentrics being attached either to the shaft or to one of the collars as desired, preferably the latter. Rotation of the eccentrics to lower the links is effected by giving the crank 164 on the outer end of the shaft substantially a half turn.

The plate roll shown in section in Figure 10 has angularly disposed portions 165 and 166 for receiving the ends of the printing plate. A clamping member 167 is provided with a rounded edge portion 168 which is adapted to force one end of the plate into a circular groove formed in the portion 165 of the roll, the member 167 being held in clamping position by a screw 169. The opposite end of the plate is disposed upon a slide 170, and is secured thereto by a clamping member 171, which also has a rounded edge portion for pressing the end of the plate into a groove formed in the slide. A bar 173 is suitable secured upon the portion 166 of the roll and extending therethrough is an adjusting screw 174 which is threaded into the slide for the purpose of adjusting the same whereby to tighten and properly tension said plate. By this means a very fine adjustment of the plate is afforded which is essential in a device of this kind. The blanket rolls 34 are provided with the same form of adjusting means for the blanket strips as indicated in Figure 4.

In order to prevent overrunning of the gears for driving the shaft 25, and those thereon for driving the blanket rolls, a suitable brake is provided which preferably comprises a pair of yieldable arms 175 having suitable lining strips 176 disposed in engagement with the opposite sides of the shaft, Figure 9. The arms are carried by a block 177 supported preferably by a stud 178 projecting inwardly from the end frame 11 at the left hand end of the machine. The arms are yieldably held in engagement with the shaft by a spring 179 on a bolt 180 extending through the other ends of the arms, one end of the spring being seated upon the upper arm and the other upon the head of the free end of the bolt.

The electric switch for controlling the motor is indicated at 181, and may be of any well known type. It is preferably disposed on the end frame 11 and is provided with the usual arm or lever 182 for opening and closing the switch. The arm is projected between two operating lugs 183 and 184 on a switch control plate 185 mounted to swing upon the shaft 24. The plate has associated therewith a disc 186 rigid on the shaft 24 and having a notch 187 in registry with a similar notch 187[a] in the plate 185. The notches are adapted to receive the bolt 188 of a lock 189 of any preferred type, preferably a key lock, the key receiving portion of which projects through the frame 11 as indicated at 190. The bolt 188 serves to lock both the shaft 24 and the switch plate when the machine is not in use. The switch member 182 is shown in open position in Figure 9, and in this position the notches 187 and 187[a] are in registry with the lock bolt 188, which when moved into the notches prevents closing of the switch and unauthorized operation of the machine. When the bolt is in release position, as shown, the plate 185 may be swung to switch closing position by moving the operating knob or handle 191 thereon, in the slot 192 of the frame 11, to the right as viewed in Figure 9.

A counter 193 is provided at the right hand end of the machine to furnish a record of the number of checks printed at any given time. The counter may be of any well known type, and is suitably supported so that it can be read through an opening in the end panel 21 behind which it is disposed. The counter is provided with the usual resetting stem 194 which projects through the end wall 14 of the casing. The counter operating shaft carries an arm 195 with which is connected a depending link 196, the lower end of which is pivotally connected with an arm 197, the latter being pivoted at 198 to the end frame 12. The link carries a roller 199 projecting through a slot 200 in said end frame. The roller lies in the path of a cam block 201 on the gear wheel 154 driven by the gear 155 on the shaft 25, Figure 3. For each revolution of the gear wheel the block 201 will engage the roller and depress the arm 197, which serves to effect a downward pull on the link. As soon as the block passes out of engagement with the roller, a spring 202 serves to lift the link and operate the counter. The indicating wheels of the counter are prefer-

ably designed to display, at each printing operation of the machine, a number corresponding to the number of checks printed at said operation, being in each case 5 with the present machine.

