Examiner

Oct. 11, 1938. W. T. GOLLWITZER 2,132,414

PRINTING MACHINE

Original Filed Feb. 24, 1936 3 Sheets-Sheet 1

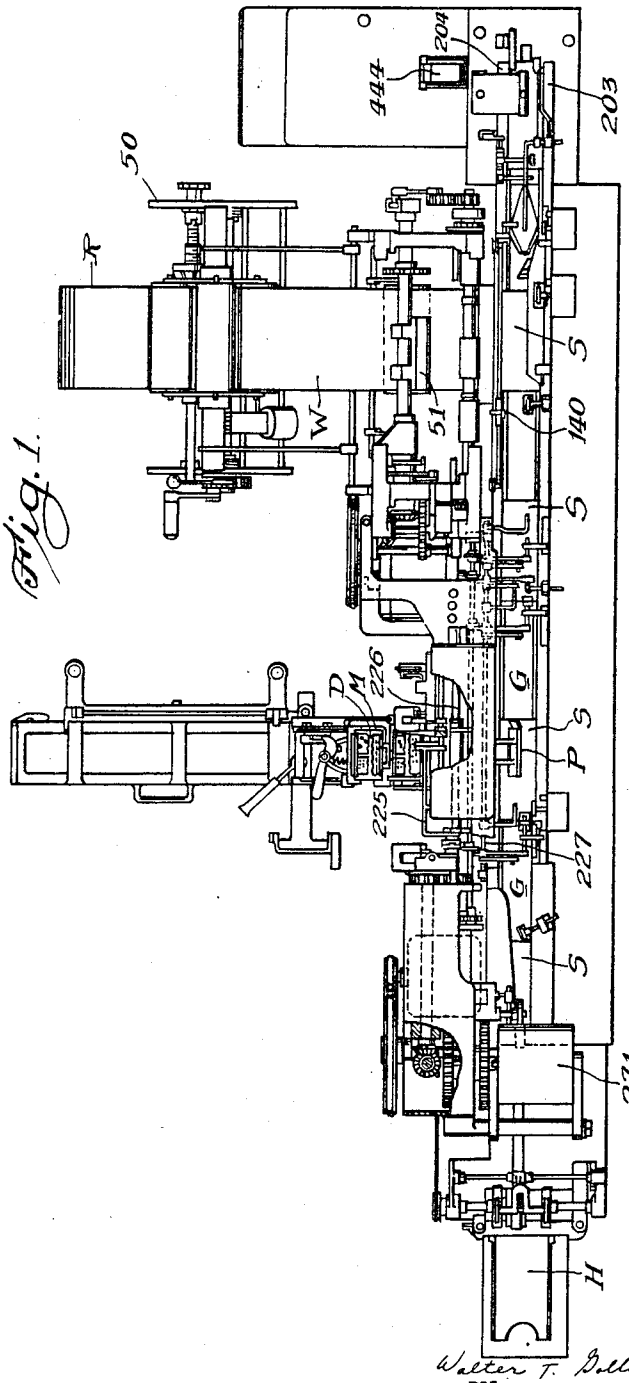


Fig. 1.

INVENTOR.
Walter T. Gollwitzer
BY Belt and Wallace
ATTORNEYS.

