April 9, 1935. R. M. FLORANCE 1,997,137

RECORDER

Filed Dec. 3, 1932 2 Sheets-Sheet 1

Fig. 1

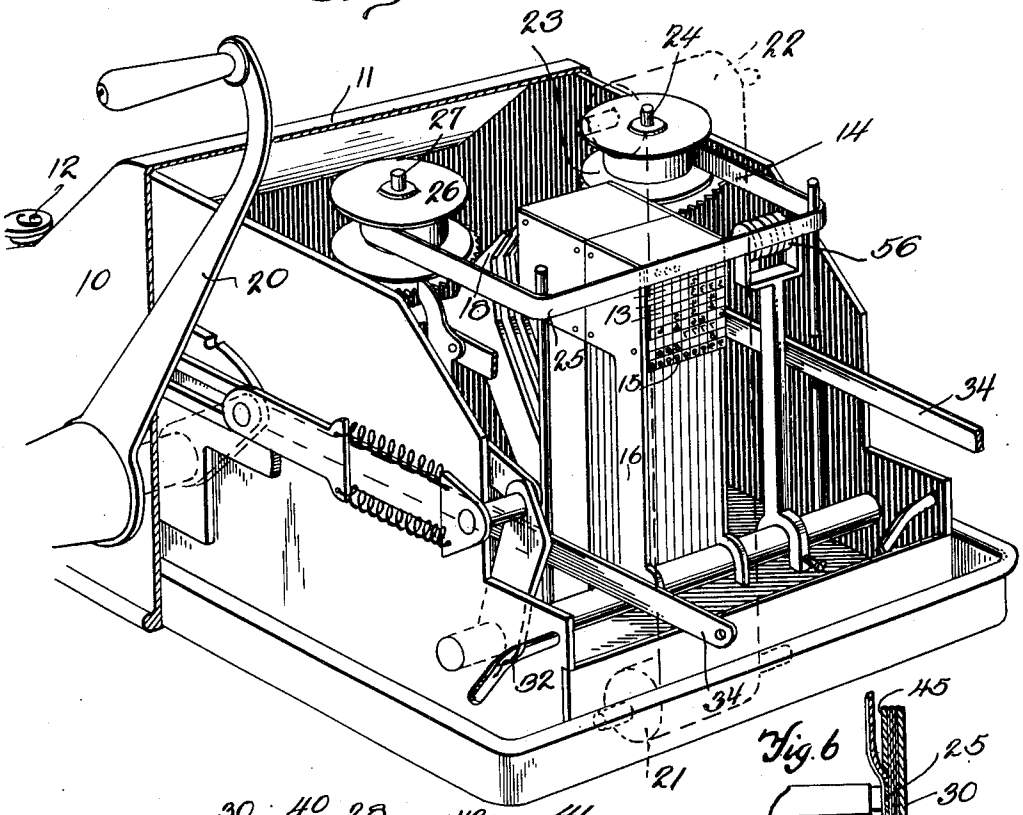
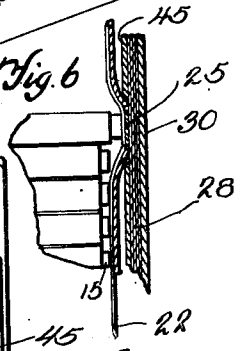


