Feb. 28, 1967 H. JAGGER 3,306,187

CHECKWRITER WITH TWO POSITION PREFIX BAR

Filed Oct. 2, 1964 4 Sheets-Sheet 1

Fig. 1.

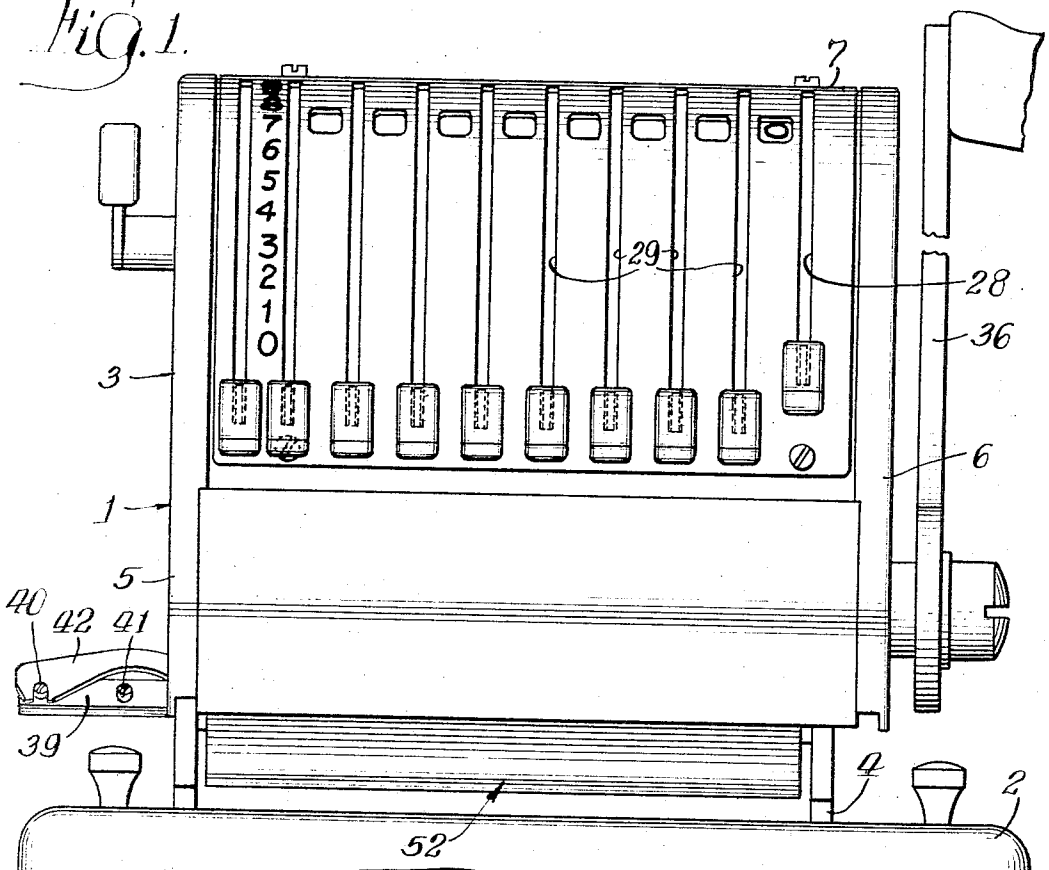
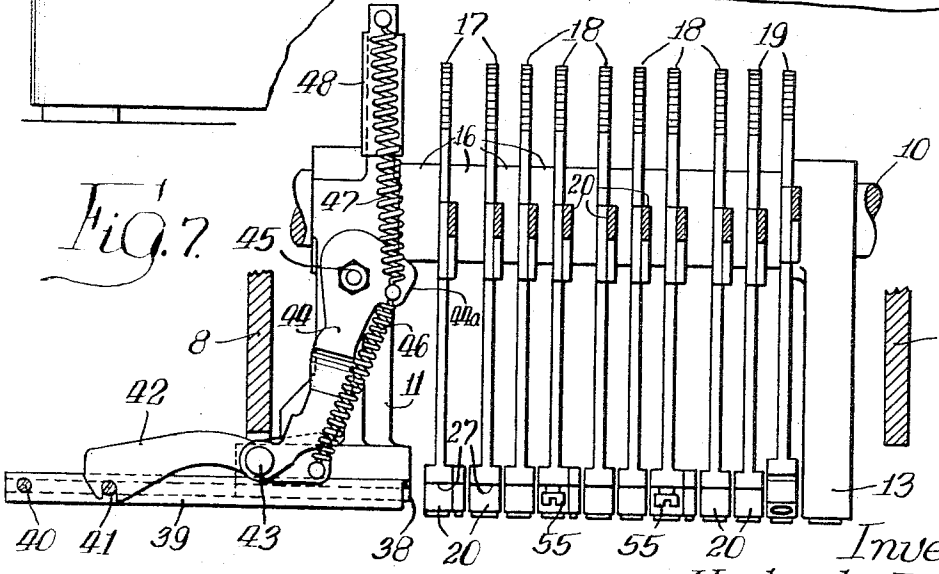


Fig. 7.