Examiner

Oct. 11, 1938. W. T. GOLLWITZER 2,132,414

PRINTING MACHINE

Original Filed Feb. 24, 1936 3 Sheets-Sheet 2

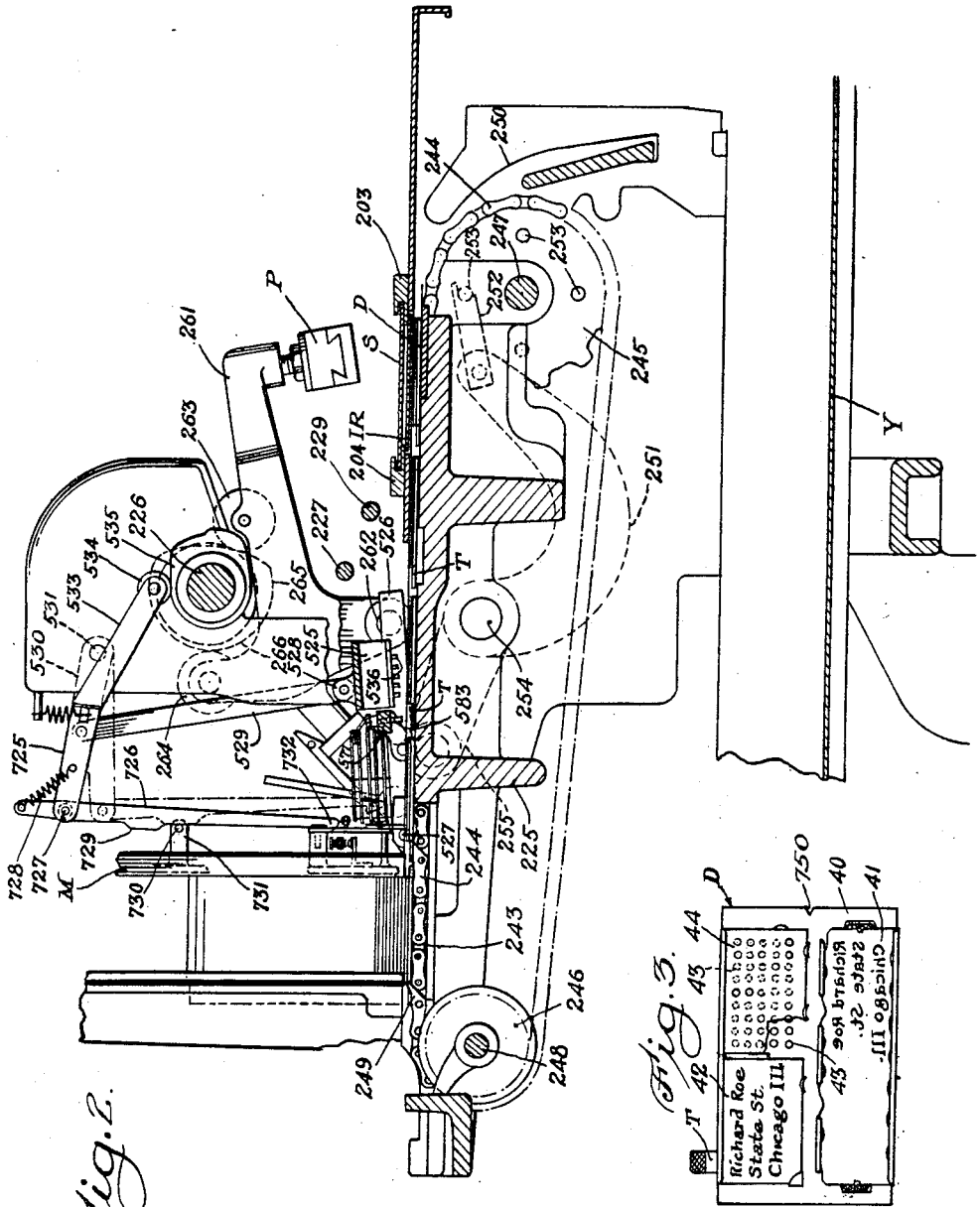


Fig. 2.

Fig. 3.

INVENTOR.
Walter T. Gollwitzer
BY Belt and Wallace
ATTORNEYS.

Oct. 11, 1938. W. T. GOLLWITZER 2,132,414

PRINTING MACHINE

Original Filed Feb. 24, 1936 3 Sheets-Sheet 3

Fig. 4.

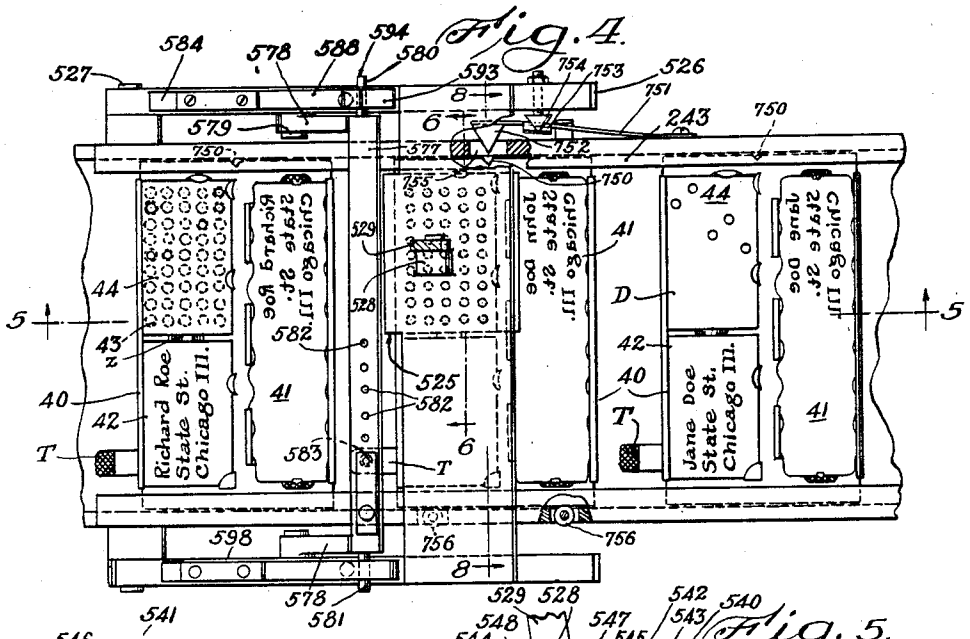


Fig. 5.