Fig. 6



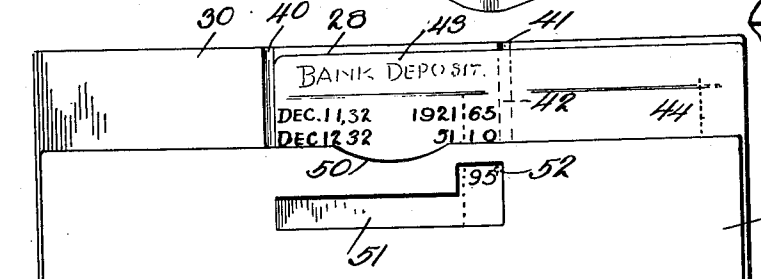


Fig. 3

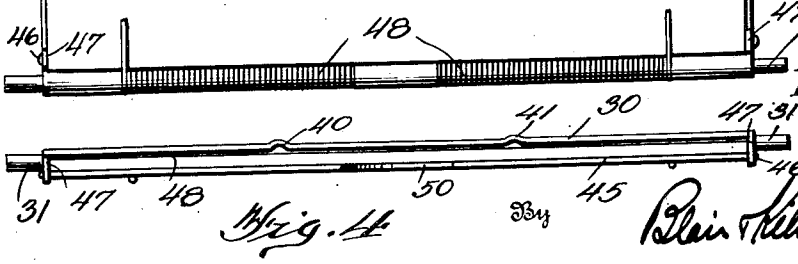


Fig. 4

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R. M. Florance

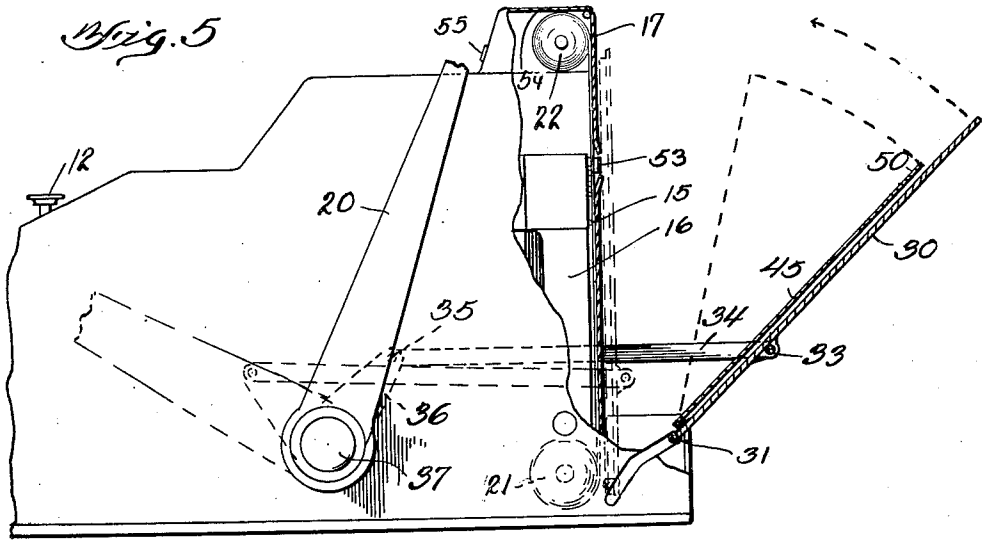
By Blair & Kilgore
Attorneys

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Filed Dec. 3, 1932 2 Sheets-Sheet 2