The counter is provided with a locking lever 203 pivoted on a stud 204 of a housing 205 in which the counter is disposed, and to which it is suitably secured. The lever carries a projection 206 which engages in a notch formed in a disc 207 rigid on the resetting stem 194 of the counter. A torsion spring 208 tends to hold the lever in the position shown in Figure 11. A rod 209 is provided for holding the lever in locked position when the machine is being operated to prevent turning back of the counter and spoiling the record. The rod has a notch 210 normally in line with the lever 203 for receiving the latter when resetting the counter. The rod has its opposite ends slidably mounted in the end frames 11 and 12 and is held in release position with respect to the lever by a spring 211, one end of which engages the frame 12 and the other a pin on the rod. The rod is automatically moved to locking position by turning the key of the lock 189 to depress the bolt 188 thereof. In doing this a stud 212 on the bolt rides on the cam surface 213 of a lever 214 pivoted at 215 on the end frame 11 whereby the lower end of the lever is moved rearwardly and its upper end forwardly. The upper end of the lever is pivotally connected to a slide bar 216 guided in a bracket 217 on the frame 11, Figure 12. The front end of the bar is forked to receive a reduced portion 218 of the rod. The latter is provided with upper and lower beveled shoulders 219 which lie in the path of correspondingly beveled surfaces 220 on the end of the slide bar, whereby when the latter is moved forward by the lever 214 the rod 209 is forced to the right against the action of the spring 211 and the notch 210 is thus moved out of registry with the counter locking lever thereby preventing any motion of the latter. Upon completion of the printing of a desired number of checks, the switch control plate 185 will be rotated back to the position shown in Figure 9 to open the switch, at which time the bolt of the lock, by turning the key of the latter, will be returned to the notches 187 and 187a to lock the switch control plate and shaft 24 whereby to prevent unauthorized operation of the machine. At this time the spring 211 will move the rod 209 to the left, which in turn will move the slide bar rearwardly to press the lower end of the lever 214 in position to be operated by the stud on the bolt of the lock when the latter is again moved to unlocked position. In this position the notch 210 in the rod 209 is opposite the counter locking lever 203 so that the latter can move into the notch when the counter operating stem is rotated, the locking lever being pushed back against the action of the spring 208 by the inclined walls of the notch in the disc 207.

We claim as our invention:

1. In a printing machine of the class described, the combination of a frame, plate and blanket rolls rotatably mounted one adjacent another upon the frame, means for driving said rolls including a clutch mechanism arranged for automatic release following each printing operation, means for adjusting one roll relative to another, and a platen positioned to cooperate with the blanket roll.

2. In a printing machine of the class described, the combination of a frame, separate sets of plate and blanket rolls rotatably mounted one adjacent another upon the frame, individual driving elements for said blanket rolls, means for driving said plate rolls, said means being operatively connected with said driving elements, platens for holding the sheets to be printed in contact with the blanket rolls, and means independent of said rolls for severing from the sheet the parts printed by each blanket roll.

3. In a printing machine of the class described, the combination of a frame, separate sets of plate and blanket rolls rotatably mounted one adjacent another on the frame, means for driving said rolls, means for separately adjusting each blanket roll relative to its plate roll, platens for holding the sheets to be printed in contact with the blanket rolls, and means independent of said rolls for severing the sheets into individual parts corresponding to those printed by each blanket roll.

4. In a printing machine of the class described, the combination of a frame, a shaft journaled upon the frame, a series of plate rolls carried by said shaft, a series of blanket rolls revolubly mounted for cooperation with said plate rolls, a gear connected with each of said blanket rolls, a second shaft rotatably mounted upon the frame, gears carried by the second mentioned shaft adapted to drive the gears of the blanket rolls, means for rotating said shafts and platens cooperating with said blanket rolls to hold the sheet to be printed in contact therewith.

5. In a check printing machine of the class described, the combination of a frame, a shaft journaled upon the frame, a series of plate rolls carried by said shaft, a series of blanket rolls revolubly mounted for cooperation with said plate rolls, a gear connected with each of said blanket rolls, a second shaft rotatably mounted upon the frame, gears carried by the second mentioned shaft and adapted to drive the gears of the blanket rolls, means for rotating said shafts, platens cooperating with said blanket rolls to hold the sheet to be printed in contact therewith, and means operatively connected with one of

said shafts for severing from the sheet the check printed by each blanket roll.

6. In a printing machine of the class described, the combination of a frame, a shaft journaled upon the frame, a series of plate rolls carried by said shaft, a series of blanket rolls revolubly mounted for cooperation with said plate rolls, a gear connected with each of said blanket rolls, a second shaft rotatably mounted upon the frame, gears carried by the second mentioned shaft and adapted to drive the gears of the blanket rolls, means for rotating said shafts, platens cooperating with said blanket rolls to hold the sheet to be printed in contact therewith, a pair of knife shafts revolubly mounted upon the frame and having separate sets of cooperating knives for severing from the sheet the parts printed by each blanket roll, means operatively connecting one of the first mentioned shafts with one of the knife shafts, and means operatively connecting the last mentioned knife shaft with the other knife shaft.