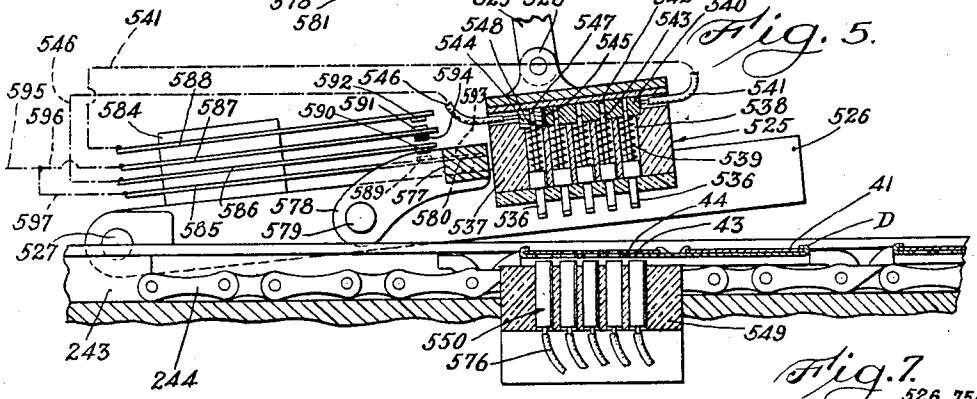


Fig. 6.

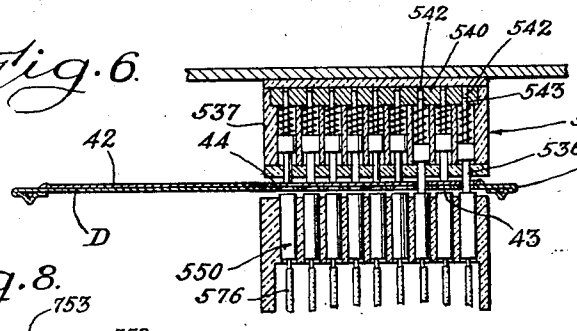


Fig. 7.

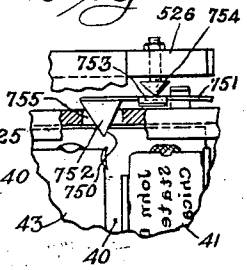
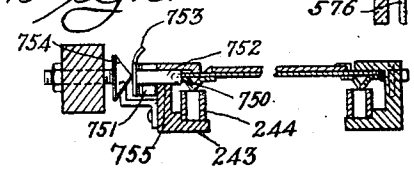


Fig. 8.



INVENTOR.
Walter T. Gollwitzer
BY Belt and Wallace
ATTORNEYS.

Patented Oct. 11, 1938

2,132,414

UNITED STATES PATENT OFFICE

2,132,414

PRINTING MACHINE

Walter T. Gollwitzer, Euclid, Ohio, assignor to Addressograph-Multigraph Corporation, Wilmington, Del., a corporation of Delaware

Original application February 24, 1936, Serial No. 65,376. Divided and this application February 16, 1938, Serial No. 190,826

10 Claims. (Cl. 101—58)

This invention relates to printing machines of the kind through which printing devices or the like are passed to have impression operations made therefrom or to control other operations in the machine and more especially to accurately locating such devices relative to means in the machine adapted to cooperate therewith.

This application is a division of my co-pending application Serial No. 65,376, filed February 24, 1936.

Each of the printing devices that is passed through a machine of the kind to which this invention relates and from which an impression may be made may advantageously be positioned in the printing machine accurately so as to insure the accurate positioning of the impression made therefrom and thereby insure a neat and orderly appearance of the sheet receiving the impression. There are other instances where accurate positioning of a printing device or the like relative to means in the machine adapted to cooperate therewith is advantageous and hence an object of this invention is to insure accurate positioning of a printing device or the like in a printing machine or the like.

Another object of my invention is to position the printing devices fed through a printing machine accurately relative to parts of the machine operative to make impressions therefrom to insure accurate positioning on sheets or the like of the impressions made from the devices.

Another object is to enable accurate adjustment of a printing device into a predetermined position in a printing machine.

A printing device from which an impression may be made in a printing machine may also be a control device to control the making of an impression therefrom or to control an impression or other operation of other means in the machine. In my co-pending application heretofore referred to a complete machine is described wherein an impression can be made directly from a printing device bearing control means and also other impressions may be made under control of the control means on the printing device. Furthermore, if desired, such a printing and control device or merely a control device may be arranged in a machine to control the performance of mathematical or other operations and among the objects of this invention is to insure accurate positioning of such a printing and control device or control device in a machine relative to means in the machine adapted to cooperate therewith.