Fig. 5



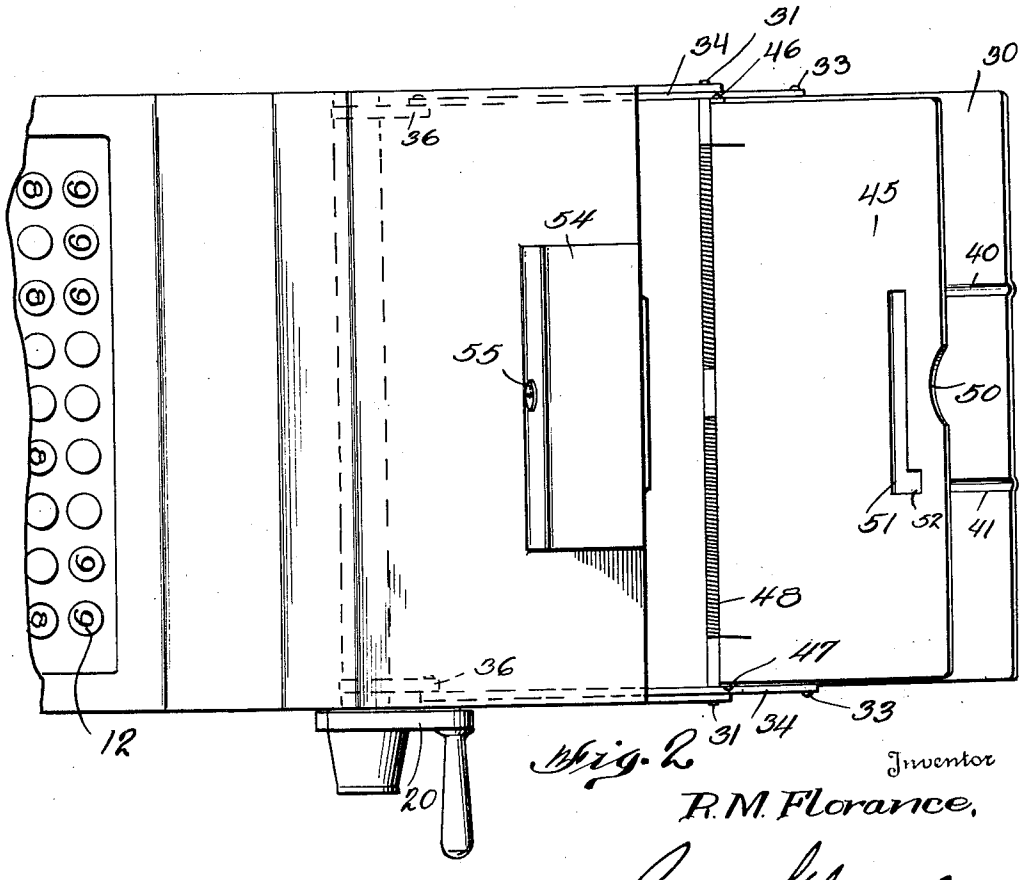


Fig. 2

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UNITED STATES PATENT OFFICE

1,997,137

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Raymond M. Florance, Washington, D. C.

Application December 3, 1932, Serial No. 645,612

26 Claims. (Cl. 101—407)

This invention relates to recorders and more particularly to a combined recorder and totalizer especially adapted for use in banks where a record of desposits and withdrawals are simultaneously made upon the depositor's pass-book and a totalizer strip.

Experience has shown that one of the easiest ways of stealing money in a bank and one most difficult to detect is for the receiving teller to destroy or change the deposit slip on a cash transaction and put the money in his pocket. Such defalcation is sometimes not detected until the end of the year or when the books are balanced and statements rendered.

It is therefore one of the objects of the present invention to provide a simple and practical apparatus, more especially in the form of an attachment to standard adding machines, which will eliminate this avenue of theft.

A further object is to provide a machine of the above character which may be easily and quickly operated simultaneously to enter the amount of a deposit or withdrawal on either page of the depositor's pass-book, for example, and a totalizing strip, and to maintain the totalizer strip properly housed where it cannot be altered or removed until taken out by an authorized person at the end of the day.

A further object is to provide a simple and practical attachment particularly suitable for standard adding machines, which may be inexpensively manufactured, assembled and installed.

A further object is to provide a reliable and efficient mechanism of the above character, permitting visibility of operation of the record sheet, which may be rapidly and conveniently manipulated in a minimum amount of time.

Other objects will be in part obvious from the annexed drawings and in part hereinafter indicated in connection therewith by the following analysis of this invention.

This invention accordingly consists in the features of construction, combination of parts and in the unique relation of the members and in the relative proportioning and disposition thereof, all as more completely outlined herein.

To enable others skilled in the art fully to comprehend the underlying features thereof that they may embody the same by the numerous modifications in structure and relation contemplated by this invention, drawings depicting a preferred form of the invention have been annexed as part of this disclosure, and in such drawings like characters of reference denote corresponding parts throughout all of the views, in which—

Fig. 1 is a perspective view, partly in section, illustrating a part of one standard make of adding machine with the recording attachment removed;

Fig. 2 is a partial plan view of the machine showing certain parts in dotted lines;

Fig. 3 is a detail view in plan of the pass-book holder;

Fig. 4 is an edge view of the same;

Fig. 5 is a side elevation, partly in section, of the casing and platen; and

Fig. 6 is a detail view showing the type, strip ribbon and casing at the printing point.

