April 23, 1940. E. M. McNABB 2,198,580

MANIFOLDING MACHINE

Filed Jan. 25, 1938 2 Sheets-Sheet 1

FIG. 1.

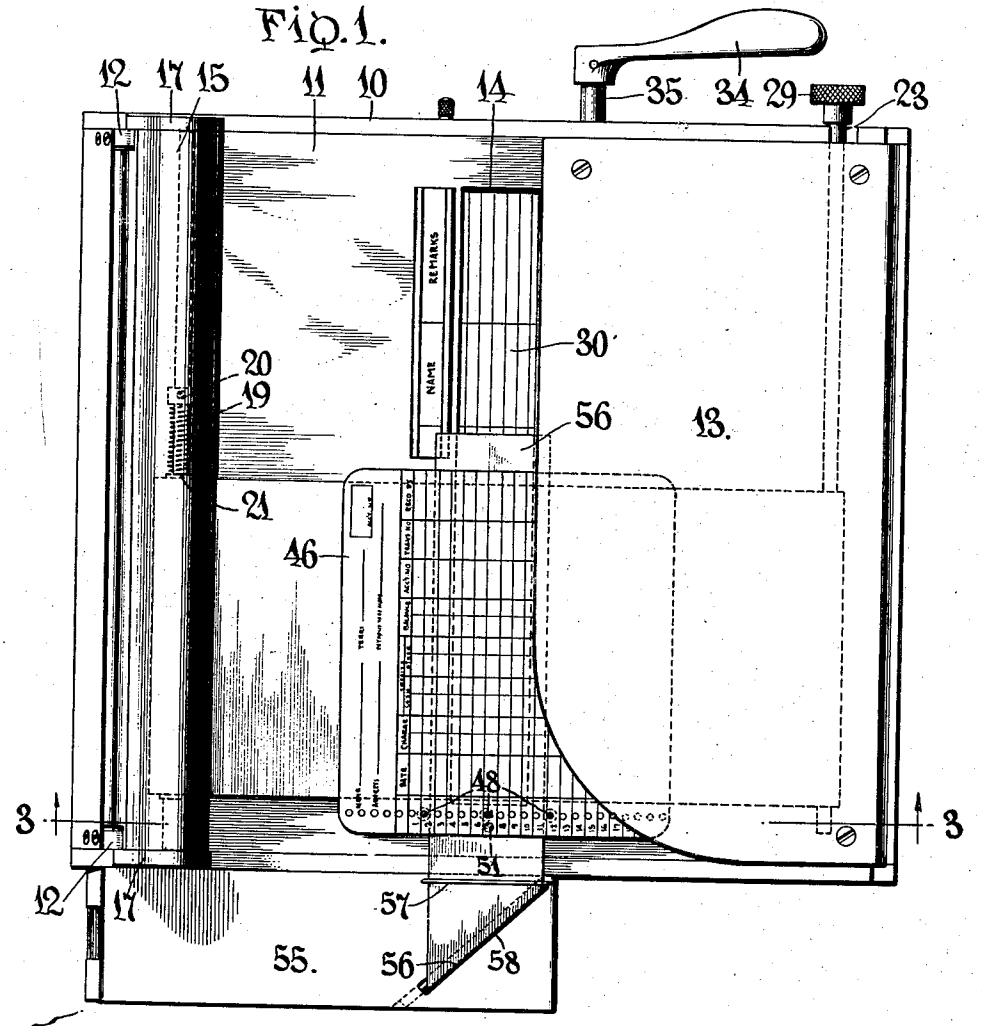
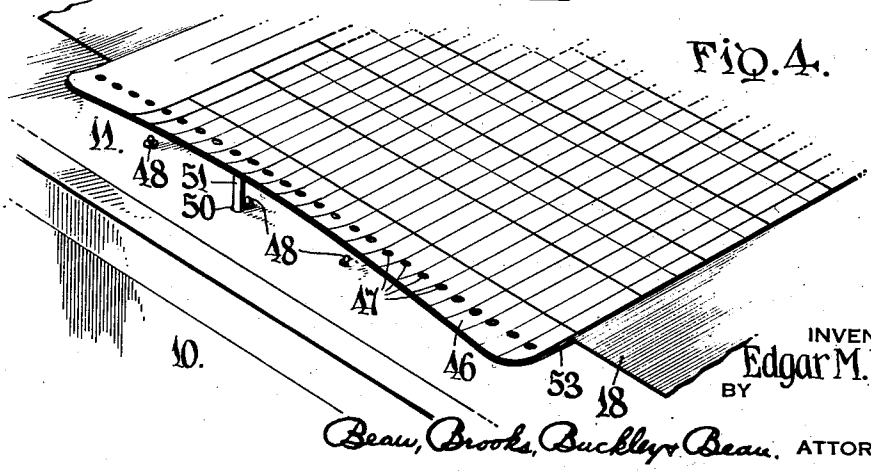