An example of the use to which a printing and control device may be put in a machine such as that to which I have referred is the printing of a stock dividend check including the printing of the name and address of the stockholder and the amount of the dividend to which he is entitled and which depends upon the rate of the dividend declared and the number of the shares of stock held. Other examples are insurance company premium notices, public utility bills to customers, and the like.

A further object of my invention is to insure accurate positioning of the devices in a machine such as that to which reference has been made relative to means in the machine effecting operations therefrom or thereon and thereby insure accurate operation of such means.

A still further object is to accurately position devices introduced into a machine in control position in the machine whereby means on the device will be arranged accurately to cooperate with means in the machine so as to thereby insure accurate operation in the machine.

Referring to the drawings wherein a selected embodiment of the invention is illustrated

Fig. 1 is a top plan view of a complete machine embodying the invention;

Fig. 2 is an enlarged vertical sectional view taken longitudinally through the printing device guideway;

Fig. 3 is an elevation of a typical printing device used in the machine;

Fig. 4 is a fragmentary plan detail view of a portion of the printing device guideway;

Fig. 5 is a vertical sectional view taken substantially on the line 5—5 of Fig. 4;

Fig. 6 is a vertical sectional view of the detector mechanism taken substantially on the line 6—6 of Fig. 4 but showing the parts in closed position;

Fig. 7 is a fragmentary plan view showing selected of the parts illustrated in Fig. 4 is another position; and

Fig. 8 is a sectional detail view taken substantially on the line 8—8 of Fig. 4.

The selected embodiment of the invention shown in the accompanying drawings is illustrated as constructed and used in a machine adapted for the preparation of checks and more particularly dividend payment checks of a corporation, but it is to be understood that this is merely an illustrative use of the invention for many other machines adapted for other uses and other kinds of business instruments for many other purposes may include this invention.

The preparation of dividend checks of a large corporation has been an arduous and time-consuming task. Heretofore, one manner in which

the preparation of dividend checks has been simplified and speeded up has been by providing the names or other identification of the shareholders of a corporation on printing devices which have been passed through a printing machine to address or otherwise identify the checks and, while printing of such checks by use of such devices facilitated the preparation and distribution thereof, it was still necessary to perform other operations on the checks as, for example, entering the amount thereon. Other operations have been necessary to properly prepare the checks for distribution and, while printing addresses or other identification on the checks by use of printing devices facilitated preparation thereof, it did not solve all the problems entailed in economically preparing checks.

The preparation of dividend checks has been facilitated by not only providing devices for printing the name and address or other identification of a shareholder but which also carry control means so that the entire record may be printed by the devices. Such a device is illustrated and described in my co-pending application Serial No. 65,377, filed February 24, 1936. The record, by way of example, may be the identification of a shareholder and the amount which the shareholder is to receive by reason of the declaration of a dividend. This amount represents the number of shares owned by a shareholder multiplied by the rate of the dividend. Such a record may be provided on the printing device in a variety of ways of which the now to be described manner is but illustrative.

For the purpose of illustrating this invention I have shown a printing and control device of the kind disclosed in my aforementioned co-pending application Serial No. 65,377. Such a device includes a carrier or a frame, a removable plate, an index card and a control card. It is to be understood, however, that the invention is not limited to the use of such structure of printing and control devices but could, if desired, be used with printing devices or printing and control devices of any approved structure.

I have shown a printing and control device D, Fig. 3, including a frame **40** on which a flat metal plate **41** is removably retained preferably adjacent the lower part thereof. This plate is adapted to be embossed or otherwise provided with printing characters from which the name and address or other identification of the shareholder of a corporation may be printed. In addition to this the printing device is also provided with an index card **42** bearing an impression from the printing characters on the plate **41** which facilitates filing and other handling of the device. The index card is preferably located in one upper corner of the frame **40**.

I provide a plurality of openings **43** preferably in the other upper corner of the frame. For the purpose of illustration I have provided nine rows of openings with five openings in each row in transverse and longitudinal alignment with each other. Each row may be used to indicate the digit of a number or other numerical accounting data or the like and I may therefore arrange the indications of a nine place number on the printing device and, when expressed in terms of dollars and cents, I may indicate any amount up to 9,999,999 dollars and 99 cents. I also provide but five openings in each row and I utilize these openings in accordance with a system or code whereby I am enabled to provide an indication for any digit in every row. Such system or code is more fully explained in my aforementioned co-pending application Serial No. 65,376.

In order to render operative only selected of the openings **43** I employ a control card **44** which is disposed over the openings, and by forming openings in this control card in alignment with selected of the openings **43** in selected of the rows thereof comprising five openings I provide aligned openings in predetermined positions and thereby afford control means which in the present instance indicate the digits from 1 to 9 in the various rows. The control card **44**, plate **41** and index card **42** are removably secured on the frame by suitable retaining devices.