The invention will now be described with relation to its use in entering records on pass-books of banks although it is to be understood as applicable to other uses such as any case where entries of transactions are desired with a record of accumulated totals of such entries.

Referring now to the drawings in detail and more particularly to Fig. 1, there is shown at 10 a portion of the one side wall of the casing of an adding machine known as the Allen-Wales machine. On the top wall 11 are a plurality of keys 12, each bearing a figure, which keys are operated in a well known manner to actuate certain mechanism within the casing to set up a number indicated by the row of 0's in Fig. 1 to be recorded upon a tally strip 14. As is well known to those familiar with the subject, the printing instrumentalities 15 in this machine comprise a series of longitudinally slidable type carrying members mounted in a suitable frame or support 16 at the rear of the machine behind the end wall 17 thereof whereby after being set up they are engaged by printing hammers 18 when a main actuating handle 20 is turned through approximately 90°. Inasmuch as these parts are of standard mechanism and form no part of the present invention, except as they broadly enter into the combination herein claimed, it is unnecessary to go into the details thereof.

Adjacent the rear wall 17 and mounted for relative movement therewithin is a series of number printing members 15, each of which is provided with a series of printing figures 13, running from 0 to 9, whereby the desired number or amount is set up upon these number type prior to making the impression upon the totalizing record strip 14. This strip as herein shown preferably comprises a supply roll 21 located in the lower rear part of the casing and a wind-up roll 22 near the top of the casing. The tape 14 is advanced in a well known manner common in this

type of machine a distance of one line every time the main actuating handle **20** is moved downwardly approximately 90° to the dotted line position shown in Fig. 5.

The machine is also equipped with any desired form of inking ribbon mechanism which is here shown diagrammatically in Fig. **1**, that is, a reel or spool **23** is mounted upon the spindle **24** at one side of the machine and the ribbon **25** passes transversely across the printing faces of the number to be recorded to a wind-up spool **26** mounted on a spindle **27** at the opposite side of the machine. This also is a standard mechanism and is actuated to feed the ribbon **25** a predetermined amount on each actuation of the handle **20**. It will be noted, however, that the ribbon passes behind the paper recording strip **14** instead of between the type **13** and the tape **14** as heretofore. Such an arrangement permits the recording of the desired amount upon the record sheet or pass-book **28**, Fig. 3, and also on the reverse side of the paper strip **14**.

The record or pass-book **28** in the present case is carried by or supported on a movable platen **30** provided with trunnions **31** adapted to move in an arcuate slot **32** within the side walls **10** of the casing. The central part of the platen has a pivotal connection **33** with the arms **34**, the opposite ends of which arms are pivoted at **35** upon a disc or crank **36** mounted upon the main actuating shaft **37** whereby when the handle **20** is swung towards the operator through approximately 90° to the position shown dotted in Fig. 5, then the platen **30** will move from the upper and inclined position indicated in Fig. 5 downwardly and towards the operator to the dotted-line position as shown. This toggle action aids in causing great pressure to be exerted by the type on the records.

The platen **30** is preferably provided with two grooves **40**, **41** (Fig. 3) adapted to receive the binding edge **42** of the pass-book, depending upon whether or not the record is to be made upon the right or left page of the book. For example, if the record is to be on the left-hand page **43**, the book binding is placed in the groove **41** so that it occupies substantially the position indicated in Fig. 3. If it is to be made on the right-hand page **44**, the book is shifted to the left with the binding **42** of the book placed in the groove **40**.