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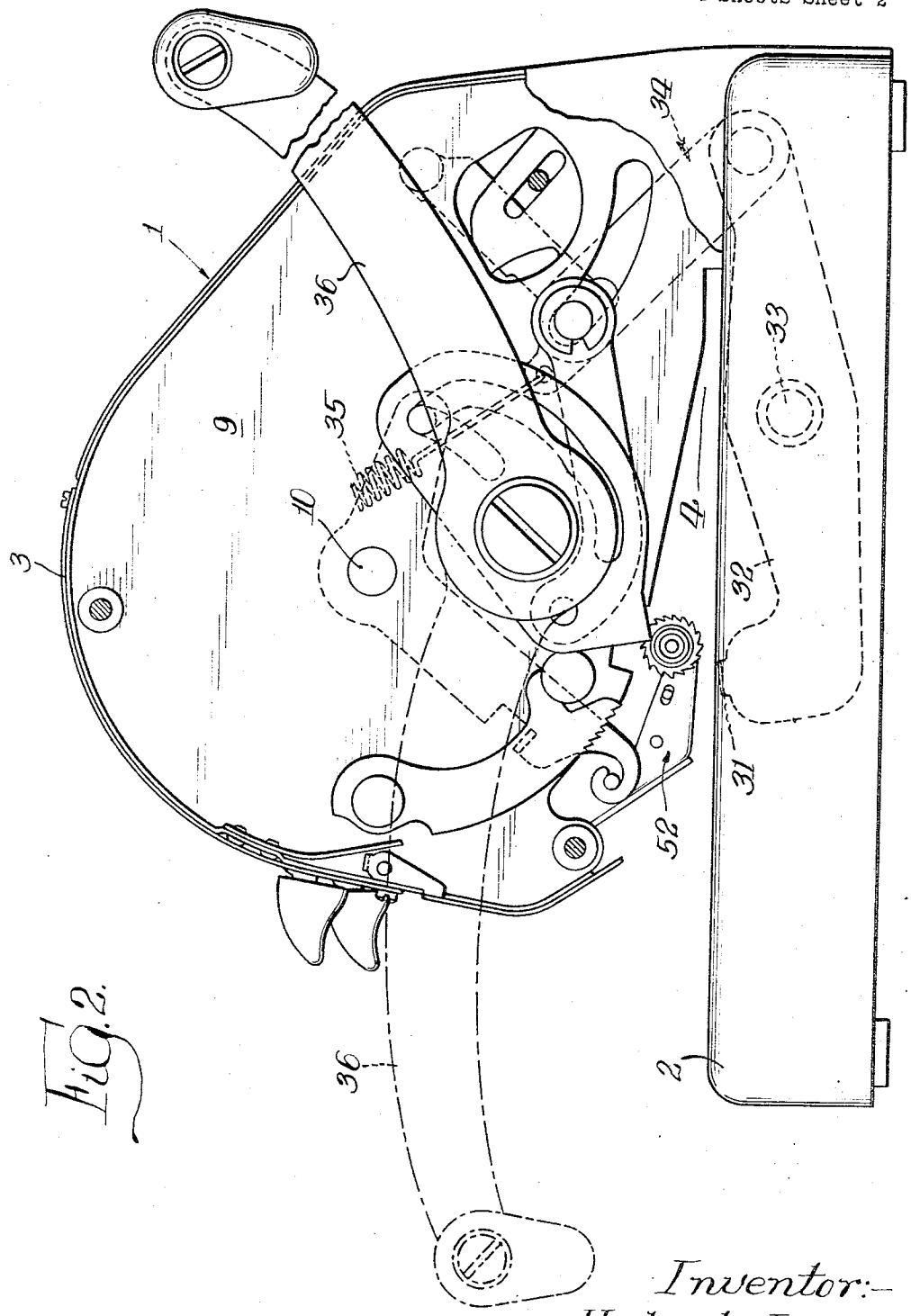


Fig. 2.

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Fig. 3.