7. In a printing machine of the class described, the combination of a frame, a shaft journaled upon the frame, a series of plate rolls carried by said shaft, a series of blanket rolls for cooperation with said plate rolls, a pair of supports disposed at the opposite sides of each set of plate and blanket rolls, arms pivotally connected with said supports upon which said blanket rolls are rotatably mounted, means for adjusting the arms to adjust the blanket rolls relative to the plate rolls, a platen for cooperation with each blanket roll, and driving means for said shaft and blanket rolls.

8. In a printing machine of the class described, the combination of a frame, a shaft journaled upon the frame, a series of plate rolls carried by said shaft, a series of blanket rolls for cooperation with said plate rolls, a pair of plates disposed at the opposite sides of each set of plate and blanket rolls, arms pivotally connected with said plates upon which said blanket rolls are rotatably mounted, means for adjusting the arms to adjust the blanket rolls relative to the plate rolls, a platen for cooperation with each blanket roll, a gear connected with each of the blanket rolls, a second shaft journaled upon the frame, gears carried by the last mentioned shaft adapted to drive said blanket roll gears, and means for driving said shaft.

9. In a printing machine of the class described, the combination of a frame, a shaft journaled upon the frame, a series of plate rolls carried by said shaft, a series of blanket rolls for cooperation with said plate rolls, a pair of plates disposed at the opposite sides of each set of plate and blanket rolls, arms pivotally connected with said plates upon which said blanket rolls are rotatably mounted, means for adjusting the arms to adjust the blanket rolls relative to the plate rolls, a platen for cooperation with each blanket roll, driving means for said shaft and blanket rolls, a series of inking rolls carried by said plates for distributing ink to said plate rolls, a supply roll for each set of inking rolls and supporting means for said supply rolls adapted to permit them to be moved into and out of engagement with certain of the inking rolls.

10. In a printing machine of the class described, the combination of a frame, a shaft journaled upon the frame, a series of plate rolls carried by said shaft, a series of blanket rolls for cooperation with said plate rolls, a pair of plates disposed at the opposite sides of each set of plate and blanket rolls, arms pivotally connected with said plates upon which said blanket rolls are rotatably mounted, means for adjusting the arms to adjust the blanket rolls relative to the plate rolls, a platen for cooperation with each blanket roll, a gear connected with each of the blanket rolls, a second shaft journaled upon the frame, gears carried by the last mentioned shaft adapted to drive said blanket roll gears, means for driving said shaft, and a tray for holding the sheets to be printed through which said platens are adapted to project when in position to cooperate with the blanket rolls.

11. In a printing machine of the class described, the combination of a frame, a shaft journaled upon the frame, a series of plate rolls carried by said shaft, a series of blanket rolls for cooperation with said plate rolls, a pair of plates disposed at the opposite sides of each set of plate and blanket rolls, arms pivotally connected with said plates upon which said blanket rolls are rotatably mounted, means for adjusting the arms to adjust the blanket rolls relative to the plate rolls, a platen for cooperation with each blanket roll, driving means for said shaft and blanket rolls, a tray for holding the sheets to be printed and an adjustable sheet positioning member upon the tray.

12. In a printing machine of the class described, the combination of a frame, a shaft journaled upon the frame, a series of plate rolls carried by said shaft, a series of blanket rolls for cooperation with said plate rolls, a pair of plates disposed at the opposite sides of each set of plate and blanket rolls, arms pivotally connected with said plates upon which said blanket rolls are rotatably mounted, means for adjusting the arms to adjust the blanket rolls relative to the plate rolls, a platen for cooperation with each blanket roll, a gear connected with each of the blanket rolls, means for driving said gears, and means for driving said shaft.

13. In a check printing machine of the class described, the combination of a frame, a shaft journaled upon the frame, a series of plate rolls carried by said shaft, a series of blanket

rolls revolubly mounted for cooperation with said plate rolls, a gear connected with each of said blanket rolls, a second shaft rotatably mounted upon the frame, gears carried by the second mentioned shaft and adapted to drive the gears of the blanket rolls, means for rotating said shafts, platens cooperating with said blanket rolls to hold the sheet to be printed in contact therewith, means operatively connected with one of said shafts for severing from the sheets the checks printed by each blanket roll, an adjustable guard for the sheets interposed between the blanket rolls and said severing means, and means connected with one of the shafts for moving said guard in advance of each severing operation.