While this invention is primarily directed to making impressions directly from and under control of the printing devices, this term being used hereinafter as generic to printing devices per se and also printing and control devices of various structures, I have shown a machine which will completely print a dividend check and to this end I have provided a printing couple wherein the date, the number and the signature may be conveniently printed, a variable printer under control of the printing device for printing the amount, printing means for making an impression directly from the printing device to print the address, and another printing couple wherein the form, including the name of the payee corporation and the name of the bank on whom the check is drawn, may be conveniently printed. Furthermore, in preparing dividend checks and many other business instruments, it is often desirable to accumulate a total of the various amounts printed on the instruments or to perform other mathematical operations, and it is likewise advantageous to prepare a record of the amounts printed, and the machine I have selected for illustration includes a calculating machine, and more particularly an adding machine, wherein a total of the amounts printed on the various checks may be accumulated and wherein a record of the amounts so printed may be prepared.

A roll of paper R, Figs. 1 and 2, is mounted in a suitable supporting stand **50** and a web W is withdrawn from the roll and passed between the cylinders of a suitable printing couple **51** wherein the signature, date and number, comprising the reoccurring but changeable data, is printed.

In the form of the invention illustrated I employ a web of a width equal to the desired length of the checks for checks are usually of greater length than width and by severing the checks from the web in this manner I am enabled to sever a great many more checks from a web of given length than I would be able to do if the web were the same width as that desired of the checks and the web was severed transversely of the checks rather than longitudinally thereof. The leading edge of the web is therefore fed past a severing device **140** in an amount equal to the desired width of the check. The severing device then operates as disclosed in my co-pending application Serial No. 65,376 to sever the check from the web.

The checks or sheets S severed from the web are deposited on a pan from which they are fed transversely of the machine to receive impressions under control of the printing and control devices and directly from the devices and then into a printing couple **271** wherein the form, such as the name of the payee corporation and the name of the bank on whom the check is drawn, is

printed. From the printing couple the sheets are fed to a suitable collecting tray H.

During the transverse movement of the sheets across the machine they travel in a guideway G which is provided with two strips **203** and **204** undercut on their adjacent sides and the sheets S pass through these undercut sections.

The addressing machine includes a frame **225**, Figs. 1 and 2, in which a main drive shaft **226** is journaled. Power is supplied to this main drive shaft from a suitable source. A cam shaft **227** is also journaled in the frame **225** and in the present instance a suitable gear train interconnects the main drive shaft **226** and the cam shaft **227** for operation in a one-to-one ratio so that the cam shaft will make one revolution each time the drive shaft makes one revolution. A rod **229** is mounted in the frame **225** adjacent the cam shaft **227**. The means which control the movement of the sheets through the sheet guideway G are mounted on the rod **229** and are operated by cams carried by the cam shaft **227**. Stop fingers are provided in the present instance which are movable to and from engagement with the leading edge of sheets moving through the guideway, these fingers being moved into stopping position and holding the sheets against further movement until a predetermined time in the operation when they are retracted from engagement with the sheets to permit the sheets to move to the left, as viewed in Fig. 1, through the guideway.

The platen P makes impressions on the sheets S from printing devices D through an ink ribbon IR although it is to be understood that impressions could be made from printing devices in any desired way depending, of course, upon the nature of the printing devices, the ink ribbon IR being a convenient way to make impressions when the printing characters are embossed on the plate such as **41** as in the present instance.

Printing devices are initially introduced into the machine by stacking them in a magazine M at the rear end of the printing device guideway **243**. Chains, such as **244**, are mounted at each side of the printing device guideway and are directed about sprockets **245** and **246** respectively mounted on shafts **247** and **248** mounted in the frame **225** beyond the front and rear ends of the printing device guideway **243**. Pawls such as **249** are provided at spaced intervals on the chains **244** and these pawls successively move into position to engage the lowermost printing device in the magazine M and then, as a step-by-step movement is imparted to the chains, the printing devices are successively moved through stations until they reach printing position below the platen P after which they are discharged past the guide **250** to be collected in the usual manner. In the present instance the printing devices move through three stations intermediate the magazine M and printing position.

A step-by-step movement is imparted to the chains **244** from a rocker **251** carrying a pawl **252** successively engageable with spaced pins **253** mounted in the sprocket **245**. The rocker **251** is mounted on a shaft **254** journaled in the frame **225**. An arm **255** is fast on the shaft **254** and as the shaft **226** rotates the arm **255** and rocker **251** are rocked to successively disengage the pawl **252** from one of the pins **253** and engage it with the succeeding pin and to then impart an advancing movement to the chains **244** as the newly engaged pin **253** is driven forwardly.

