Sept. 3, 1968 G. L. CONGDON ET AL 3,399,618

IDENTITY CARD AND KEY-CONTROLLED SHIFTABLE DATE PRINTER

Filed April 22, 1966 4 Sheets-Sheet 1

Fig. 1

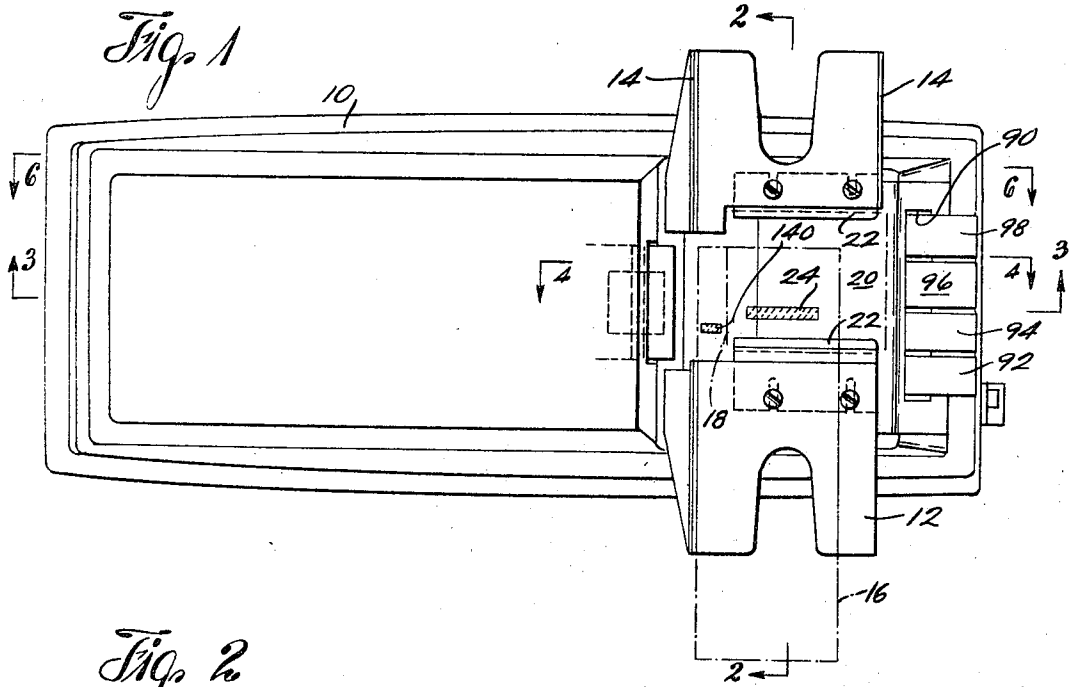
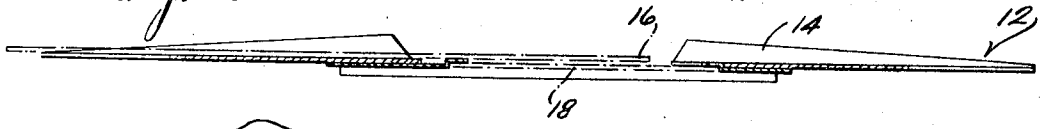


Fig. 2



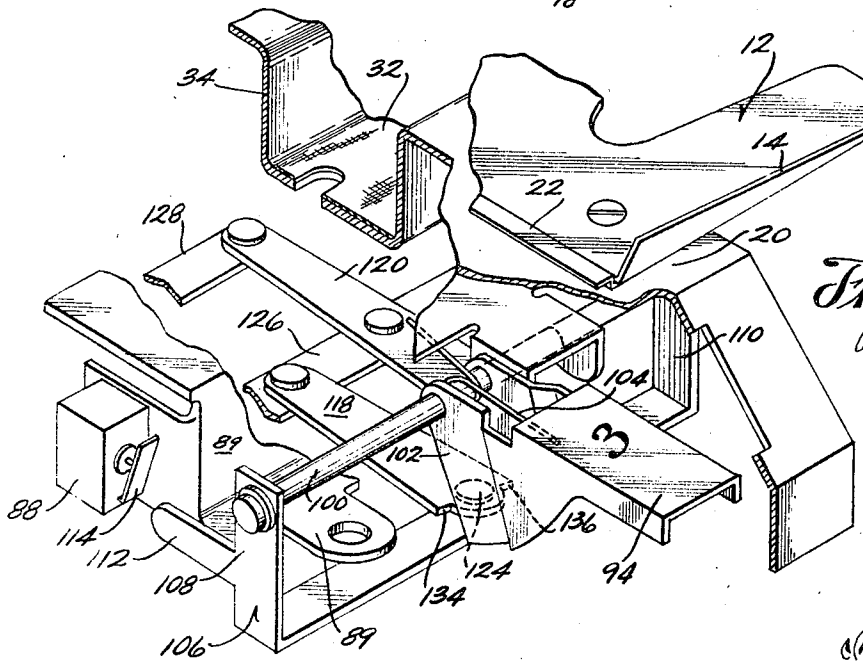


Fig. 9

Inventors
George L. Congdon
Donald J. Lemens
By Wheeler, Wheeler & Wheeler.
Attorneys