14. In a check printing machine of the class described, the combination of a frame, a shaft journaled upon the frame, a series of plate rolls carried by said shaft, a series of blanket rolls revolubly mounted for cooperation with said plate rolls, a gear connected with each of said blanket rolls, a second shaft rotatably mounted upon the frame, gears carried by the second mentioned shaft and adapted to drive the gears of the blanket rolls, means for rotating said shafts, platens cooperating with said blanket rolls to hold the sheet to be printed in contact therewith, means for severing the printed checks from the sheet, and means adapted to distribute the checks printed by each blanket roll in separate piles.

15. In a printing machine of the class described, the combination of a frame, a shaft journaled upon the frame, a series of plate rolls carried by said shaft, a series of blanket rolls revolubly mounted for cooperation with said plate rolls, a gear connected with each of said blanket rolls, means for driving said gears, means for rotating said shaft, platens cooperating with said blanket rolls to hold the sheet to be printed in contact therewith, pivotal supports for the platens and means operatively connected with the supports to swing them toward and from the blanket rolls.

16. In a printing machine of the class described, the combination of a frame, a shaft journaled upon the frame, a series of plate rolls carried by said shaft, a series of blanket rolls revolubly mounted for cooperation with said plate rolls, a gear connected with each of said blanket rolls, means for driving said gears, means for rotating said shaft, platens cooperating with said blanket rolls to hold the sheet to be printed in contact therewith, pivotal supports for the platens, yieldable means tending to urge the platens in engagement with the blanket rolls, means for limiting the movement of the supports toward said rolls, and means for swinging the supports to move the platens out of cooperating relation with the blanket rolls.

17. In a check printing machine of the class described, the combination of a frame, separate sets of plate and blanket rolls rotatably mounted one adjacent another upon the frame, means for driving said rolls, platens for holding the sheets to be printed in contact with the blanket rolls, means for severing the printed checks from the sheet, a counter operatively connected with the driving means for indicating the number of checks printed, a lock for a portion of said driving means and means under the control of the lock for locking the counter against resetting when the driving means is released by the lock for operation.

18. In a check printing machine of the class described, the combination of a frame, separate sets of plate and blanket rolls rotatably mounted one adjacent another on the frame, means for driving said rolls, means for separately adjusting each blanket roll relative to its plate roll, platens for holding the sheets to be printed in contact with the blanket rolls, means for severing the printed checks from the sheet, a counter for indicating the number of checks severed, a locking member for the counter, a part movable to and from obstructing position with respect to said locking member, a lock for a portion of said driving means, and actuating means for said part under the control of said lock.

19. In a printing machine of the class described, the combination of a frame, a shaft journaled upon the frame, a series of plate rolls carried by said shaft, a series of blanket rolls revolubly mounted for cooperation with said plate rolls, a gear connected with each of said blanket rolls, platens for cooperation with said blanket rolls, driving means for said gears and shaft including an electric motor, an electric switch for the motor, an operating member for the switch, a member for holding said shaft against rotation, and a lock including a bolt adapted to simultaneously lock both of said members.

20. In a check printing machine of the class described, the combination of a frame, separate sets of plate and blanket rolls rotatably mounted one adjacent another upon the frame, rotatable means for driving said rolls, platens for holding the sheets to be printed in contact with the blanket rolls, means for severing the printed checks from the sheet, an electric motor operatively connected with said driving means, a switch for said motor, an operating member for the switch, a guard for holding the roll driving means against rotation, and a lock having a bolt adapted to engage said guard and operating member to hold them in locked position.

21. In a check printing machine of the class described, the combination of a frame, plate and blanket rolls rotatably mounted one adjacent another upon the frame, means for driving the said rolls, means for adjusting

one relative to another, a platen positioned to cooperate with the blanket roll to hold the sheets to be printed, severing means for the sheet arranged to operate subsequent to the printing operations, and adjustable supporting means for the platen comprising a pivoted element, a link operatively connected therewith, and an eccentric for operating the link.