FIG. 4.



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Fig. 2.

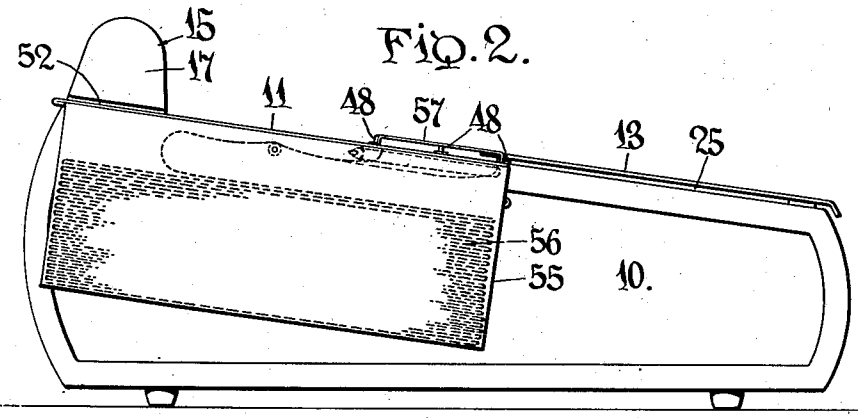


Fig. 3.

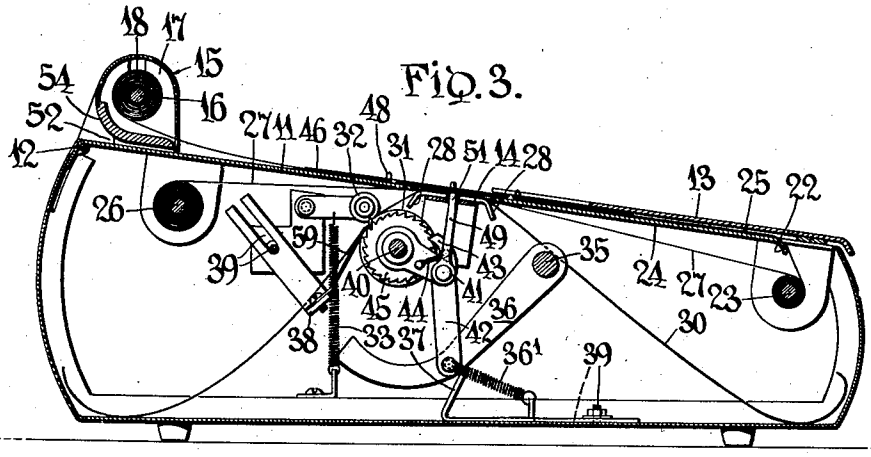
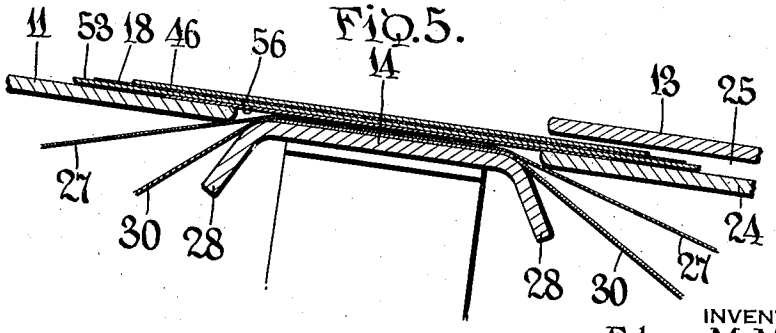


Fig. 5.