This platen **30** is provided with means to hold the book flat while printing, which in the present instance comprises a sheet **45** of stiff material, such as sheet metal, mounted upon a rod **46** pivotally mounted in lugs **47** on the platen and urged into close engagement with the platen by means of coil springs **48**. A finger grip **50** is preferably provided at the top whereby it may be easily and quickly swung away from the platen **30** as indicated by dotted lines in Fig. 5 to permit the insertion of the book. This holder is also provided with a transverse window **51** through which the printing instrumentalities pass to record the amount representing the exact deposit or withdrawal to be recorded upon the page of the book therebeneath. A vertical slot or window **52** permits proper adjustment of the book with respect to the decimal point although this may be unnecessary when the book binding rests in the groove **41**.

It will be noted particularly that all of the actuating mechanism printing type, ribbon, and totalizing strip are mounted and secured for the most part within the casing or housing. The rear wall **17** of the housing is provided with a window **53** which is adapted to register with the window **51** in the book holding plate **45**. The upper part of the casing is provided with a hinged closure **54** having a suitable lock **55**, the key to which should be held by the cashier or proper official who opens the casing at the end of the day's work and removes the roll **22** which contains a record of all deposits or withdrawals of the day as well as a record of the totalized amount deposited during the day. An empty wind-up spool is substituted and the tape connected therewith so as to be ready for the next day's work.

Referring briefly to the operation of this machine, let it be assumed that a depositor presents to the teller a deposit, preferably with the usual deposit slip giving the amount of cash and checks properly totaled. The receiving teller then actuates the desired keys **12** to give the total amount. A date stamp **56**, with other data if desired, is also provided and set for the day's work. Actuation of these keys selects the type which in turn bring the proper printing face **13** to a predetermined position whereby the desired printing figures may be brought opposite the window **53** in the rear wall **17** of the casing when the handle is actuated. The receiving teller then takes the pass-book **28** in one hand and moves the book holder **45** towards himself and inserts the book **28** between the book holder and the platen **30** in such position as to bring the next blank line on the page of the pass-book opposite the window **51**, Fig. 3, the previous entry or a part thereof showing through the window **52** as ".95", whereupon he releases the holder **45** and the book is securely held in position. He next actuates the main crank handle **20** which swings the platen **30** forwardly and downwardly towards the type which makes an impression of the total amount of the depost and the date thereof directly upon the page of the book. Simultaneously therewith an impression of the total amount of the deposit is made on the reverse side of the totalizing or record strip **14**, it being optional or dependent on the width of the strip whether the date of each deposit is impressed on the said strip. This forward and downward movement of the crank handle **20** causes the trunnions **31** to move downwardly and forwardly in the slots **32** and the links **34** cooperating therewith bring the book forward with the desired pressure to insure the impression from the type being carried through the strip and ribbon on to the page of the pass-book when struck by the hammers **18**. On release of the handle the parts automatically return to normal position and the book may be released and returned to the depositor.

This entire operation of visibly setting the book and actuating the keys requires less time than is now occupied in entering the deposit in the book by hand, blotting the page, and returning the book to the depositor. It has the added advantage, however, that the amount of a deposit is printed directly in the book and on a record strip. The amount of each deposit is thus kept on the strip which cannot be altered or destroyed. At the end of the day, such amounts are totalized by the actuation of a suitable totalized key, which may also be locked if desired. The cashier may then remove the wound-up totalized strip and the teller must deliver and account for cash and checks equal to the totalized deposit record. In this manner, theft in the manner heretofore experienced is prevented.

From the above it is clear that the present invention comprehends a simple and practical at-

tachment applicable to adding machines now on the market thereby rendering them particularly adaptable for use in banks for the purpose of accurately recording each deposit and withdrawal as well as a total of the deposits of the day.

Without further analysis the foregoing will so fully reveal the gist of this invention that others can by applying current knowledge readily adapt it for various applications without omitting certain features that, from the standpoint of the prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention, and therefore such adaptations should and are intended to be comprehended within the meaning and range of equivalency of the following claims.

I claim:

1. In combination with a recorder of the character herein described and having a casing with a rear wall, recording instrumentalities or type at the rear thereof, a holder for record sheets including two relatively movable flat plates, and means for relatively moving the holder forwardly and downwardly to a position in which the record sheet positioned between said plates is engaged by the recording instrumentalities.