22. In a check printing machine of the class described, the combination of a frame, separate sets of plate and blanket rolls rotatably mounted one adjacent another on the frame, driving means for said rolls, means for separately adjusting each blanket roll relative to its plate roll, platens for holding the sheets to be printed in contact with the blanket rolls, means for severing the printed checks from the sheets including a pair of shafts operatively connected with said driving means and having cooperating knives thereon arranged so that one shaft is held against longitudinal movement by the other.

23. In a check printing machine of the class described, the combination of a frame, a shaft journaled upon the frame, a series of plate rolls carried by said shaft, a series of blanket rolls revolubly mounted for cooperation with said plate rolls, a gear connected with each of said blanket rolls, platens for cooperation with said blanket rolls to hold the sheets to be printed in contact therewith, a pair of shafts having knives thereon for severing the printed checks from the sheets, a stub shaft operatively connected with said knife shafts for continuous operation of the same, driving means for the stub shaft, and means movable to couple the stub shaft with the first mentioned shaft.

24. In a check printing machine, the combination of a frame, a pair of shafts journaled thereon, separate sets of plates and blanket rolls adapted to be driven by said shafts, platens cooperating with the blanket rolls, a pair of knife shafts having separate sets of knives for severing the checks from the sheets to be printed, a continuously driven shaft operatively connected with said knife shafts, driving gears connecting the first mentioned pair of shafts, a gear loosely mounted on said continuously driven shaft and meshing with one of said driving gears, a pawl and ratchet mechanism for coupling said continuously driven shaft with said loosely mounted gear and manually operable means for said pawl and ratchet mechanism.

25. In a printing machine, a plate roll, a blanket roll, a platen for cooperation with the blanket roll, a table for supporting a sheet to be printed arranged between the blanket roll and platen and having an opening through which the latter is adapted to operate, said platen being spaced from the blanket roll in the normal position of the latter to permit the sheet when placed upon the table to project rearwardly of said roll in advance of its engagement by the blanket roll without changing the axial position of the latter, and driving means for said rolls including a clutch arranged for automatic release after each revolution of said blanket roll.

26. In a check printing machine, the combination of a frame, a plurality of individual printing units mounted upon the frame for performing separate printing operations upon a sheet to print upon a corresponding number of checks or forms thereon, inking means for said units, and severing means for the checks operated by said driving means subsequent to the printing operations, and a shiftable guard for limiting the movement of the sheet when inserted within the machine, said guard being moved to release position by the driving means in advance of the severing operations.

27. In a check printing machine, the combination of a frame, a plurality of individual printing units mounted upon the frame for performing separate printing operations upon a sheet to print upon a corresponding number of checks or forms thereon, driving means for said units, a table for supporting the sheet during the printing operations, an adjustable member upon the table for regulating the position of the sheet relative to the printing units in advance of the printing operations, a plurality of rotatably mounted knives at the rear of the table for severing the checks from the advancing sheet, and means operatively connecting the driving means with said knives.

28. In a check printing machine, the combination of a frame, a plurality of individual printing units mounted upon the frame for performing separate printing operations upon a sheet to print upon a corresponding number of checks or forms thereon, each printing unit including cooperating check advancing elements adapted when in normal inoperative position to permit the check to be projected between and in rear of the same, driving means for said units, a plurality of upper and lower knives rotatably mounted in rear of said printing units for receiving the sheet and for severing the checks therefrom, and means for rotating said knives arranged to be operated by said driving means.

29. In a printing machine, the combination of a frame, a plurality of rotary printing units supported on the frame for effecting separate printing operations upon a sheet, driving means for said units, means actuated by the driving means subsequent to said printing operations for severing from the sheet the parts printed by said printing units, a counter operated by the driving means each time a sheet is printed, the counter being constructed to indicate at each operation the number of parts severed from the sheet,

and normally inactive means adjustable to hold the counter against resetting during operation of the printing units.

30. In a printing machine, the combination of a frame, printing means thereon including a rotary printing element, driving means for said element, releasable guard means for the driving means, a counter carried by the frame for indicating the number of printing operations, said counter having a resetting element, operating means for the counter arranged to be actuated by the driving means, and means for locking the resetting element when the guard means is released.