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UNITED STATES PATENT OFFICE

2,198,580

MANIFOLDING MACHINE

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Application January 25, 1938, Serial No. 186,856

17 Claims. (Cl. 282—5)

This invention relates to a machine to be used in making receipt and journal entries at one writing and, when desired, to make distribution from the original receipt or sales ticket. An important advantage of the machine is that it may be employed to post ledgers, statements or pass books and create a journal entry at one writing, having particular use in such bookkeeping operations as are required in handling installment accounts, loan and finance company's accounts with the individual clients, and the like.

Another important advantage of the machine lies in its simplicity and the facility with which the entries may be made thereby so that the manifolding machine will readily lend itself to the accomplishment of the modern bookkeeping transactions of various business establishments.

These and many other objects and advantages will become apparent to those versed in the art in the following description of the invention, one particular form being shown in the accompanying drawings, in which

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

Fig. 2 is a side elevation of the machine with parts broken away;

Fig. 3 is a view in longitudinal section about on line 3—3 of Fig. 1;

Fig. 4 is a detailed perspective view showing the sheet lifter in operation; and

Fig. 5 is an enlarged section through the platen and the several sheets thereon.

Like characters of reference indicate like parts throughout the several views in the drawings.

I form a box like structure 10 having a cover 11 which is hinged to the box at the rear upper edge by the hinge 12 so that the cover may be lifted from the forward end. The cover has a forward table portion 13, at the rear end of which the cover 11 is cut through transversely thereacross to expose in the window thus formed a stationary platen 14.

Near the rear end of the cover 11 I provide a carbon paper carrier carried within the housing 15. This carrier consists of a central shaft 16 which is removably carried between the supporting ends 17. The roll of carbon paper 18 is slipped over the shaft 16 and retained in position toward the left hand side thereof by means of a spring 19 bearing against a collar 20 adjustably fixed along the shaft 16 and a floating collar 21 carried on the shaft, the floating collar bearing frictionally against the end of the paper roll. The carbon paper passes from the under side of the roll 18 across the upper rear portion of the cover 11 and over the platen 14, beneath the table 13 and over a guide 22 to a rewind roller 23 carried within the box. The roller is suspended from the cover portion 24 which forms a floor under the table 13 and is movable therewith but spaced therefrom to receive the carbon sheet therebetween. This floor 24 has its forward edge deflected downwardly to form the guide 22 which leads the carbon sheet through a slot 25 into the box.

Where more than one copy is to be made from the original writing, a second carbon paper carrier shaft 26 is supplied and mounted under the cover 11 near the rear end thereof. The second carbon paper 27 is carried on this shaft 26 and is carried forwardly under the cover 11, across the platen 14 and on to the same rewind roller 23, the opposite edges of the platen being deflected to form guides 28 for the paper. From the right hand side of the box 10, extends the roller 23 to have a knob 29 thereon as a means for turning the roller so as to advance the carbon sheets across the platen 14.

For record purposes a journal sheet 30 may be provided. This sheet, which may be in roll form if desired, is carried rearwardly over the platen 14, under the lowermost carbon sheet, and between a feed roll 31 and a presser roller 32 mounted to the rear of the platen 14, the presser roller 32 being under the urge of spring 33. By revolving the roller 31, the journal sheet 30 may be advanced across the platen 14 as desired. After the journal sheet has passed through the machine it will then be transferred to the proper files in the bookkeeping department.