The platen P is carried by a platen arm **261** pivotally mounted as at **262** on the frame **225**. The platen arm carries a pair of rollers **263** and another pair of rollers **264** which respectively engage pairs of conjugated cams **265** and **266** that are releasably connected to the shaft **226**. When the conjugated cams **265** and **266** are connected to the shaft **226** they operate in timed relation with the movement of the chains **244**, and these cams cooperate with the rollers **263** and **264** on the platen arm **261** to move the platen on said arm downwardly to make an impression from the printing device during an at rest interval in the step-by-step movement of the printing devices through their guideway and to elevate the platen out of engagement with the printing devices at a time when a feeding movement is imparted to the printing devices. It, of course, is to be understood that if desired the feed of the printing devices can be so controlled that more than one impression can be made therefrom prior to their discharge from printing position. Also an impression operation of the platen P may be arrested in event no sheet is fed into printing position and therefore operation of the platen P is also under control of the sheets fed through the machine, arrangements for these purposes being well understood in the art.

The variable printer illustrated in this application is preferably associated with a calculating machine which, in the present instance is an adding machine, so that the amounts printed on the checks may be totalized to facilitate verification, and preferably the amounts printed on the business instruments by the variable printer are also printed on the detail strip passing from the roll **444** in the calculating machine to afford a record useful for verifying purposes and the like.

The set-up of the variable printer is under control of the printing devices moving through the printing device guideway **243** and a detector **525**, Figs. 2, 4 and 5, is associated with the printing device guideway in a position to cooperate with the printing device in a station two removed from printing position below the platen P. The detector **525** is positioned to cooperate with the openings **43** and the control card **44** in the printing device as they move through the printing device guideway. The detector **525** is carried by a bracket **526** pivotally mounted in the frame of the printing machine as indicated at **527**. A lug **528** is provided on the upper side of the detector **525** and the lower end of a link **529** is pivotally connected thereto. A rocker **530**, Fig. 2, is pivotally mounted on a rod **531** mounted in the frame of the printing machine and the rocker **530** includes an arm to which the upper end of the link **529** is connected. An arm **533** is also provided on the rocker **530** and carries a roller **534** that follows the cam **535** fast on the shaft **226**. The cam **535** imparts a rocking movement to the rocker **530** to thereby lower and raise the link **529** to correspondingly raise and lower the detector **525** and inasmuch as such movement is effected from the shaft **226** it occurs in timed relation with the operation of the platen P and the movement of the printing devices D through the printing device guideway **243**, and the detector **525** is moved into cooperating relation with the printing device D therebelow during an at rest interval in the step-by-step movement of the printing devices through the printing device guideway.

A plurality of detector pins **536** are mounted in

the housing **537** of the detector **525**. The housing **537** is preferably made of insulating material and the detector pins **536** are reciprocally mounted in pockets **538** formed in this housing. The pins are urged downwardly by springs **539**. Nine rows of detector pins are provided transversely across the detector **525** and five pins are provided in each of these rows, and it will thus be seen that there is a detector pin **536** for each opening **43** in the frame **40** of the printing device D. A metallic plate **540** is mounted in the housing **537** and an electrical conductor **541** is connected thereto. Openings **542** are provided in the plate **540** in alignment with the first four pins **536** in each of the nine rows of openings and plungers **543** provided on these pins **536** slide in the openings **542**. A metallic bar **544** is mounted in the housing **537** and is insulated from the plate **540** by an insulating strip **545** and has an electrical conductor **546** connected thereto. Openings **547** are provided in the bar **544** in alignment with the last pin in each of the nine rows of openings and plungers **548** on these pins slide in these openings. It will thus be seen that the first four pins in each of the nine rows of openings may be connected in an electrical circuit of which the conductor **541** is a part, while the last pin in each of the nine rows of openings may be connected in another electrical circuit of which the conductor **546** is a part.

In the printing device guideway below the detector **525** at what may be called detecting position, a block **549** of insulating material is provided. A plurality of contacts **550** are mounted in this block **549** in alignment with the detector pins **536**, which is to say, in alignment with the openings **43** in the printing device D in detector position, and if no printing device were interposed between the detector pins **536** and the contacts **550** and the detector **525** was moved toward the printing device guideway each pin **536** would engage a contact **550**.

It has been explained heretofore that the control cards on each of the printing devices D have perforations therein in alignment with selected of the openings **43** to thereby indicate digits from 1 to 9 in the various rows of openings. Hence, when the control card is in detector position and the pins **536** are lowered only those pins **536** aligned with the openings in the control card will pass through the card to establish an electric circuit which is indicative of particular digits. The circuit is connected to the calculating mechanism through conductors as **576** to reproduce the digits indicated by the openings in the control card.