31. In a printing machine, the combination of a frame, printing means thereon including a rotary printing element, driving means for said element, releasable guard means for the driving means, a counter carried by the frame for indicating the number of printing operations, said counter having a resetting element, operating means for the counter arranged to be actuated by the driving means, and means under the control of the guard means arranged to automatically lock the resetting element when the guard means is moved to release position.

32. In a check printing machine of the class described, the combination of a frame, rotary printing means thereon for simultaneously effecting separate printing operations upon a sheet corresponding to the number of checks to be printed, driving means for said rotary printing means, severing means operatively connected with the driving means for severing the checks from the sheet, a shiftable guard for the sheet interposed between the rotary printing means and the severing means, means actuated by the driving means for shifting the guard in advance of the movement of the sheet to the severing means and a holder extending beneath and adapted to support the checks during the severing operations and arranged to maintain them in separated relation when severed.

33. In a printing machine, a printing unit comprising plate and blanket rolls, driving means revolubly supporting one of said rolls, a support for the other roll comprising parts extending on opposite sides thereof and having a pair of arms pivoted thereon upon which the last mentioned roll is mounted for rotation, a driving element connected with the last mentioned roll, means adjustably connecting said parts and said arms to permit the latter to swing upon the former whereby to effect relative adjustment between said rolls and means interposed between said driving means and said driving element whereby one is adapted to drive the other.

34. In a printing machine, a printing unit comprising a plate roll, a blanket roll, swingingly mounted means rotatably supporting one of said rolls, a driving element connected with the last mentioned roll, driving means for the other roll operatively connected with said driving element, means for adjusting said swingingly mounted means to effect relative adjustment between said rolls, ink supply means for the plate roll, a platen for cooperation with the blanket roll, and a sheet supporting table extending between the platen and blanket roll.

35. In a printing machine, the combination of a frame, a plurality of plate and blanket rolls mounted for rotation upon the frame, a platen for cooperation with each blanket roll, a sheet holding table extending between said blanket rolls and said platens, adjustable means upon the table for properly positioning the sheet with respect to the blanket rolls in advance of the printing operations, and means for driving said rolls.

36. In a printing machine, the combination of a frame, a plate roll and a blanket roll journalled thereon, ink supply means for the plate roll, a sheet holding table beneath the blanket roll, a platen for cooperation with the blanket roll, an adjustable guard at one side of the table for engaging one edge of the sheet whereby to properly position it with respect to the blanket roll after it has been inserted between the platen and blanket rolls, driving means for said rolls and means arranged to be actuated by the driving means adapted to shift the guard in advance of the printing operations.

37. In a printing machine of the class described, the combination of a frame, separate sets of plate and blanket rolls, a shaft supporting one set of rolls, separate supporting devices for the rolls of the other set each being individually adjustable toward and from the opposing roll on said shaft, a second shaft spaced from the first and operatively connected with the rolls carried by said supporting devices and driving means for said shafts.

38. In a printing machine of the class described, the combination of a frame, plate and blanket rolls, spaced drive shafts, one coaxial with and arranged to drive said plate rolls and the other spaced from the blanket rolls, a gear connected with each blanket roll, gears on the last mentioned shaft operatively connected with those of the blanket rolls, and driving means for said shafts.

39. In a printing machine of the class described, the combination of a frame, plate and blanket rolls rotatably mounted on the frame, a platen for cooperation with the blanket roll, rotary driving means for said rolls, power means for operating said rotary driving means, relatively movable devices for controlling the starting and stopping of said power means and the operation of said ro-

tary driving means and locking means for said devices.

40. In a printing machine of the class described, the combination of a frame, plate and blanket rolls rotatably mounted on the frame, a platen for cooperation with the blanket roll, rotary driving means for said rolls, power means for operating said rotary driving means, a device for controlling the starting and stopping of said power means and locking means common to said control device and said rotary driving means.

41. In a printing machine of the class described, the combination of a frame, plate and blanket rolls rotatably mounted on the frame, a platen for cooperation with the blanket roll, an electric motor operatively connected with said rolls, a switch for controlling the motor circuit, an operating member for the switch and locking means for said operating member.

42. In a printing machine of the class described, the combination of a frame, rotary printing means thereon, driving means connected with said printing means, a counter arranged to be actuated by the driving means at each printing operation, a lock for the driving means and means under the control of the lock arranged when the latter is unlocked to guard the counter whereby to prevent resetting of the same.