Sept. 3, 1968 G. L. CONGDON ETAL 3,399,618

IDENTITY CARD AND KEY-CONTROLLED SHIFTABLE DATE PRINTER

Filed April 22, 1966 4 Sheets-Sheet 2

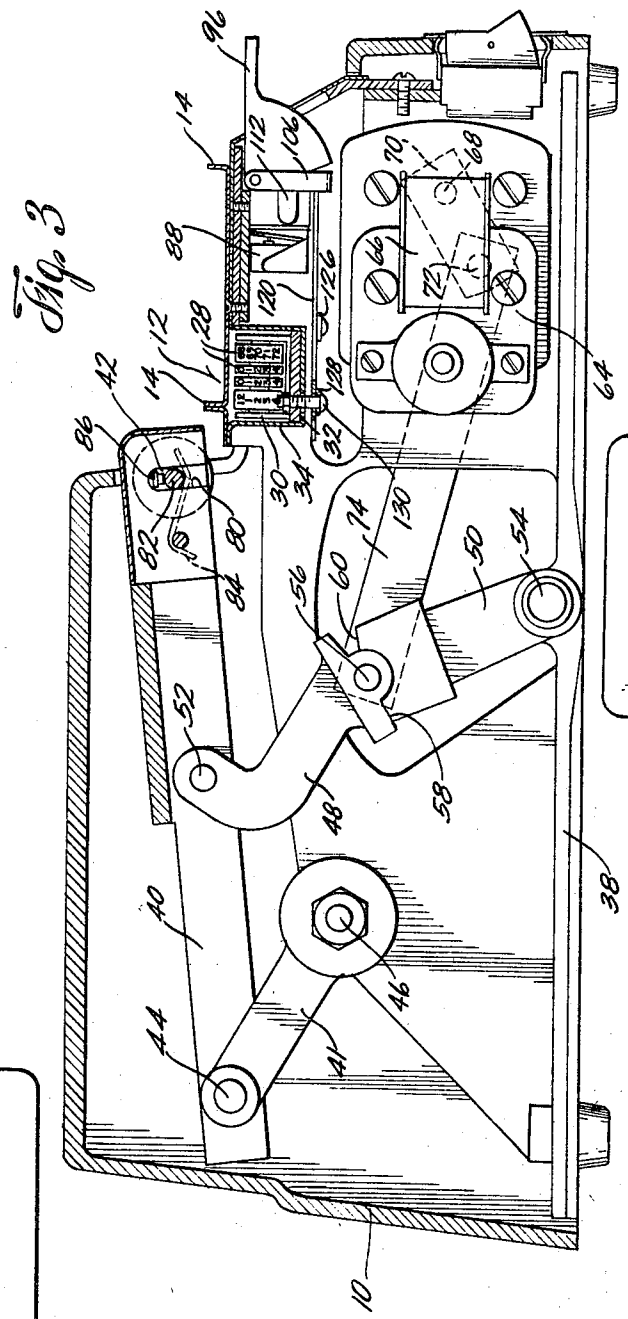


Fig. 3

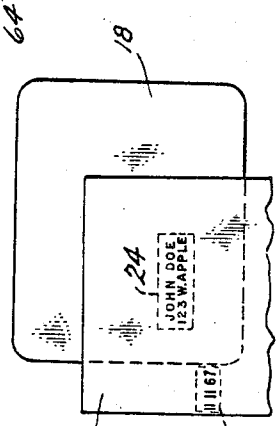


Fig. 11

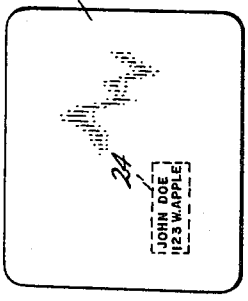


Fig. 10

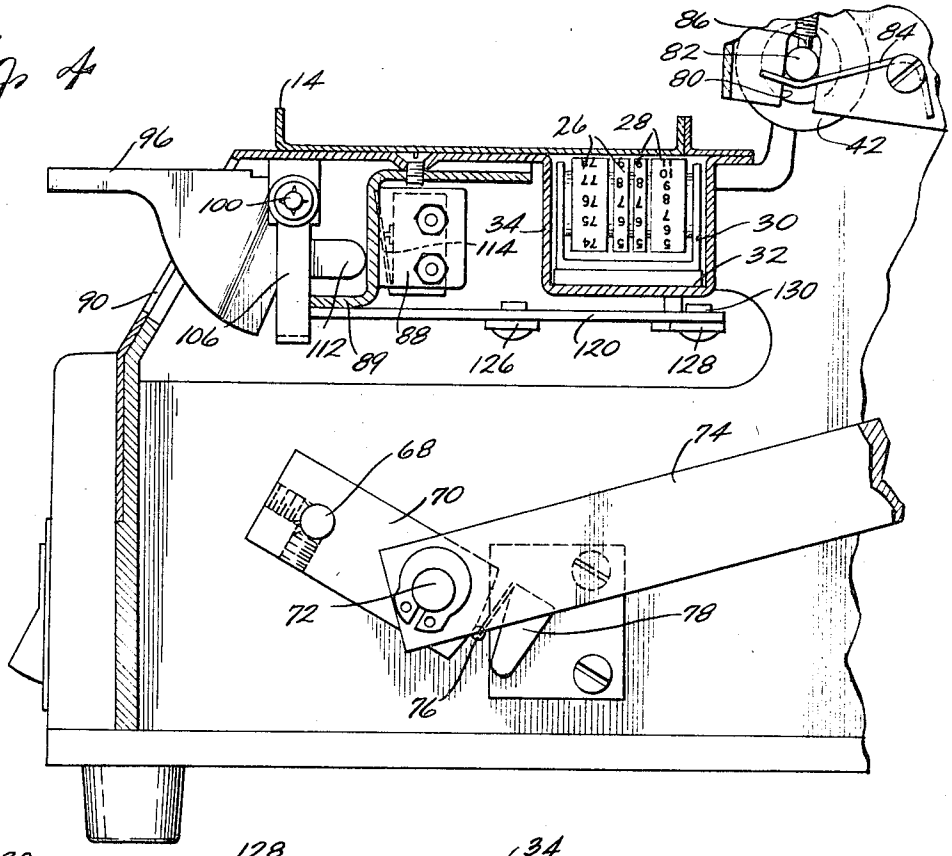
Inventors
George L. Congdon
Donald T. Lemens
By Wheeler, Wheeler & Wheeler
Attorneys