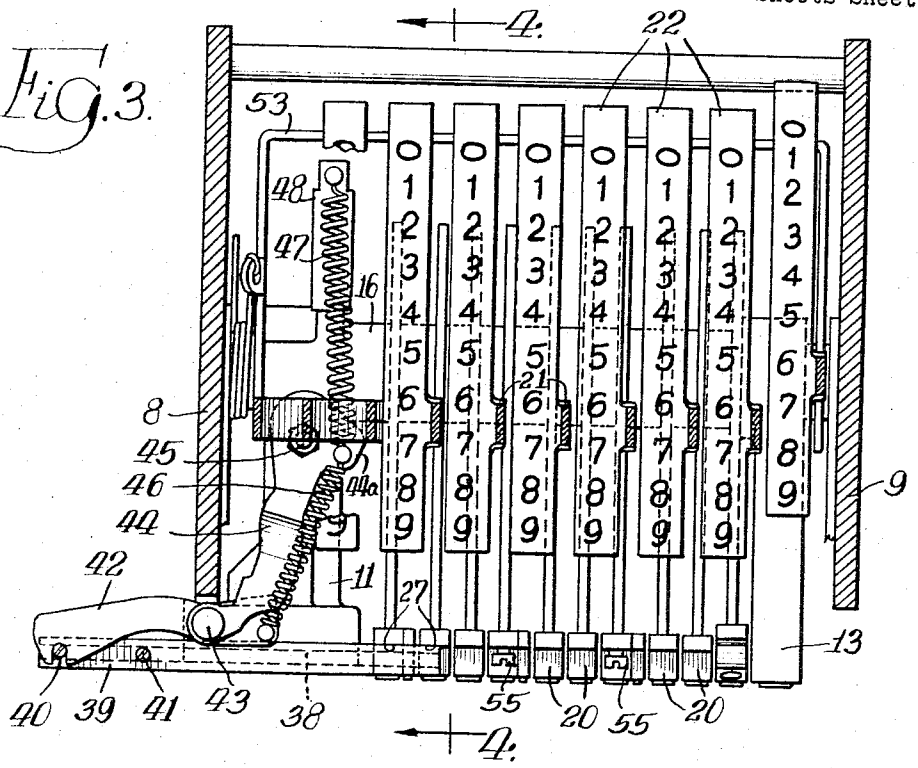
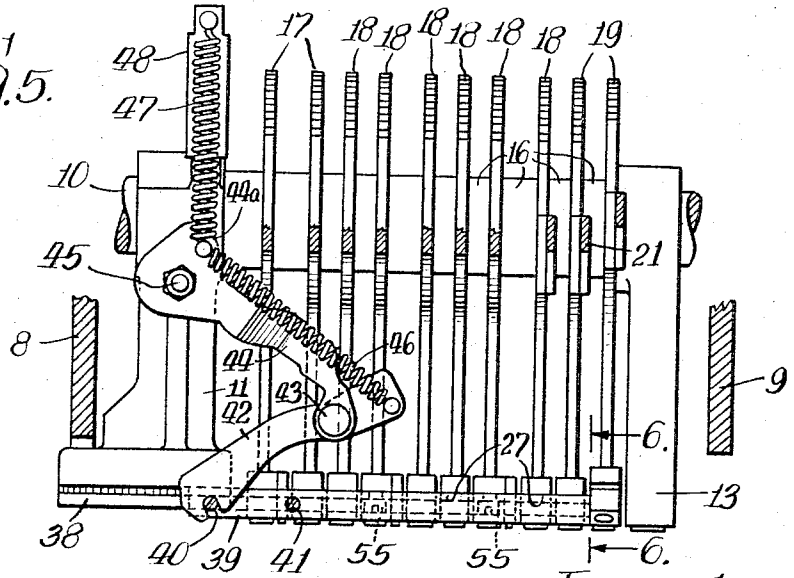


Fig. 5.



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CHECKWRITER WITH TWO POSITION PREFIX BAR

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FIG. 4.