In order to operate the roller 31 in proper sequence, I provide an exteriorly arranged operating lever 34 fixed on a shaft 35 which extends transversely through the box 10. Within the box 10 I fix an arm 36 to the shaft 35 and normally hold it in a lowered position against an adjustable stop 37 by means of a spring 36'. This pull of the spring tends to hold the lever 34 in a normally elevated position. A second stop 38 is engaged by an extension of arm 36 when elevated. These two stops are adjustable by reason of pin and slot mountings 39 to determine and vary the throw of arm 36, as will now be described.

On the shaft 40 which carries the roller 31, I revolubly mount a lever 41 within the box 10 and connect this lever by a link 42 to the arm 36. A pawl 43 is pivotally carried by the lever 41 and has a spring 44 normally urging the pawl into engagement with a ratch 45 on the end of the feed roller 31. Thus by pushing down on the

lever 34, the arm 36 will rock the pawl to advance the feed roller the prescribed distance for moving the paper across the platen 14. The presser roller 32 maintains the paper in frictional contact with the roller 31 so as to prevent slipping of the paper thereover.

In using the machine, a sales ticket or order 46, or whatever the original writing is to be on, is placed in position over the window in the cover 11 and properly aligned by having holes 47 in the ticket registered over one or more locating pins 48 carried by the cover adjacent the left hand edge of the window. In the form herein shown, I employ three such pins, although this number may vary depending upon the standard forms employed. The form is thus held in position after being located by the pins 48 and is written across so that an impression is made through the carbon paper thereunder on the paper 30 carried over the platen.

When the entry has been made and the form 46 is to be removed, the lever 34 is pushed down to advance a fresh portion of the journal sheet 30 over the platen. Simultaneously, the form or original sheet 46 is freed from the locating pins to permit its removal. This is accomplished herein by elevating the perforated margin, as depicted in Fig. 4. Lifting this margin facilitates manually grasping the sheet for removal.

For this purpose a lifter 49 is actuated by and during the feeding operation. The lifter extends upwardly from the arm 36 through an opening 50 in the cover 11 and terminates in a foot adjacent the pins 48 so that the lifter foot will elevate the margin of the ticket or form to clear it of the locating pins when the lever 34 is depressed to feed the journal sheet.

To facilitate the insertion of a duplicate form between the two carbons 19 and 27, the housing 15 is spaced at one end above the cover 11 to form an entranceway 52 through which is slipped such duplicate form 53. The bottom 54 of the housing 15 may be formed as a part of the cover casting while the top of the housing may be a metal stamping detachably mounted on the bottom.

Where individual receipts are to be given the customers a supply of the receipt forms in strip arrangement may be provided in a compartment 55 suitably mounted on the side of the box. The receipt strip 56 is pulled out through a slot 58, beneath a guide loop 57 and between the two carbon sheets. The individual receipts may be torn off beyond the carbon so as to leave the fresh strip portion between the carbons for use as occasion may require. This will not interfere with the insertion of the duplicate form which may be threaded above the strip to lie immediately beneath the upper carbon.

As shown, the locating pins and lifter foot are disposed laterally of the carbons so as to permit the latter lying smooth and flat at all times. The journal sheet may be wider than the original form to expose the former at the window for making proper original notations thereon. The feed roller 31 may be held against retrograde movement by a leaf spring 59 on the stop 38.

When the receipt strip 56 is used, it is preferable to arranged the line of feed thereof so that at least one of the locating pins 48 will engage in an opening provided for such purpose in each receipt portion of the strip, and obviously when it is desired to manually pull the receipt strip to the right in Fig. 1 for removing one of the receipt portions the latter will be released from the locating pin by depressing the handle 34 whereby the lifter foot will elevate the receipt form together with the original form 46 from the locating means, and while being held in such elevated position the receipt strip will be pulled to present a new receipt portion beneath the carbon.

In the illustrated embodiment of the present invention, the central locating pin 48 alone enters an aperture in the respective receipt portions as they are successively positioned beneath the carbon paper. The duplicate form 53 will be inserted in the usual manner by passing it through the entranceway 52 and between the carbon sheets, and together with the original form will be placed over the three locating pins without hindrance by the presence of the previously positioned receipt strip since the duplicate form must be positioned immediately beneath the upper carbon paper 18 in order to provide for the proper carbon impression.