43. In a printing machine of the class described, the combination of a frame, rotary printing means thereon, driving means connected with said printing means, a counter arranged to be actuated by the driving means at each printing operation, a control member for preventing resetting of the counter when the machine is conditioned for operation, a lock for the driving means, a member actuated by the lock when moved to unlocked position and means actuated by said member for moving said control member to prevent resetting of the counter.

44. In a printing machine of the class described, the combination of a frame, rotary printing means thereon, driving means for said printing means including an electric motor, a switch for the motor circuit, locking means for the switch, a counter arranged to be actuated by the driving means at each printing operation, and means under the control of the lock arranged when the latter is unlocked to guard the counter whereby to prevent resetting of the same while the switch is in closed position.

45. In a check printing machine, the combination of a frame, rotary printing means thereon for simultaneously performing a series of printing operations upon a sheet from which a corresponding number of checks are to be severed, driving means for said rotary printing means, severing means arranged to receive the sheet from the printing means, and a holder for the severed checks having upstanding portions corresponding to the number of checks to be severed, said portions being arranged to extend each beneath and into engagement with one check during the severing operations and each at a point nearer one severed edge of the check than the other whereby to insure the discharge of the checks by gravity into separate piles when completely severed.

46. In a machine for printing characters upon sheets, a printing mechanism, operating means for the printing mechanism, a device for indicating the number of the printing operations, a lock for said operating means, and means under the control of the lock for locking said indicating device against reverse movement when said operating means is released for operation.

47. In a machine for printing characters upon sheets, a printing mechanism, operating means for the printing mechanism, a reversible indicating device for indicating the number of printing operations, a lock for said operating means, and means under the control of the lock comprising relatively movable parts arranged to be automatically set for holding the indicating device against reverse movement when the lock is moved to unlocked position, said parts automatically returning to normal position upon locking of the operating means.

48. In a machine for printing characters upon sheets, a printing mechanism, operating means for the printing mechanism, a reversible indicating device for indicating the number of printing operations, a lock for said operating means, means under the control of the lock comprising relatively movable parts arranged to be automatically set for holding the indicating device against reverse movement when the lock is moved to unlocked position, said parts comprising a pivoted element and a longitudinally movable element operatively connected with the pivoted element, and means serving to return said parts to normal position upon moving the lock to locking position.

49. In a machine for printing characters upon sheets, a printing mechanism, driving means for said printing mechanism, a device for indicating the number of printing operations, means for controlling the operation of the driving means, and means under the control of the last mentioned means adapted in one position of the latter to guard the indicating means against resetting.

50. In a machine for printing characters upon sheets, a frame, a platen upon the frame, a printing roll mounted for rotation upon the frame, said printing roll being constructed to afford when in normal inoperative position an opening between it and the platen to permit the sheet to be projected rearwardly of the roll in advance of the operation thereof without changing the axial position of said

roll or platen, driving means for the roll, guard means arranged to limit the advancement of the sheet when the latter is inserted through said opening, means whereby to properly position the sheet in advance of the printing operation, means for automatically discontinuing operation of the driving means upon approach of the roll to normal inoperative position, and means actuated by the driving means for moving said guard means to release position in advance of each printing operation.

51. In a machine for printing characters upon sheets, a frame, printing mechanism thereon, driving means for said printing mechanism including a rotary part, an electric motor for operating said driving means having a switch for controlling the motor circuit, a lock for said rotary part, a guard for the switch arranged to be held against release by the lock when the latter is in position to lock said rotary part, and means for rendering the driving means inoperative at the end of each printing operation.

52. In a machine for printing characters upon sheets, printing mechanism thereon, driving means for said printing mechanism, a lock for said driving means, a device for indicating the number of printing operations arranged to be operated by the driving means, and means adjustable to hold said indicating device against resetting when the machine is in operation, said adjustable means being under the control of the lock whereby upon unlocking the latter it will be automatically moved to adjusted position to guard the indicating device against resetting.

53. In a machine for printing characters upon sheets, a frame, printing mechanism including a rotary printing element and a part for operating the same, driving mechanism for said part, power means for operating the driving mechanism, a lock for holding said part against rotation, and an adjustable device adapted in one position to hold said power means against operation, said device when in said position being held against adjustment by the lock.

CHARLES G. TIEFEL.
WALTER B. PAYNE.