2. In combination with a recorder of the character herein described and having a casing with a rear wall, recording instrumentalities at the rear thereof, a holder for record sheets, means for relatively moving the holder forwardly and rearwardly to a position in which the record sheet engages with the recording instrumentalities, said holder comprising a platen mounted on the rear of the recorder upon which a record sheet is adapted to be placed, and means movable therewith for holding the sheet flat while the amount of the deposit is recorded.

3. In combination with a recorder of the character herein described and having a casing with a rear wall, recording instrumentalities at the rear thereof, a holder for record sheets, means for relatively moving the holder forwardly and downwardly to a position in which the record sheet may be engaged by the recording instrumentalities, said holder comprising a platen mounted on the rear of the recorder upon which a record sheet is adapted to be placed, and means for holding the sheet flat while the amount of the deposit is recorded, said holding means comprising a spring-pressed plate provided with cut-away part whereby the recording instrumentalities pass to impress the record sheet.

4. In combination with a recorder of the character herein described and having a casing with a rear wall, recording instrumentalities at the rear thereof, a holder for record sheets, and means for relatively moving the holder forwardly and downwardly to a position in which the record sheet may be engaged by the recording instrumentalities, said holder comprising a flat platen having two grooves either one of which is adapted to receive the center of the sheet whereby a record may be made on the right or left hand side as desired.

5. In combination with a recorder of the character herein described and having recording instrumentalities at the rear thereof, a holder for record sheets, means for relatively moving the holder forwardly to a position in which the record sheet may be engaged by the recording instrumentalities, said holder comprising a flat platen having two grooves either one of which is adapted to receive the center of the sheet whereby a record may be made on the right or left hand side as desired, and a movable member adapted to hold the sheet flat against the platen.

6. In combination with a recorder of the character herein described and having recording instrumentalities at the rear thereof, a holder for record sheets, means for relatively moving the holder forwardly to a position in which the record sheet may be engaged by the recording instrumentalities, said holder comprising a flat platen having two grooves either one of which is adapted to receive the center of the sheet whereby a record may be made on the right or left hand side as desired, and a member adapted to hold the sheet flat against the platen, said member comprising a plate having a cut-away portion through which the printing or recording instrumentalities are adapted to pass.

7. In combination with a recording machine having printing instrumentalities movable towards the rear of the machine and a concealed record and totalizing strip, a holder for a record sheet mounted in the rear of the machine and having a forward and swinging movement adapted to carry the sheet into position to be engaged by the printing instrumentalities when the machine is actuated to make a record on said strip.

8. In combination with a recording machine having printing instrumentalities movable towards the rear of the machine and a concealed record and totalizing strip, a holder for a record sheet mounted in the rear of the machine and having a forward and swinging movement adapted to carry the sheet into a position to be engaged by the printing instrumentalities when the machine is actuated to make a record on said strip, said holder comprising a flat platen, and means for holding the sheet flat upon said platen.

9. In combination with a recording machine having printing instrumentalities movable towards the rear of the machine and a concealed record and totalizing strip, a holder for a record sheet mounted in the rear of the machine and having a forward and swinging movement adapted to carry the sheet into a position to be engaged by the printing instrumentalities when the machine is actuated to make a record on said strip, said holder comprising a flat platen, and means for holding the sheet flat upon said platen, said last-named means comprising a spring-pressed plate having a cut-away portion through which the printing instrumentalities are adapted to pass.

10. In combination with an adding and recording machine having an enclosing casing and a record and totalizing strip housed therein, the rear of said casing being provided with a window opposite the printing instrumentalities, a holder for a record book adapted to be moved towards the window whereby the printing instrumentalities simultaneously print when actuated upon the record strip and the book the amount of the transaction, and means movable with respect to the holder for holding the book flat at all times.