The manifolding machine herein described is simple and practical in design and will meet the needs of modern bookkeeping. The extent of raising the margin of the original and duplicate forms may be varied by adjusting the stops 37 and 38. While I have herein shown and described my invention in the best form as now known to me, it is obvious that structural changes may be made without departing from the spirit of the invention and I, therefore, do not desire to be limited to that precise form beyond the limitations as may be imposed by the following claims.

What is claimed is:

1. In a duplicating machine, a box, a cover having a window, a platen visible through the window and over which a paper sheet may be fed, pins in the cover for locating a form sheet over the platen, means for feeding the paper sheet across the platen, means lifting the form sheet from said locating pins as the sheet is fed, and a manually rotatable shaft operating both means.

2. In a duplicating machine, a platen, means for feeding a sheet of paper over the platen, locating pins adjacent the platen on which a form sheet may be placed for positioning in relation to said form sheet, a shiftable foot adjacent the pins for lifting the sheet therefrom, and common means actuating said feeding means and said foot.

3. In a duplicating machine, a box, a cover having a window and vertical pins on the cover at an end of the window, a platen inside of the box visible through the window and over which a sheet of paper is fed, means for feeding the paper comprising a feed roller and a manually rotated shaft, said pins being for locating a form sheet placed over the paper sheet with the pins through holes in the form sheet, and means for lifting the form sheet free from the pins upon manual rotation of the shaft.

4. In a duplicating machine, a box, a cover having a window and vertical pins fixed on the cover at an end of the window, a platen inside of the box visible through the window and over which a sheet of paper is fed, means for feeding the paper sheet, said pins being for locating a form sheet placed over the paper sheet with the pins engaged in holes in the form sheet, and a bar operable by said feeding means and having a foot to raise the form sheet out of engagement with the pins.

5. In a duplicating machine, a box, a cover having a window, a stationary platen visible through the window and over which paper sheets

are fed, a housing upon an end of the cover, a rewind roller under the front end of the cover, and a sheet of carbon paper extending from the housing and carried over the platen and wound upon the rewind roller, a guide in front of the platen and another guide at the rear of the platen, means for supporting a second carbon paper below the rear end of the cover, said last paper being carried over the platen and the last two guides and rewound upon the rewind roller at the front of the machine, means for rotating the rewind roller and means for holding a paper above the top carbon and a duplicate paper below each carbon.

6. In a manifolding machine, a body having a compartment with a platen, a cover removably positioned over the compartment and having a window exposing the platen, a housing mounted on the cover adjacent one end for supporting a roll of carbon paper, a table mounted on the opposite end portion of the cover and spaced therefrom for passing the carbon paper therebeneath, the cover being provided with an opening beneath the table leading into the compartment and through which the carbon paper feeds, means for feeding a sheet over the platen beneath the carbon paper, and means for retaining an original sheet over the window as well as over the carbon paper but beneath the table.

7. In a manifolding machine, a body having a compartment with a platen, a cover removably positioned over the compartment and having a window exposing the platen, a housing mounted on the cover adjacent one end for supporting a roll of carbon paper, a table mounted on the opposite end portion of the cover and spaced therefrom for passing the carbon paper therebeneath, means for feeding a journal sheet in the compartment and over the platen, and means for retaining an original sheet over the platen and the carbon paper and beneath the table.

8. In a manifolding machine, a body having a compartment with a platen, a cover removably positioned over the compartment and having a window exposing the platen, a housing mounted on and spaced above the cover adjacent one end for supporting a roll of carbon paper, a table mounted on the opposite end portion of the cover and spaced therefrom for passing the carbon paper therebeneath, the spaced mounting of the housing providing an entranceway for a duplicate sheet beneath the carbon paper and on the platen, and means for supporting an original sheet over the window as well as over the carbon paper.