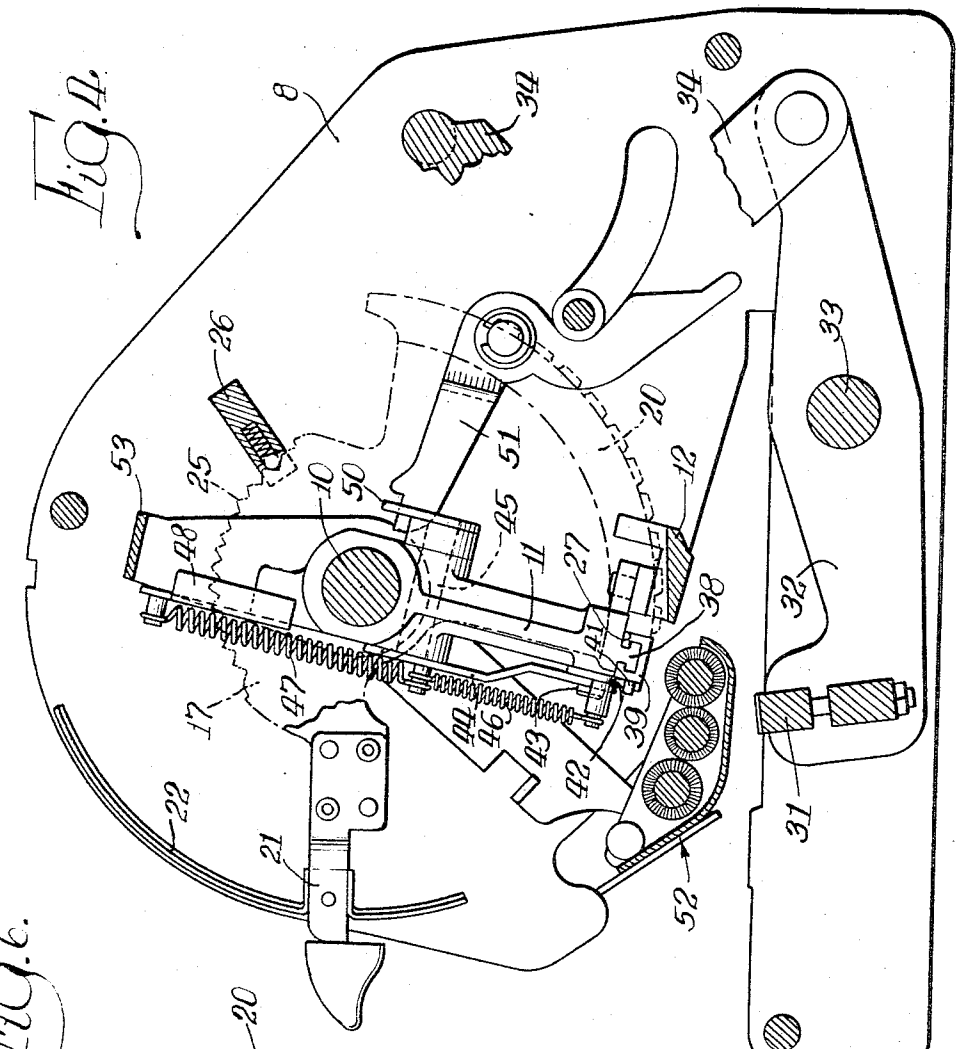
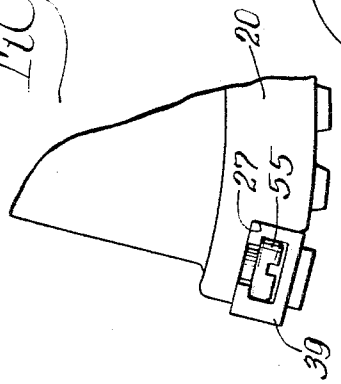


FIG. 6.



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United States Patent Office 3,306,187 Patented Feb. 28, 1967

3,306,187

CHECKWRITER WITH TWO POSITION PREFIX BAR

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Filed Oct. 2, 1964, Ser. No. 401,037
7 Claims. (Cl. 101—20)

This invention relates to machines for printing checks and similar instruments, commonly termed checkwriters, and has to do with machines employing a sum or prefix bar in conjunction with independently adjustable printing segments and cooperating platen means for effecting a printing operation.

Checkwriters of the character referred to are known and extensively used. In such known machines the respective printing segments bear printing characters ranging from zero to nine, the two cent and the last dollar segment being adjustable from a maximum value printing position to a zero printing position and the remaining dollar segments being adjustable from a maximum value printing position to a non-printing position beyond the zero printing position of the last three segments. A slidably mounted prefix bar, normally disposed to the left of and adjacent the first printing segment, is moved inward, incident to a printing operation, into contact with the first one of the segments then disposed in printing position. If, for example, the third printing segment is in printing position, with the first and second segments in non-printing position, the prefix bar will move inward into contact with the third segment and will lock the first and second segments in non-printing position. That guards against accidental displacement of either of the latter segments with possible resultant printing of a check in an amount much greater than intended, assuming the other segments to be properly adjusted. When it is desired to print a check for less than ten dollars, the three last segments are properly adjusted, with all other segments in non-printing position. The prefix bar will then move inward into contact with the last dollar segment, incident to a printing operation, effective for locking the other segments against displacement. When the prefix bar is in its normal position all of the printing segments may be adjusted from zero to maximum value printing position. Accordingly, the segments may be set to print the maximum amount of which the machine is capable. That incurs the risk that unless care is exercised in setting the segments, the machine may be set to print a check greatly in excess of the amount intended.

My present invention is directed to avoidance of the above noted objections to presently known checkwriters, above mentioned. To that end I provide means for controlling the adjustability of the printing segments in such manner that the maximum amount capacity of the checkwriter may be varied to suit requirements, while also assuring that all of the printing segments, except the last or second cent segment, are locked in non-printing position, when the machine is used for printing a check in an amount less than ten cents. More particularly, I provide a two position prefix bar having a normal inner position, effective for locking certain of the dollar segments in non-printing adjustment, and an outer position releasing such segments for adjustment, such prefix bar having maximum inward movement into contact with the second cent segment when the machine is set to print a check in an amount less than ten cents. Further objects and advantages of my invention will appear from the detail description.