11. In combination with an adding and recording machine having printing instrumentalities movable towards the rear of the machine, an enclosing casing, and a record and totalizing strip housed therein, the rear of said casing being provided with a window opposite the printing instrumentalities, and a holder for a record book adapted to be moved towards the window whereby the printing instrumentalities simultaneously print when actuated upon the record strip and

the book the amount of the transaction, said casing having an opening provided with a lock thereby to permit access to the record strip only by authorized parties.

12. In combination with an adding and recording machine having printing instrumentalities movable towards the rear of the machine, an enclosing casing, and a record and totalizing strip housed therein, the rear of said casing being provided with a window opposite the printing instrumentalities, a holder for a record book adapted to be moved towards the window whereby the printing instrumentalities simultaneously print when actuated upon the record strip and the book the amount of the transaction, said book holder comprising a flat platen provided with two grooves either one of which is adapted to receive the binding of the book thereby to permit printing upon either the right-hand or left-hand page of the book as desired.

13. In combination with an adding and recording machine having printing instrumetalities movable towards the rear of the machine, an enclosing casing, and a record and totalizing strip housed therein, the rear of said casing being provided with a window opposite the printing instrumentalities, a holder for a record book adapted to be moved towards the window whereby the printing instrumentalities simultaneously print when actuated upon the record strip and the book the amount of the transaction, said book holder comprising a flat platen provided with two grooves either one of which is adapted to receive the binding of the book thereby to permit printing upon either the right-hand or left-hand page of the book as desired, and means for holding said book flat upon the platen.

14. In combination with an adding and recording machine having an enclosing casing and a record and totalizing strip housed therein, the rear of said casing being provided with a window opposite the printing instrumentalities, a holder for a record book adapted to be moved towards the window whereby the printing instrumentalities simultaneously print when actuated upon the record strip and the book the amount of the transaction, said book holder comprising a flat platen provided with two grooves either one of which is adapted to receive the binding of the book thereby to permit printing upon either the right-hand or left-hand page of the book as desired, and means for holding said book flat upon the platen, said means comprising a spring-pressed plate having a cut-away portion adapted to register with the window in the casing when the book is moved towards the printing instrumentalities.

15. In combination with an adding and recording machine having an enclosing casing and a record and totalizing strip housed therein, the rear of said casing being provided with a window opposite the printing instrumentalities, a holder for a record book adapted to be moved towards the window whereby the printing instrumentalities simultaneously print when actuated upon the record strip and the book the amount of the transaction, said book holder comprising a flat platen provided with two grooves either one of which is adapted to receive the binding of the book thereby to permit printing upon either the right-hand or left-hand page of the book as desired, means for holding said book flat upon the platen, said means comprising a spring-pressed plate having a cut-away portion adapted to register with the window in the casing when the book is moved towards the printing instrumentalities, and means for giving said book holder a compound forward and downward movement to urge the book into position to be engaged by said printing instrumentalities under pressure.

16. In combination with an adding and recording machine having printing instrumetalities upon which the amount of a transaction is to be set up, a record strip, an inking ribbon, and a casing enclosing said parts, the rear wall of said casing being provided with a window opposite the printing instrumentalities, a book carrier, and means connecting the book carrier with the main actuating lever of the machine for bringing the book forwardly into operative relation with respect to said instrumentalities, said inking ribbon and strip being positioned whereby the amount is simultaneously impressed upon the book and the strip.

17. In combination with an adding and recording machine having printing instrumentalities upon which the amount of a transaction is to be set up, a record strip, an inking ribbon, and a casing enclosing said parts, the rear wall of said casing being provided with a window opposite the printing instrumentalities, a book carrier, and means connecting the book carrier with the main actuating lever of the machine for bringing the book forwardly into operative relation with respect to said instrumentalities, said inking ribbon and strip being positioned whereby the amount is simultaneously impressed upon the book and the strip, said book holder comprising a relatively flat platen upon which the book may be mounted to print upon either the right-hand or left-hand page, and a yielding member for holding the book flat and in the desired position upon said platen.