9. In a manifolding machine, a body having a compartment with a platen, a cover removably positioned over the compartment and having a window exposing the platen, a housing mounted on the cover adjacent one end for supporting a roll of carbon paper, a table mounted on the opposite end portion of the cover and spaced therefrom for passing the carbon paper therebeneath, means for feeding a journal sheet in the compartment and over the platen, means for positioning an original sheet over the platen and the carbon paper and beneath the table, and means for lifting the original sheet concurrently with the actuation of the feeding means.

10. In a manifolding machine, a body having a compartment with a platen, a cover removably positioned over the compartment and having a window exposing the platen, a housing mounted on the cover adjacent one end for supporting a roll of carbon paper, a table mounted on the opposite end portion of the cover, means for feeding a journal sheet in the compartment and over the platen, means for positioning an original sheet over the platen and the carbon paper and beneath the table, and a second supply of carbon paper disposed beneath the cover for feeding across the platen beneath the window, said housing being spaced at one end above the cover to provide an entranceway for a third sheet intermediate the two carbon papers.

11. A manifolding machine comprising a body having a platen over which a recording sheet passes, means for feeding the sheet over the platen, said body being adapted to support an original sheet superimposed upon the first sheet with a carbon surface between the two sheets for manifolding purposes, locating means on the body for locating the original sheet with respect to the first sheet, and means for moving the original sheet from the locating means, said moving means operating by and during operation of said feeding means.

12. A manifolding machine comprising a body having a platen over which a recording sheet passes, means for feeding the sheet over the platen, said body adapted to support an original sheet superimposed upon the first sheet with a carbon surface between the two sheets for manifolding purposes, locating means on the body engaging one side margin of the original sheet only for holding it with respect to the first sheet, sheet freeing means, and means for projecting said sheet freeing means upwardly beneath the engaged margin for freeing the original sheet from the locating means, said freeing means engaging only the original sheet and operating by and during operation of said feeding means.

13. In a manifolding machine, a body having a compartment with a platen, means spaced above the body for supporting a carbon sheet over the platen, the spaced mounting of said means providing an entranceway for a duplicate form beneath the carbon sheet, and means for supporting and positioning an original sheet over the carbon and platen, said body having means for housing a receipt form strip supply and means for feeding such strip between the carbon paper and the platen, said strip being held by said supporting means with the original sheet when bookkeeping entries are made.

14. In a manifolding machine, a body having a compartment with a platen, means spaced above the body for supporting a carbon sheet over the platen, the spaced mounting of said means providing an entranceway for a duplicate form beneath the carbon sheet, and means for supporting and positioning an original sheet over the carbon and platen, said body having means for housing a receipt form strip supply and means for feeding such strip between the carbon paper and the platen said strip being held by said supporting means with the original sheet when bookkeeping entries are made, said supporting and positioning means being in the form of locating pins entering apertures in the original sheet and duplicate form, and the receipt form strip being engageable with at least one of said pins to be supported thereby free of the carbon sheet to enable placement of the duplicate form without hindrance from the form strip.

15. A manifolding machine comprising a body having a platen over which a recording sheet passes, an original sheet superimposed upon the first sheet with a carbon surface between the two sheets for manifolding purposes, said original sheet having a plurality of marginal perforations,

locating pins on the body for locating the original sheet with respect to the first sheet, and means for flexing the perforated margin of the original sheet upwardly from the locating pins to permit the original sheet being manually grasped for removal.

16. A manifolding machine comprising a body having a platen over which a recording sheet passes, means for feeding the sheet over the platen, an original sheet superimposed upon the first sheet with a carbon surface between the two sheets for manifolding purposes, locating means on the body for locating the original sheet with respect to the first means, and means for flexing a marginal portion of the original sheet from the platen to facilitate manually grasping the same.

17. A manifolding machine comprising a body having a platen over which a recording sheet passes, means for feeding the sheet over the platen, said body being adapted to receive an original sheet superimposed upon the first sheet with a carbon surface between the two sheets for manifolding purposes, locating means on the body for locating the original sheet with respect to the first sheet, means for flexing a marginal portion of the original sheet from the platen to facilitate manually grasping the same, and means for adjusting the flexing action.

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