In the drawings:

FIGURE 1 is a front view of a checkwriter embodying my invention, with the prefix bar in its normal segment locking inner position;

FIGURE 2 is a right side view of the checkwriter of FIGURE 1, with the side panel of the housing broken away in major portion;

FIGURE 3 is a front view of the printing segments assembly and associated parts, with the printing segments and the prefix bar in their normal positions and certain parts shown in section;

FIGURE 4 is a sectional view taken substantially on line 4—4 of FIGURE 3 but extended for the full height and length of the checkwriter, with certain parts broken away for clearness of illustration;

FIGURE 5 is a view similar to FIGURE 3 but with certain parts omitted for clearness of illustration and the prefix bar shown in its innermost position;

FIGURE 6 is a fragmentary sectional view, on an enlarged scale, taken substantially on line 6—6 of FIGURE 5; and

FIGURE 7 is a view similar to FIGURE 3 but with the prefix bar in its segment releasing outer position.

The checkwriter embodying my invention is, in general, similar to that of the Rindfleisch Patent No. 2,697,981, and a brief description thereof, except as to those features having to do with my instant invention will suffice. It is provided with an enclosing housing 1 having a base 2 and an upper section 3 with an intervening slot 4 for insertion of a check blank. The upper section 3 of the housing comprises side panels 5 and 6 of irregular polygonal shape and a cover plate 7 extending between the side plates. The housing 1 encloses a main frame and the operating and printing means mounted thereon.

The main frame comprises side frame plates 8 and 9, secured together in parallel spaced relation, by cross rods as in the above identified patent and conforming generally in shape to the housing panels 5 and 6 and base 2 of housing 1, each having an upper portion and a base portion with an intervening slot. A shaft 10 extends between side plates 8 and 9 with its ends mounted therein. A sum post 11 is mounted at its upper end on shaft 10, adjacent the inner face of side frame plate 8 and is anchored at its lower end to a slotted guide bar 12 extending between side frame plates 8 and 9 with its ends fixed therein. A cent post 13 is mounted at its upper end on shaft 10, adjacent the inner face of side frame plate 9, and is anchored at its lower end to the guide bar 12. The post 13 is provided at its underface with the printing characters "cts," in abbreviation of cents, disposed adjacent and in front of the guide bar 12. The printing line of the machine is immediately in front of guide bar 12 and is determined thereby in conjunction with the cent post and a prefix bar aligned therewith, as will appear more fully presently.

A plurality of printing segments are mounted on shaft 10, with intervening spacing collars 16, for individual adjustment thereabout. I have shown, by way of example, ten printing segments—eight dollar segments and two cent segments. The dollar segments comprise two groups—a first group consisting of the first two segments 17 and a second group of six segments 18, there being a third group consisting of the two cent segments 19. Each of the printing segments is provided with a type bar 20 provided on its printing face with a series of printing characters ranging from zero to nine. An adjusting arm 21 is secured to each of the segments and projects forwardly therefrom through a slot in the cover plate 7. An indexing strip 22 is secured to each adjusting arm 21, except those of the first two dollar segments 17, in substantially concentric relation to the corresponding segment. The strips 22 are numbered correspondingly to the type bars and cooperate with openings in cover plate 7 to indicate the printing characters of the segments which are disposed on the printing line of the machine, in the usual manner. The area or strip of the

cover plate 17 between the slots receiving arms 21 of the first two segments 17 is numbered similarly to the index strips 22 and in cooperation with such arms provides means for indicating the printing character of each of such segments which is disposed on the printing line. That eliminates two indexing strips thereby reducing the required width of the machine, particularly desirable if there are a greater number than usual of printing segments—the usual number being eight. Obviously, if desired, the first two dollar segments 17 may be provided with indexing strips, particularly if the number of printing segments used is eight or less.

The printing segments extend into the slots of the guide bar 12 and are restrained thereby against undesirable lateral looseness or play. Each of the printing segments is provided at its rearward portion with a two way arcuate rack 25 operating in a slot of an indexing bar 26 extending between the side frame plates 8 and 9 with its ends fixed therein. The bar 26 carries spring pressed ball detents which cooperate with the racks 25 for releasably holding the printing segments in adjustment, as is known. The type bar 20 of each of the printing segments is provided at the end thereof contiguous to the zero printing character with a cut out or notch 27 of material depth. The right hand or last slot 28 in cover plate 7 is of such length that the adjusting arm 21 of the second cent segment cannot be moved downward beyond a position in which the zero printing character of that segment is disposed on the printing line. All other slots 29 in cover plate 7 extend downward beyond slot 28 to such an extent that the adjusting arms 21 of the other segments may be moved downward beyond zero printing position with the notches 27 of such other segments disposed on the printing line.