All the printing devices in a sequence passed through the printing machine are not always used in such a manner that impressions are made directly therefrom and under control thereof and this is determined by employing identification means on the printing devices. The identification means may be removable tabs T which may be connected to the frames **40** of the printing devices in any suitable manner, or other suitable identifying means may be provided. Tabs such as the tab T may be secured to the printing device in any one of a plurality of positions. In the present instance when an impression is to be made from a printing device D, a tab T is removably fast in the printing device in the first of the tab receiving positions and suitable means in the machine cooperate with this tab T to arrange the machine so that impressions will be made directly from the printing device and also under control thereof. However, when a tab is not provided in this position impressions are not made directly from and under control of the printing device.

In order to determine whether or not an impression is to be made from the printing device a detector bar **577**, Figs. 4 and 5, is provided. The detector bar **577** is carried by arms **578** pivotally mounted, as indicated at **579**, on the side members of the frame **526**. Pins **580** and **581** are provided at opposite ends of the bar **577** and rest against the upper edges of the side frame members to limit downward movement of the detector bar **577** and also for the purpose of operating switches in a manner to be described presently. A plurality of openings **582** are provided in the bar **577** and a feeler pin, such as **583**, is selectively mounted in these openings **582** to engage a tab such as the tab T in the various possible positions of the tabs on the printing devices D. In the present instance where impressions are to be made directly from and under control of the printing devices when a tab T is located in the first position on a printing device the pin **583** is located in the first of the holes **582**. Thus since the bar **577** rests on the frame **526**, when said frame is lowered with the detector **525**, the pin **583** engages a tab T when one is one the printing device D in detector position. The engagement of the pin **583** with such a tab T arrests downward movement of the bar **577** and when movement of the bar **577** is so arrested switches controlled by the pins **580** and **581** are closed.

The switches controlled by the pins **580** and **581** are best illustrated in Figs. 4 and 5. In Fig. 5 a block **584** of insulating material is fast on one of the side frame members of the frame **526**. Blades **585**, **586**, **587** and **588** are mounted in the block **584** one above the other. The blade **585** carries a contact **589** adapted to cooperate with a contact **590** on the blade **586**. The blade **587** carries a contact **591** adapted to cooperate with a contact **592** on the blade **588**. A block of insulating material **594** is provided on blade **587** and when blade **586** is moved upwardly the contacts **591** and **592** are engaged. The blade **585** is provided with an extension **593** which overlies the pin **580** so that when the downward movement of the pin **580** is arrested the contacts **589** and **590** will engage.

A conductor **595**, Fig. 5, is provided and a conductor **596** leads from the conductor **595** to the blade **587**, and a conductor **597** leads from the conduotcr **595** to the blade **585**. The conductor **546** connects the blade **586** with the conductor bar **544**. The conductor **541** connects the blade **588** with the contact plate **540**. Thus when the contacts **589** and **590** are engaged circuit is established between the blades **585** and **586** prior to the time the contacts **591** and **592** establish circuit between the blades **587** and **588** and therefore current is supplied to the bar **544** prior to the time it is supplied to the plate **540**.

From the machine thus far described it can be readily appreciated that it is highly desirable if not essential that the printing device be very accurately located in the printing or control position in order for the parts of the machine to cooperate with means on the printing device in the manner intended. Therefore I have provided by this invention suitable means to insure accurate location of the printing device.

When the printing devices move through the printing device guideway and into position below the detector **525** it is necessary that the devices

be positioned accurately so as to prevent grounding of the pin **536** on the metallic frames of the printing devices. Furthermore, it is essential that the pins **536** move through proper openings in the card **44** so as to prevent the entry of something other than the indicated digit. This is accomplished by accurately positioning the printing device relative to the detector **525**. To this end each printing device has a notch **750** in one edge thereof and this notch is located accurately relative to the openings **43** in the printing device. Therefore, if means in the machine are accurately located relative to the detector **525** and this means is engaged in the notch **750**, the printing device will be accurately located relative to the detector.

Means suitable for this purpose are illustrated in Figs. 4, 7 and 8 wherein a leaf spring **751** is fast to the side of the printing device guideway. A block **752** is fast on the leaf spring **751** and in the present instance this block is V-shaped to correspond to the V-shaped notch **750** in the printing device. If, however, the notch in the printing device is of some other shape, this block will be of a corresponding shape.

In order that the printing device will be located relative to the detector **525** immediately prior to the cooperation of the detector with the printing device the block **752** is engaged in the notch just prior to the time the pins **536** approach the printing device in detecting position.