Sept. 3, 1968 G. L. CONGDON ETAL 3,399,618

IDENTITY CARD AND KEY-CONTROLLED SHIFTABLE DATE PRINTER

Filed April 22, 1966 4 Sheets-Sheet 3

Fig. 4



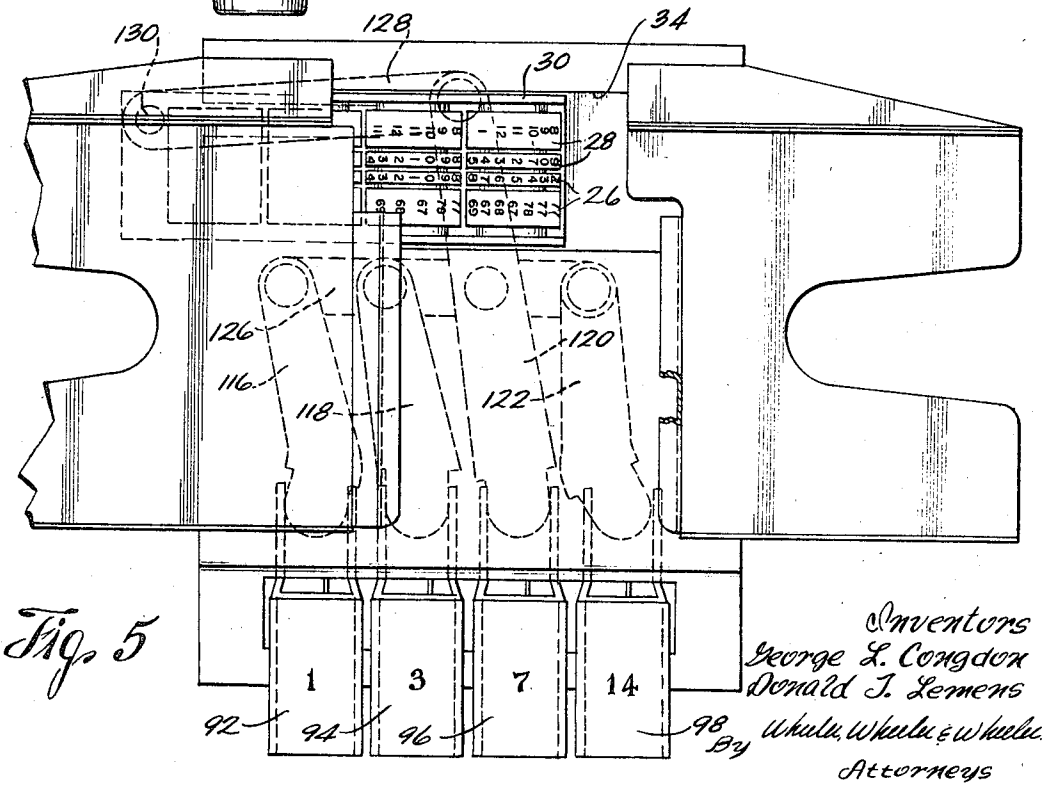


Fig. 5

Inventors
George L. Congdon
Donald J. Lemens
By Whittemore, Whittemore & Whittemore
Attorneys

Sept. 3, 1968 G. L. CONGDON ETAL 3,399,618

IDENTITY CARD AND KEY-CONTROLLED SHIFTABLE DATE PRINTER

Filed April 22, 1966 4 Sheets-Sheet 4

Fig. 6

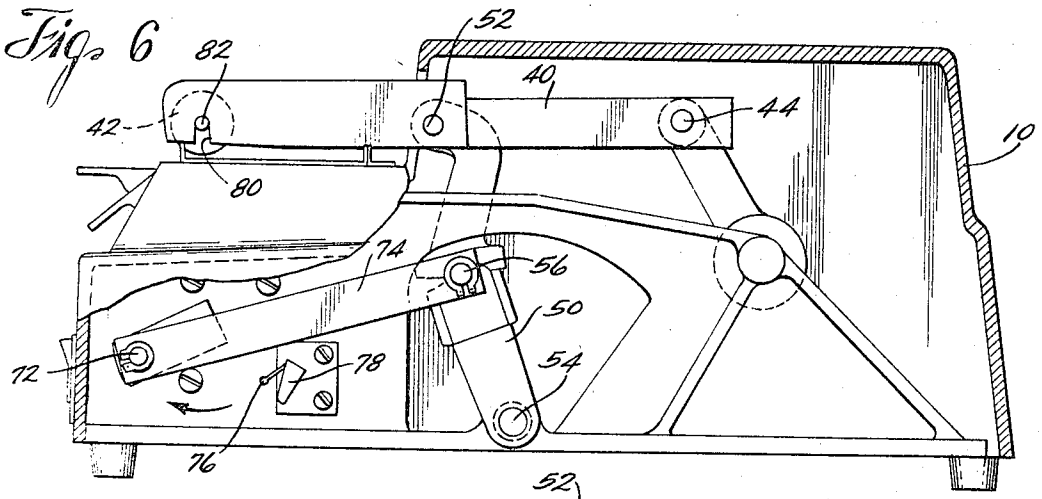
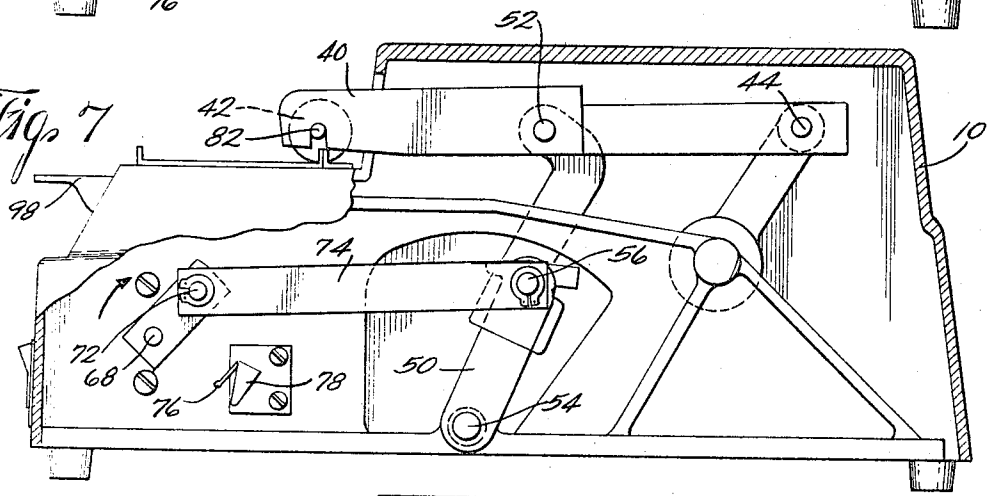