The printing characters of the segments disposed on the printing line cooperating, in a printing operation, with a platen 31 mounted between the forward ends of arms 32 rockably mounted on a cross shaft 33 extending between the base portions of the side frame plates 8 and 9 with its ends mounted therein. The arms are normally held in position with the platen 31 spaced below the printing line, by yielding means and are turned in proper direction and to sufficient extent to move the platen 31 into pressure contact with the characters on the printing line, by toggle and lever operating means. Any suitable means may be provided for that purpose, the means utilized preferably being similar to that of the above identified patent and comprising a toggle 34 (FIGURES 2 and 4) normally held folded or collapsed by a tension spring 35, and an operating lever 36 having operating connection to the pintle of the toggle for extending the latter and initiating folding or collapse thereof.

Referring to FIGURES 3, 4, 5 and 7, the sum post 11 is provided at its under face with a rib 38 of inverted T-shape is cross section parallel with guide bar 12 and slightly in advance thereof. A prefix bar 39 having a lengthwise slot of inverted T-shape in cross section is slidably mounted on rib 38 for movement inward and outward along the printing line. The prefix bar 39 is provided at its forward side with two spaced forwardly extending outer and inner studs 40 and 41. A latch lever 42 is pivoted between its ends, at 43, on the lower end of a swing arm 44 fixed at its upper end on the forward end of a pivot pin 45 rockably mounted through the sum post 11 adjacent the top thereof. A tension spring 46 is anchored at its lower end to the inner end of latch lever 42 and at its upper end to an inward extension 44*a* of swing arm 44. A second tension spring 47, of materially greater strength than spring 46, is anchored at its upper end to an upward extension 48 of post 11 and at its lower end to extension 44*a* of arm 44. The spring 46 urges latch lever 42 in counter-clockwise direction about its pivot 43, as viewed in FIGURES 3, 5 and 7, effective for holding the slotted outer end thereof engaged over either of the studs 40 and 41, selectively, as will be understood. The spring 47 urges swing arm 44 in counter-clockwise direction about the axis of pivot pin, effective for yieldingly urging the prefix bar 39 inwardly along the printing line.

Referring to FIGURE 4, an arm 50 is fixed on the rearward end of pivot pin 45 and overlies the forward arm of a lever 51 pivoted on the left frame side plate 8 at the inner face thereof. The rearward arm of lever 51 cooperates with the pintle pin of toggle 34 for holding the lever 51 in its normal position shown, when the toggle is in its normal collapsed or folded condition, while permitting turning of lever 51 in counter-clockwise direction as the toggle 34 is extended incident to a printing operation; as in the above identified Rindfleisch patent. While I preferably utilize the lever actuating means of that patent, it is to be understood that any suitable known means may be provided for retaining lever 51 in its normal position except when performing a printing operation and for releasing it for turning movement incident to such an operation. As will be understood from the above, the lever 51, in cooperation with arm 50, restrains the prefix bar 39 against inward movement except incident to a printing operation, during which it is released for inward movement. The prefix bar 39 is provided on its lower or printing face with printing characters defining the words "The Sum" followed by a dollar sign. Inking means 52, similar to that of the above identified patent, is provided for inking the printing characters on the printing line. A clearing yoke 53 of appropriate form, rockably mounted on shaft 10, straddles the printing segments and, when effective, returns them to their normal positions, means being provided for optionally rendering it effective and ineffective. The inking means and the clearing yoke and the operating and control means therefor preferably are similar to those disclosed in the above identified Rindfleisch patent. It will be understood, however, that any suitable known inking and clearing yoke means may be provided within the broader aspects of my invention.

The prefix bar 39 is of substantially greater length relative to the printing line of the machine than the usual type bar as shown, for example, in the above Rindfleisch patent and in my Patent No. 2,583,001. As previously noted, in the machine of my present invention, the type segments comprise three groups—the first two dollar segments 17, the six dollar segments 18 and the two cent segments 19. All of the segments are returned to normal position upon completion of a printing operation, assuming the clearing yoke to be effective, as it is except when it is desired to print a plurality of checks for the same amount, in which case the clearing yoke is rendered ineffective, as is known. All of the segments, except the last one, are then disposed in non-printing position with the notches 27 thereof aligned on the printing line and the last segment is disposed with the zero printing character thereof on the printing line. Turning of the segments in resetting direction beyond normal position is prevented by the length of the slots 29 and 28 in the cover plate 7, as previously noted.