Such movement of the block **752** is accomplished in the present instance by providing a cam **753** on the leaf spring **751** and a conical-headed adjustable pin **754** in the frame **526**. Then when the frame **526** moves downwardly the pin **754** engages the cam **753** and forces the block **752** through the opening **755** in the side of the printing device guideway, and the block thereupon seats in the notch **750** to position the printing device relative to the detector. In event the printing device need be shifted I provide rollers **756** on the opposite side of the printing device guideway and since the edge of the printing device opposite the notch will be engaged with these rollers any necessary shifting of the printing device is facilitated.

From the parts just described it is evident that I have provided means whereby the printing device will be accurately located or adjusted after being deposited in printing position by the printing device feed mechanism. I have also illustrated and described the locating and adjusting means as being embodied in a specific type of printing machine. However, it is to be understood that the locating and adjusting mechanism may be embodied in printing machines of many other types than that herein described and illustrated.

I have explained the printing of a check and more particularly a check for the purpose of paying dividends, but it is to be understood that checks for any purpose, or other business instruments such as, for example, notices, bills and the like, may be prepared in a machine embodying the invention without departing from the scope thereof.

I have illustrated and described the preferred form of my invention, but it is to be understood that I do not wish to be limited to the precise details set forth but desire to avail myself of such changes and alterations as may be desired to enable it to be used for the purpose for which it is or may be adapted.

I claim:

1. In a printing machine through which are fed printing devices having locating or adjusting means thereon and in which machine there are parts adapted for cooperation with the printing devices, means in said machine engageable with the locating or adjusting means on the devices to position the printing devices in predetermined position in the machine to insure predetermined cooperation of parts of the machine which cooperate with the printing devices when the locating or adjusting means on the devices are engaged by the means in the machine engageable therewith.

2. In a printing machine through which printing devices having locating means thereon are fed, means in said machine adapted to cooperate with said printing devices, and means engageable with said locating means for positioning the printing devices in predetermined relation with the means in the machine adapted to cooperate therewith.

3. In a printing machine through which printing devices each having a notch therein are fed, means in the machine adapted to cooperate with said printing devices, and means in the machine engageable in the notches in said printing devices to position said printing devices in predetermined relation with the means in the machine adapted to cooperate therewith.

4. In a printing machine through which printing devices each having a notch therein are fed, means in the machine adapted to cooperate with said printing devices, means in the machine engageable in the notches in said printing devices to position said printing devices in predetermined relation with the means in the machine adapted to cooperate therewith, and means associated with the means in the machine adapted to cooperate with the printing devices for engaging the notch engaging means in said notches.

5. In a printing machine through which printing devices having substantially V-shaped notches in corresponding edges thereof are fed, means in the machine adapted to cooperate with said printing devices, means including a part shaped correspondingly to said notches and adapted to cooperate with the notches, and means for seating said part in said notches to position said printing devices in predetermined relation with the means in the machine adapted to cooperate therewith.

6. In a printing machine through which printing devices having notches in corresponding edges thereof are fed, means in the machine adapted to cooperate with said printing devices, means including a part shaped complementary to said notches, and means for seating said part in said notches to position and adjust said printing devices in predetermined relation with the means in the machine adapted to cooperate therewith.

7. In a printing machine through which printing devices having substantially V-shaped notches in corresponding edges thereof are fed, means in the machine adapted to cooperate with said printing devices, a V-shaped block adapted to cooperate with the V-shaped notches, spring means for urging the apex of said V-shaped part into said V-shaped notches to position and adjust said printing devices in predetermined relation with the means in the machine adapted to cooperate therewith.

8. In a printing machine through which printing devices having substantially V-shaped notches in corresponding edges thereof are fed, means

in the machine adapted to cooperate with said printing devices, a V-shaped block adapted to cooperate with the V-shaped notches, spring means for normally urging said block away from said notches, and means for positively urging said V-shaped block into said V-shaped notches to position and adjust said printing devices in predetermined relation with the means in the machine adapted to cooperate therewith.

9. In a printing machine through which printing devices having substantially V-shaped notches in corresponding edges thereof are fed, means in the machine adapted to cooperate with said printing devices, a V-shaped block adapted to cooperate with the V-shaped notches, spring means for normally urging said block away from said notches, a cam on said spring means, means engageable with said cam for seating said V-shaped block in said V-shaped notches to position and adjust said printing devices in predetermined relation with the means in the machine adapted to cooperate therewith.

10. In a printing machine through which printing devices having notches in corresponding edges thereof are fed, means in the machine adapted to cooperate with said printing devices, means including a part shaped complementary to the notches, means for seating said part in said notches to position and adjust said printing devices in predetermined relation with the means in the machine adapted to cooperate therewith, and rollers engageable with the edge of said printing devices opposite said notches to facilitate positioning and adjusting of said devices by said notches and said part.

WALTER T. GOLLWITZER.