Fig. 7



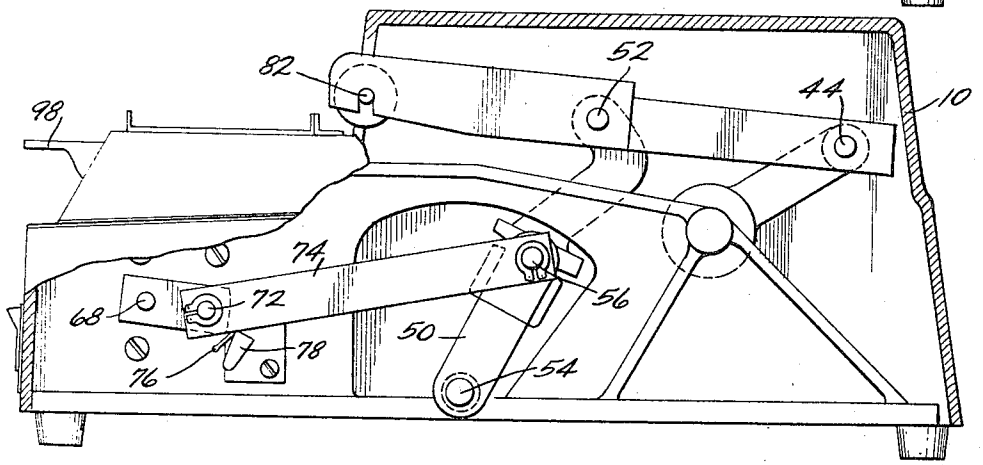


Fig. 8

Inventors
George L. Congdon
Donald J. Lemens
By Wheeler, Wheeler & Wheeler
Attorneys.

United States Patent Office 3,399,618
Patented Sept. 3, 1968

3,399,618

IDENTITY CARD AND KEY-CONTROLLED SHIFTABLE DATE PRINTER

George L. Congdon and Donald J. Lemens, Fort Atkinson, Wis., assignors to Demco Library Supplies, Incorporated, Madison, Wis., a corporation of Wisconsin

Filed Apr. 22, 1966, Ser. No. 544,624
14 Claims. (Cl. 101—45)

ABSTRACT OF THE DISCLOSURE

In a library book charge-out machine, a record slip is printed in part by an identity card and in part by a selected date-printing die which is one of a series mounted on rolls on a transversely reciprocable carriage. The carriage is advanced for such movement as will bring a selected date-printing die into printing position when the operator depersses a key identified with the selected die. A printing roll is reciprocable over the slip in a direction to which the carriage movement is transverse. A toggle lever system lifts the printing roll above the work during its advance and presses it against the work upon its return.

This invention relates to an identity card and date printer.

The instant embodiment is specifically designed for charging out library books by printing a slip with juxtaposed data partly printed from an identity card and partly printed from type which is adjusted to printing position as an incident to the automatic operation of the printer. While the invention will be described from the standpoint of the particular function to which the instant embodiment is addressed, it will be understood that other embodiments may use the invention for making sales records and for other purposes.

The instant device is dimensioned for desk usage. There is means for positioning the work sheet which receives the printed record. Between its ends there is means for positioning an identity card. Adjacent the end of the identity card there are rotatably adjustable rolls mounted on a transversely movable carriage which permits a selected series of date-printing rolls to be aligned with the borrower's identity card beneath the position in which the work is held.

In the current exemplification, the operator has a choice of four different sets of die rolls for printing dates. At the front of the machine are keys exposed at the ends of levers, there being one lever for each set of printing dies, four in the present embodiment. Pressure on any one of these keys will move into printing position the set of date-printing dies controlled by that key. The shifting of the transversely propelled carriages upon which the dies are mounted is effected by levers which are oscillated through different angles according to which key is actuated. These last mentioned levers are mounted on a yoke which, regardless of which key is depressed, will close a single-revolution circuit for energizing an electric motor.

The electric motor does the printing. A preinked roller is mounted on a second carriage which moves longitudinally of the machine. The arrangement is such that the printing is done only in the retraction of the second carriage. In the course of its advance, toggle linkage lifts the printing roller over the date printing dies and the data embossing on the card. On the return stroke, the straightening of the toggle lever exerts controllable pressure on the roller so that, in traversing the work, it prints the work with ink in a pattern determined by the card and the dies as these support the work from below.