It is assumed that the maximum amount which can be printed without using the first two dollar segments 17 is adequate for all ordinary purposes. It is desirable that turning of the first two segments to printing position be guarded against, to prevent printing of a check for a much greater amount than intended, because they are not provided with index strips and their setting can not be observed as readily as that of the other segments. Even though the first two segments were provided with index strips, as they may be if desired, it would still be desirable to guard against unintended or accidental movement thereof from non-printing position in the ordinary use of the machine. Accordingly, in the usual use of the machine the prefix bar 39 is disposed in an inner position with the outer end of latch lever 42 engaged over the outer stud 40, as in FIGURES 1 and 3. The inner end por-

tion of prefix bar 39 then extends into notches 27 of the first two segments 17 effective for locking them in non-printing position. Also, the outer end of the prefix bar is then disposed within the width of the base 2 of the machine. That is desirable as guarding against damage to the prefix bar and associated parts of the machine by contact of the outer end of the prefix bar with objects in moving the machine from place to place. During a printing operation, the prefix bar 39 moves inwardly along the printing line into contact with the first of the printing segments then in printing position and upon completion of such operation is returned to its normal position by arm 45 and lever 51 as in the above identified Rindfleisch patent. The side panel 6 and side frame plate 8 are provided with suitable openings which accommodate movement of the prefix bar 39 and removal and replacement thereof, if required, as will be understood. When it is desired to print checks for exceptionally large amounts, the prefix bar 39 is shifted from its inner position of FIGURES 1 and 3 to its outer position of FIGURE 7, with the latch lever 42 then engaged over stud 41. The prefix bar 39 is then clear of the printing segments 17 either or both of which may be adjusted to a desired printing position. During the printing operation the prefix bar 39 moves inward into contact with the first of the printing segments then in printing position and is returned to its outer position upon completion of such operation, as before.

When printing a check for ten cents or less all of the segments except the last or second cent segment are in non-printing position with the notches 27 thereof aligned on the printing line. Accordingly, the prefix bar 39 will move inwardly along the printing line for substantially the full length thereof until it contacts the last segment. Due to the exceptional length of the prefix bar 39 and its maximum extent of travel, it would sag downward away from the top surfaces of the notches 27 of the printing segments in non-printing position. That would be objectionable as causing blurring of the characters printed by the prefix bar and possible tearing of the check. To guard against that, the upper face of the prefix bar 39 should seat firmly against the top surfaces of the notches 27 at all times during the printing operation, particularly when the prefix bar 39 is being subject to pressure by the platen 31. To that end several printing segments are provided with headed studs 55 secured in the tops of notches 27 thereof. When those segments are in non-printing position, the studs 55 are accurately aligned with rib 38 of sum post 11. As the prefix bar 39 moves inwardly along the printing line it passes over the studs 55 successively, which are dimensioned to fit accurately into the slot of that bar. The studs 55, in cooperation with rib 38 of post 11, support prefix bar 39 in contact with the top surfaces of notches 27 and in accurate alignment with such printing characters as may be disposed on the printing line, during its inward and outward travel therealong.

I have disclosed the checkwriter of my invention, by way of example, as suitable for use in a monetary system having the dollar as the standard unit. It is to be understood, however, that such checkwriter may be adapted for use in other monetary systems, within the broader concept of my invention. Also, the total number of printing segments provided and the number thereof in each group may be varied as desired or as circumstances may require.

As above indicated, changes in detail may be resorted to without departing from the field and scope of my invention, and I intend to include all such variations, as fall within the scope of the appended claims, in this application in which the preferred form only of my invention has been disclosed.

I claim:

1. In a check writing machine, means defining a printing line, a plurality of printing segments individually adjustable about a common axis for selectively disposing printing characters thereof on the printing line, said segments comprising a first group and a second group and having a normal non-printing position and abutment elements disposed adjacent and in back of the printing line in said normal position of said segments, operating means for effecting a printing operation, a prefix bar having a first inner position extending inward along the printing line in front of the abutment elements of the segments of said first group in the normal position thereof and effective for restraining them against movement to a printing position, said prefix bar having a second outer position clear of the segments of said first group, and means for disposing said prefix bar in either of its said positions selectively and for moving it inward along the printing line into contact with the first one of said segments then in printing position incident to a printing operation.

2. In a check writing machine, means defining a printing line, a plurality of printing segments individually adjustable about a common axis for selectively disposing printing characters thereof on the printing line, said segments comprising a first group and a second group and having a normal non-printing position and abutment elements disposed adjacent and in back of the printing line in said normal position of said segments, operating means for effecting a printing operation, a prefix bar having a first inner position extending inward along the printing line in front of the abutment elements of the segments of said first group in the normal position thereof and effective for restraining them against movement to a printing position, said prefix bar having a second outer position clear of the segments of said first group, means for disposing said prefix bar in either of its said positions selectively and for moving it inward along the printing line into contact with the first one of said segments then in printing position incident to a printing operation, and cooperating means carried by said prefix bar and certain of said segments for guiding and supporting said prefix bar in its movement.