18. In combination with an adding and recording machine having printing instrumentalities upon which the amount of a transaction is to be set up, a record strip, an inking ribbon, and a casing enclosing said parts, the rear wall of said casing being provided with a window opposite the printing instrumentalities, a book carrier, means connecting the book carrier with the main actuating lever of the machine for bringing the book forwardly into operative relation with respect to said instrumentalities, said inking ribbon and strip being positioned whereby the amount is simultaneously impressed upon the book and the strip, said book holder comprising a relatively flat platen upon which the book may be mounted to print upon either the right-hand or left-hand page, and a yielding member for holding the book flat and in the desired position upon said platen, said last-mentioned means comprising a flat plate provided with a cut-away portion adapted to be brought opposite the window in the back of the casing at the printing moment.

19. A holder for record books or the like for use with a recorder of the character described having type for printing at the rear part thereof, means for moving the holder forwardly and downwardly of a position closely adjacent the rear wall of the recorder whereby the type may engage the book, said holder including two flat rigid plates capable of relative movement of separation to permit a book to be placed flat therebetween.

20. A holder for record books or the like for use with a recorder of the character described having type for printing at the rear part thereof, means for moving the holder forwardly and downwardly of a position closely adjacent the rear wall of the recorder whereby the type may engage the

book, said holder including two flat rigid plates capable of relative movement of separation to permit a book to be placed flat therebetween, and spring means adapted to urge the plates towards each other.

21. A holder for record books or the like for use with a recorder of the character described having type for printing at the rear part thereof, means for moving the holder forwardly and downwardly of a position closely adjacent the rear wall of the recorder whereby the type may engage the book, said holder including two flat rigid plates capable of relative movement of separation to permit a book to be placed flat therebetween, said holder being of sufficient width to permit the book to be positioned therein thereby to permit printing on either the right or left hand side of the book as desired.

22. A holder for record books or the like for use with a recorder of the character described having type for printing at the rear part thereof, means for moving the holder forwardly and downwardly of a position closely adjacent the rear wall of the recorder whereby the type may engage the book, said holder including two flat rigid plates capable of relative movement of separation to permit a book to be placed flat therebetween, one of said plates being yieldingly movable with respect to the other.

23. A holder for record books or the like for use with a recorder of the character described having type for printing at the rear part thereof, means for moving the holder forwardly and downwardly of a position closely adjacent the rear wall of the recorder whereby the type may engage the book, said holder including two flat rigid plates capable of relative movement of separation to permit a book to be placed flat therebetween, one of said plates being yieldingly movable with respect to the other against the action of spring means normally urging one plate towards the other.

24. A holder for record books or the like for use with a recorder of the character described having type for printing at the rear part thereof, means for moving the holder forwardly and downwardly of a position closely adjacent the rear wall of the recorder whereby the type may engage the book, said holder including two flat rigid plates capable of relative movement of separation to permit a book to be placed flat therebetween, the plate nearest the recorder being held in yielding engagement with the other plate.

25. A holder adapted to receive books in open position for use with a recorder of the character described having type movable towards the rear thereof to effect printing, means for moving the holder towards the recorder to a position closely adjacent the rear wall thereof whereby the type may engage a page of the open book, said holder including two flat rigid plates capable of relative movement of separation thereby to permit the open book to be placed flat therebetween in a position to permit the printing to be effected upon either the right or left side as desired, the pressure of the type at the moment of printing being opposite the central part of the platen.

26. A holder adapted to receive books in open position for use with a recorder of the character described having type movable towards the rear thereof to effect printing, means for moving the holder towards the recorder to a position closely adjacent the rear wall thereof whereby the type may engage a page of the open book, said holder including two flat rigid plates capable of relative movement of separation thereby to permit the open book to be placed flat therebetween in a position to permit the printing to be effected upon either the right or left side as desired, the pressure of the type at the moment of printing being opposite the central part of the platen, said platen comprising two plates movable relatively towards and away from each other to permit the book to be placed therebetween.

RAYMOND M. FLORANCE.