In the drawings:

FIG. 1 is a plan view of the selected exemplification of the invention.

FIG. 2 is an enlarged detail view across the head of the press along the line **2**—**2** of FIG. 1.

FIG. 3 is an enlarged detail view longitudinally of the device on line **3**—**3** of FIG. 1.

FIG. 4 is an enlarged detail view taken in section on the line **4**—**4** of FIG. 1, showing some of the same parts as FIG. 3 as viewed in an opposite direction and in a different plane, portions being broken away.

FIG. 5 is a plan view of the bed of the press on a scale considerably larger than FIG. 1.

FIG. 6 is a view taken in section on the line **6**—**6** of FIG. 1.

FIG. 7 is a view similar to FIG. 6 showing the parts in printing position.

FIG. 8 is a view similar to FIGS. 6 and 7 showing the printing carriage approaching its fully retracted position in which it is illustrated in FIG. 4.

FIG. 9 is an enlarged fragmentary diagrammatic view in perspective showing the means by which the date printing carriage is transversely actuated.

FIG. 10 is a plan view of an identity card as used in the printing operation.

FIG. 11 is a fragmentary plan view of a charge slip having indicia printed thereon in part from the date rolls and in part from the illustrated identity card.

The casing **10** is provided near its forward end with a bed **12** for the work to be printed. The bed is transversely elongated and has guide flanges **14** for the work sheet shown in broken lines at **16** in FIG. 2. At the center of the bed, there is an opening which exposes the date printing type and the identity card shown at **18** in FIG. 2. This card is supported on an underlying table **20** and securely fixed in position by flanges **22** which are spaced to form a way. In the area indicated at **24** in FIG. 1, the card carries raised indicia embossed therein which, in the instant device, may constitute the name and address of a book borrower.

In the opening between the right and left hand sections of the bed **12** are exposed selected type dies **26** which are mounted on rotatable disks **28**. In the instant device, these disks are manually adjusted rotatably on their respective axes to represent the date upon which the book is to be returned to the library. The disks are mounted on appropriate shafts on the transversely movable carriage **30**, which is reciprocable on a friction-reducing ply **32** at the bottom of the guide channel **34** (FIGS. 3, 4 and 9). The means for reciprocating the carriage to bring a respective set of type-carrying disks **28** into the desired position of registration will later be described.

The casing **10** is detachably mounted upon a base **38** which supports all of the operating mechanism. Carriage **40** on which the pre-inked printing roll **42** is mounted has its rear end carried by a lever **41** pivoted to the carriage at **44** and pivoted to the base at **46**. The forward portion of the carriage **40** is carried on a toggle lever which comprises an upper link **48** and a lower link **50**. The upper link is pivoted to carriage **40** at **52**. The lower link is pivoted to the base at **54**. The two links are pivoted to each other at **56** and they have complementary shoulders at **58** and **60** which limit the relative oscillation which is possible at pivot **56**. The links **48** and **50** are urged to one extreme of oscillation when the carriage **40** is being moved forwardly. This position of parts is shown in FIGS. 3 and 6. The links **48** and **50** assume a different relative position when the carriage is being actuated in a rearward or printing direction as shown in FIG. 7.

The means for actuating the carriage comprises a motor **64** which, through reduction gear set **66**, operates the

power output shaft **68**. This shaft carries a crank **70** (FIG. 3) having pivotal connection through crank pin **72** with connecting rod **74**. This rod is attached to the toggle lever linkage at an intermediate point, preferably being mounted on the cross pin **56** which provides pivotal connection between links **48** and **50** of the toggle lever.

As best shown in FIG. 4, the end of the crank **70** engages, at the close of each operating cycle, the actuator **76** of a normally closed switch **78** in the circuit of motor **64**. Consequently, when the motor output shaft **68** completes one rotation, the motor stops by reason of the opening of switch **78** when the switch actuator is engaged by the crank as shown in FIG. 4. In this position of the parts, the printing roll **42** will have been elevated above the level of the work.

The carriage **40** is in the nature of a channel in cross section, its side flanges being provided with slots **80** for the shaft **82** of the printing roll **42**. Any desired means may be used to support the shaft in the slots **80**. A spring **84** is ideal for this purpose since it not only facilitates a change of rolls when reinking is necessary but it also holds the roll securely against the adjusting set screws **86** (FIGS. 3 and 4).

The several keys which position the transversely movable carriage **30** on which the date-printing dies are mounted have means presently to be described whereby the depression of any key of the series operates a switch **88**, which is normally open and is in parallel with the normally closed switch **78**. Thus when any key is depressed, the motor circuit is closed. By the time the key is released, the crank **70** of the output shaft **68** of the motor will have cleared the actuator **76** of the normally closed switch **78**, thus allowing the switch **78** to close before the switch **88** is opened. Thus the motor continues in operation for one turn of output shaft **68**.

The means by which the date printing type disks are moved to selected position and the switch **88** is closed, regardless of which key is pressed, will now be described.

As shown in FIGS. 3, 4, and 6 to 8, the carriage **40** and printing roll **42** are normally housed, almost entirely, in the casing **10**, emerging therefrom to the position shown in FIG. 6 and being then retracted back in the course of each cycle of operation of the motor. In its retracted movement, the roll **42** presses the work sheet **16** upon the embossed characters on the identity card **18** (which has been inserted by the operator) and also upon the date printing dies carried by the disks **28** of a selected set, these being positioned by keys which control the carriage **30** in which the several sets of disks are mounted.