3. In a check writing machine, means defining a printing line, a plurality of printing segments individually adjustable about a common axis for selectively disposing printing characters thereof on the printing line, said segments comprising a first group and a second group and having a normal non-printing position and notches providing abutment elements disposed adjacent and in back of the printing line in said normal position of said segments, operating means for effecting a printing operation, a prefix bar having a first inner position extending inward along the printing line in front of the abutment elements of the segments of said first group in the normal position thereof and effective for restraining them against movement to a printing position, said prefix bar having a second outer position clear of the segments of said first group, means for disposing said prefix bar in either of its said positions selectively and for moving it inward along the printing line into contact with the first one of said segments then in printing position incident to a printing operation, and cooperating means carried by said prefix bar and certain of said segments in said notches thereof for guiding and supporting said prefix bar in its movement.

4. In a check writing machine, means defining a printing line, a plurality of printing segments individually adjustable about a common axis for selectively disposing printing characters thereof on the printing line, said segments comprising a first group and a second group and having a normal non-printing position, said segments respectively further having a substantially rectangular notch providing an abutment element disposed adjacent and in back of the printing line in said normal position of said segments, operating means for effecting a printing operation, a post adjacent said first group of segments having at its under face a rib of substantially inverted T-shape in cross section, a prefix bar having an upwardly opening slot conforming to and receiving said rib, said prefix bar having a first inner position extending into the notches

of the segments of said first group in said normal position thereof effective for restraining them against movement from non-printing position, said prefix bar having a second position clear of said segments of said first group, means for disposing said prefix bar in either of its said positions selectively and for moving it inward along said printing line into contact with the first of said segments then in printing position incident to a printing operation, and headed studs carried by certain of said segments in the notches thereof disposed to enter the slot of said prefix bar for guiding and supporting the latter in its movement.

5. In a check writing machine, means defining a printing line, a plurality of printing segments individually adjustable for selectively disposing printing characters thereof on the printing line, said segments comprising a first group and a second group and having a normal non-printing position and abutment elements disposed adjacent and in back of the printing line in said normal position of said elements, operating means for effecting a printing operation, a prefix bar having a first normal inner position extending inward along the printing line in front of the abutment element of the first member in the normal position of the latter effective for restraining said first member against movement to a printing position, said prefix bar having a second outer position clear of the abutment element of said first segment, said prefix bar having spaced apart latch engageable means thereon corresponding to said first inner and said second outer positions thereof, respectively, and means for selectively engaging said latch engageable means of said prefix bar for disposing it in either of said positions and for moving it inward along the printing line into contact with the first one of said segments then in printing position incident to a printing operation.

6. In a check writing machine, means defining a printing line, a plurality of rotatably mounted printing segments individually adjustable for selectively disposing printing characters thereof on the printing line, said segments comprising a first group and a second group and having a normal non-printing position and notches providing abutment elements disposed adjacent and in back of the printing line in said normal positions of said segments, operating means for effecting a printing operation, a prefix bar having a first normal inner position extending inward along the printing line into the notch of the first segment in a normal position to the latter effective for restraining said first segment against movement to a printing position, said prefix bar having a second outer position clear of said notch and abutment element of said first segment, said prefix bar having spaced apart latch engageable means thereon corresponding to said first inner and second outer positions thereof, respectively, and means including latch means selectively engaging said latch engageable means of said prefix bar for disposing it in either of said positions and for moving it inward along the printing line into contact with the first one of said segments then in printing position incident to a printing operation.

7. In a check writing machine, means defining a printing line, a plurality of coaxial rotatably mounted printing segments individually rotatably in one direction to selective printing positions and in the opposite direction to a normal non-printing position, said segments comprising a first group and a second group and having a normal non-printing position, stop means restraining said segments against rotation in said opposite direction beyond said normal position, said segments having notches providing abutment elements disposed adjacent and in back of the printing line in said normal position of said segments, operating means for effecting a printing operation, a prefix bar having a first normal inner position extending inward along the printing line in front of the abutment element in the normal position of the latter and in cooperation with said stop means blocking said first segment against movement in either direction, said prefix bar having a second outer position clear of the notch and abutment element of said first segment, said prefix bar having spaced apart latch engageable means thereon corresponding to said first inner and said second outer positions thereof, respectively, and means including latch means for selectively engaging said latch engageable means of said prefix bar for disposing it in either of said positions and for moving it inward along the printing line into contact with the first one of said segments then in printing position incident to a printing operation.

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