Projecting through an opening **90** at the front of the machine are the several keys **92, 94, 96** and **98**, one key being provided for each required position of the carriage **30**. Obviously, there may be as many keys as may be needed. For library book charging purposes, these keys are appropriately designated as shown in FIG. 5 with numbers representing the number of days which may elapse before the book is due to be returned. Preliminary to each day's operation, the librarian adjusts the respective disks **28** in the several sets of disks in carriage **30** so that, for that day, these disks will present upwardly the appropriate type dies **26** to show a date which will represent the termination of the period of time designated on the key which brings that particular set of disks into printing position.

The several keys are pivotally mounted upon a rod **100** as best shown in FIG. 9, wherein only one key **94** is illustrated. Each key is channel-shaped, its identification number being printed on the web of the channel, and the pintle rod **100** passing through the flanges **102**. A spring **104** encircling the pintle rod as shown in FIG. 9 biases the key upwardly toward the position in which the key **94** is illustrated in FIG. 9. The flanges **102** extend downwardly to operate the carriage shifting levers and switch operating yoke in a manner now to be described.

The yoke **106** has arms **108** and **110** pivoted on the same rod **100** which serves as a pintle for the support of the keys. A finger **112** on this yoke is normally spaced from the actuator **114** of the switch **88** which initiates the functioning of the motor **64** as above described.

The several levers **116, 118, 120** and **122** (one for each key) are connected pivotally, as by the rivet **124**, to the same bracket **89** which supports switch **88**.

Rearwardly of the yoke, the several levers are pivoted to the cross connecting link **126** whereby they oscillate in unison about their respective pivotal connections with the yoke **106**. One lever is somewhat longer than the others. This is exemplified in FIG. 9 by showing lever **120** projecting rearwardly beyond the cross connection link **126** and pivoted to another link **128**. Link **128** is also pivoted at **130** to the carriage **30** for the reciprocation of the carriage **30** on the way **34**.

The assembly of the several cross connected links **116, 118, 120, 122** is made to oscillate for the purpose of shifting the carriage **30** to positions determined by complementary parts on the respective keys and the respective said levers. This is exemplified in FIGS. 5 and 9. As best shown in FIG. 9, the lever **118** has laterally spaced shoulders **134** and **136** which are positioned opposite the lower extremities of the side flanges **102** of the key **94**. The levers associated with the other keys are similarly shouldered but the angles of the respective shoulders are different for each lever and each key.

When a respective key engages one shoulder of its respective lever, it brings about an oscillation of the lever about its fulcrum rivet **124** to a predetermined position in which *both* shoulders engage both flanges of the key lever. By reason of the cross connection of the levers by means of link **126**, the entire set of levers is similarly oscillated to transmit motion through the extended lever **120** and **128** to the carriage **30**. The complementary shoulders of each lever and the flanges of the respective key are different from the complementary shoulders and flanges of other lever and key pairs so that each key will have its own distinctive positioning effect on the carriage.

FIG. 5 shows the carriage fully retracted. If the key **94** shown in FIG. 9 is depressed until both shoulders **134** and **136** of the lever **118** engage the side flanges of key **94**, this lever and all of the levers connected therewith through the cross link **126** will be oscillated clockwise as viewed in FIG. 9, and this will draw the carriage to the right as viewed in FIG. 5 until the second set of printing disks is in the printing position which is designated by reference character **140** in FIG. 1.

The shoulders of the several keys extend downwardly to the level of yoke **106** and are positioned to push the yoke pivotally rearwardly as the carriage assumes the desired position.

At the same time that the key moves the carriage, the pressure of the key exerted through the shoulders **134** and **136** upon the yoke **106** will cause the oscillation of yoke **106** to engage the finger **112** with the actuator **114** of switch **88**, thus closing the circuit of motor **94** to initiate the functioning of the motor **64**. The printing roll will thereupon move across the work in a relatively elevated position as already described and then will be caused, during the completion of the cycle of motor operation, to move downwardly and rearwardly to engage the inked printing roll **42** with the work to print characters on the flexible work sheet according to which portions of the work sheet are supported by the identity card and the type dyes of the disks which are in printing position.

The printing roll, as is well known in this type of device, is relatively hard and is porous, being impregnated with appropriate printing ink. Composition and wooden rolls are frequently used.

The key manipulated to initiate this operation is of course released immediately and is moved back to its original position by the bias of its spring **104**. The yoke **106** and the several levers pivoted thereto will move for-

wardly under gravity bias as the key is released. The levers will not change their adjusted position of oscillation as between left and right, being linked to the carriage **30** which tends to stay in the position to which it was last moved by actuation of one of the keys. At the conclusion of a single cycle of forward and retractive movement of the printing roll, the motor will come to rest through the opening of its normally closed switch **78** as previously described.

At the conclusion of the operation, the operator will remove the identity card. The type will remain in position pending the next use of the device, at which time the same key might be depressed to result in no carriage movement, or a different key might be depressed to move the carriage to a position in which the type then exposed will print a date appropriate for the said different key.

By reason of the fact that the printing roller makes its impression on the work in only one direction of travel, there is no blurring and the resulting impression is clean-cut.

It will be understood that instead of having numerical type dies on the disks of the several sets which are adjusted by key control of the carriage, type dies of any desired nature may be substituted to print any appropriate symbol according to the use to which the machine is to be put. There will normally be one set of type dies uniquely related to each individual key so that the depression of that key will first move the type carriage to bring that set of dies into printing position and will then initiate the single cycle of printing roller operation to print not only from the type dies which are a part of the machine but from the embossed characters of an identity card or the like.

It is within the contemplation of this invention that some of the features designed for cooperative usage as above described may be independently employed if desired. For example, it is immaterial to the key-controlled positioning of the type-supporting carriage whether the type is mounted on a disk or otherwise; whether identity cards are associated with the type; whether the manipulation of a key initiates cycling movement of the printing roll and, conversely, whether the cyclic operation of the printing roll is the result of manipulation of a type-adjusting key. Numerous mechanisms mechanically converse to those illustrated may be employed and it is desired that the accompanying claims be regarded as applicable to any such converse arrangement.

Needless to say, the examples given have been selected for purposes of illustration and are not to be regarded as stated by way of limitation.

We claim:

1. A checkout printer or the like comprising the combination with spaced work support means for a flexible work sheet, of symbol die means disposed between the spaced support means and beneath the level of the work sheet for sustaining a portion of the work sheet, and means for traversing the sustained portion of the work sheet with an inked impression roll and comprising mechanism for moving the roll in a cycle of operation in which the roll moves in a forward direction and a rearward direction across the work sheet and is in contact with the said sustained portion thereof in one direction only, the roll being mounted on a carriage having a support which includes a toggle lever consisting of pivotally connected links, said mechanism for the cyclic operation of said impression roll in said directions including an actuating link connected to the toggle lever at an intermediate point and adapted in the course of its operation to move forth and back and to effect limited pivotal oscillation of said links with regard to each other in a direction to vary the height of the toggle lever, whereby to lift said impression roll free of the work in said one direction and to engage it with the work in the other direction of movement.

2. A checkout printer or the like comprising the combination with spaced work support means for a flexible work sheet, of symbol die means disposed between the spaced support means and beneath the level of the work sheet for sustaining a portion of the work sheet, and means for traversing the sustained portion of the work sheet with an impression roll and comprising mechanism for moving the roll in a cycle of operation in which the roll moves in a forward direction and a rearward direction across the work sheet and is in contact with the said sustained portion thereof in one direction only, said roll having a carriage on which the roll is mounted, said roll moving mechanism comprising carriage mounting means which includes a toggle lever system which includes toggle links pivoted to each other and one of which is pivoted to the carriage, and a operating member for said carriage connected with the toggle lever system, the said toggle links having means for limiting their oscillation with respect to each other to a predetermined range and the operator including a connection to the toggle lever system at a point at which said links are moved with respect to each other within said range, the over-all length of the toggle lever system being greater at one end of the range than at the other, said links tending to straighten toward said one end and to increase in relative angle toward the other end, whereby the actuation thereof tends to lift the carriage to position the roll free of the work during its actuation in one direction and to retract it in its other direction of operation to engage the roll with the work.

3. A printer according to claim **2** in which said carriage has guide slots and the roll has trunnions mounted therein, spring means for releasably retaining the trunnions in the slots, and set screws adjustable on the carriage in opposition to the spring means for holding the trunnions at a predetermined level for pressure engagement of the roll with the work.

4. A checkout printer or the like comprising the combination with spaced work support means for a flexible work sheet, of symbol die means disposed between the spaced support means and beneath the level of the work sheet for sustaining a portion of the work sheet, and means for traversing the sustained portion of the work sheet with a printing roll and conprising a carriage upon which said roll is mounted and mechanism for moving the roll in a cycle of operation in which the roll moves in a forward direction and a rearward direction across the work sheet and is in contact with the said sustained portion thereof in one direction only, the die means for sustaining a portion of the work under the thrust of the roll comprising in part a plurality of embossed symbols on a fixedly positioned card and in part symbols disposed in transverse series upon a second carriage movable transversely of the direction of advance and retraction of the carriage on which the roll is supported, movement of the second carriage bringing into printing position beneath said printing roll a selected symbol of the series on said second carriage.

5. In a printer of the character described, the subcombination which comprises an impression roll and means for the advance and retraction thereof upon a predetermined path of movement, of a plurality of die-carrying rolls, a carriage upon which said die-carrying rolls are mounted in lateral series, means providing a way in which the carriage is reciprocable in a direction transverse to the path of movement of the impression roll to bring a selected die-carrying roll into registry with the path of the impression roll, means for supporting flexible work with one side thereof immediately adjacent the die-carrying rolls and its other side adjacent the path of movement of the impression roll, a plurality of carriage-positioning keys, and means for communicating motion from each key to the carriage for effecting transverse carriage movement to bring a symbol mounted on the carriage and

related to the key into registry with the path of movement displaced of the impression roll to be printed thereby.

6. A printer according to claim 5 in which each key has means supporting it for oscillatory movement in a generally upright plane, and an oscillatable lever identified with each key has a fulcrum and shouldered portions at opposite sides of the fulcrum in positions to be engaged by the key when the key is displaced, the key and the shouldered portions of the lever being complementary and adapted in engagement to define a position of oscillation of the lever which is identified with the particular key, the several levers having means connecting them with the carriage for the reciprocation of the carriage in which the die-carrying rolls are mounted for effecting carriage movement to position a given set of said rolls operatively in a work sustaining position related to the particular key displaced.

7. A printing device of the character described comprising the subcombination of a carriage, means for mounting a plurality of sets of printing dies upon the carriage, means for positioning a flexible work sheet for support of a portion thereof upon a given set of dies mounted on the carriage, means for effecting cyclic movement of a printing roll across a part of the work sheet so sustained, and means for concurrently shifting the carriage to center a given set of printing dies beneath the work sheet for the operative support of a portion thereof beneath the printing roll and for concurrently initiating a cycle of operation of the printing roll in the course of which to print on the work sheet a replica of symbols sustaining the work sheet.

8. A printer subcombination according to claim 7 in which the carriage shifting means comprises a plurality of keys, a pivotally sustained yoke, levers pivoted on the yoke having link connection with each other and with the carriage, the several keys and corresponding levers respectively having complementary portions engageable in the actuation of a given key to oscillate the levers and the carriage to a position controlled by the given key for the printing on the work sheet of symbols corresponding to a particular set of carriage-mounted dies positioned by such key.

9. In a library book charge-out printer, the combination with a base providing a work supporting bed and means for positioning a work sheet on said bed, of means for positioning an identity card beneath the work sheet on the bed, said identity card having embossed indicia for local support of a portion of the work sheet in a predetermined position, separate means for local support of part of a work sheet in said position and comprising a plurality of sets of disks peripherally provided with printing dies, a carriage upon which the sets of disks are mounted, means guiding the carriage for movement with regard to said bed to register any one of said sets in said position, a yoke pivotally suspended beneath the identity card, a plurality of levers each provided individually with a pivotal mounting and having an end near said mounting exposed and provided with surfaces laterally offset at opposite sides of the pivotal mounting of the lever, means linking the levers to said carriage, a set of keys identified with respective sets of disks carried by said carriage, means on the respective keys complementary to the said laterally offset surfaces at the ends of the levers for engaging respective levers when a corresponding key is operated, the complementary surfaces of the keys at the ends of the levers being engageable in angles such that the operation of a given key will oscillate the corresponding lever to move the carriage to dispose in said position the set of printing dies with which the key is identified, a starting switch having an actuator in the path of movement of a portion of said yoke, said yoke having a portion in the path of key movement and being pivotally yieldable under the thrust of said key upon a complementary lever end, a motor having a circuit controlled by said switch, a motor driven crank, a second switch controlling the motor circuit, said crank and second switch having complementary means for maintaining the motor in operation for one revolution of the crank and thereupon terminating such operation, a connecting rod connected with the crank, a toggle lever system comprising first and second links and a pivotal connection between said links, the connecting rod having motion transmitting connection with the toggle lever system adjacent the pivotal connection between the links thereof, one link of said toggle lever system being pivoted to the base, a second carriage with which the other link of the toggle lever system is pivotally connected for support and actuation, additional means for supporting said second carriage for reciprocation between a normally retracted position and an advanced position, a printing roll operatively mounted on the second carriage for pressing the work upon the embossed identity card and a selected set of printing dies on the first carriage, the said links of the toggle lever system having complementary surfaces for limiting relative movement between the links, said toggle lever system comprising motor operated means for supporting the printing roll in an inoperative position in one direction of movement of the second carriage between its said retracted and advanced carriage positions and for engaging the printing roll with the work in an operative printing position in the opposite direction of second carriage movement.

10. A printer according to claim 9 in which the printing roll comprises an ink-impregnating roller having projecting trunnions for which the second carriage is provided with slots, spring means for releasably supporting the trunnion in the slots, and set screws on the second carriage limiting upward movement of the trunnions in the slots whereby adjustably to position the printing roll on the second carriage.

11. In a device of the character described, the combination with means for supporting a work sheet in printing position, of a carriage having means mounting it for movement, printing dies mounted in series on said carriage and adapted in the course of carriage movement to be brought selectively into printing position in registry with said sheet, and means for moving the carriage to register selected dies in printing position, said means comprising a key adapted for manual actuation for each die of the series, a lever associated with each key, a support having fulcrum means for the levers, linkage connecting the levers with the carriage for effecting carriage movement proportioned to lever oscillation, and means comprising parts of the several levers and the respective associated key and engageable upon actuation of the respective key for effecting oscillation of the respective lever and corresponding movement of the carriage, said last means being different for each key and associated lever to register a particular die in printing position.

12. A device according to claim 11 in further combination with power-operated printing means for pressing together a sheet in printing position and a die registered in said position by said key and lever means.

13. A device according to claim 12 in which said lever support comprises a pivotally mounted yoke, said power-operated printing means having a control switch for which said yoke comprises an actuator.

14. A printer comprising a work-supporting bed, a carriage movable with respect to the bed, a plurality of sets of printing dies mounted in series on the carriage for movement therewith to bring a given set of dies in said series into a predetermined printing position, means for pressing together work on the bed and the dies of a given set at said position for making an impression of said dies on the work, and key-controlled means for moving the carriage to bring a selected set of dies to said position, the said key-controlled means comprising a set of levers having means linking them to the carriage, means providing pivots for the respective levers adjacent corresponding ends thereof, and a set of keys movable toward

the said ends of respective levers, the keys and respective levers having complementary means engageable at opposite sides of the pivots of said levers for effecting pivotal movement of a key-engaged lever to effect movement of said carriage, a yoke pivoted for movement away from the respective keys being contiguous to the means providing pivots for the levers, said yoke being in the path of and adapted to yield under pressure of a key engaged with the pivoted end of its respective lever, motor operated means for engaging the work and a given set of printing dies, and a switch controlling said motor operated means and having an actuator engaged by said yoke in the yielding of the yike under pressure of a key on a respective lever having a pivot on the yoke, whereby the operation of any key not only brings to said position a given set of carriage-supported printing dies but also initiates motor operation resulting in the making of an imprint of said dies upon the work.

References Cited

UNITED STATES PATENTS

1,608,145	11/1926	Tingley	101—90
1,919,954	7/1933	Kranz	101—274
2,043,600	6/1936	Ward	101—274
2,092,026	9/1937	Scheafer	101—274
2,119,539	6/1938	Hoffman	101—274
2,427,602	9/1947	Helsel	101—68
2,620,730	12/1952	Gilbert	101—269
2,916,989	12/1959	Boyden	101—269
3,018,725	1/1962	Maul et al.	101—269
3,152,543	10/1964	Hanson et al.	101—90

WILLIAM B. PENN, *Primary Examiner.*