March 24, 1959 H. JAGGER 2,878,749

CHECKWRITER

Filed Jan. 27, 1956 5 Sheets-Sheet 1

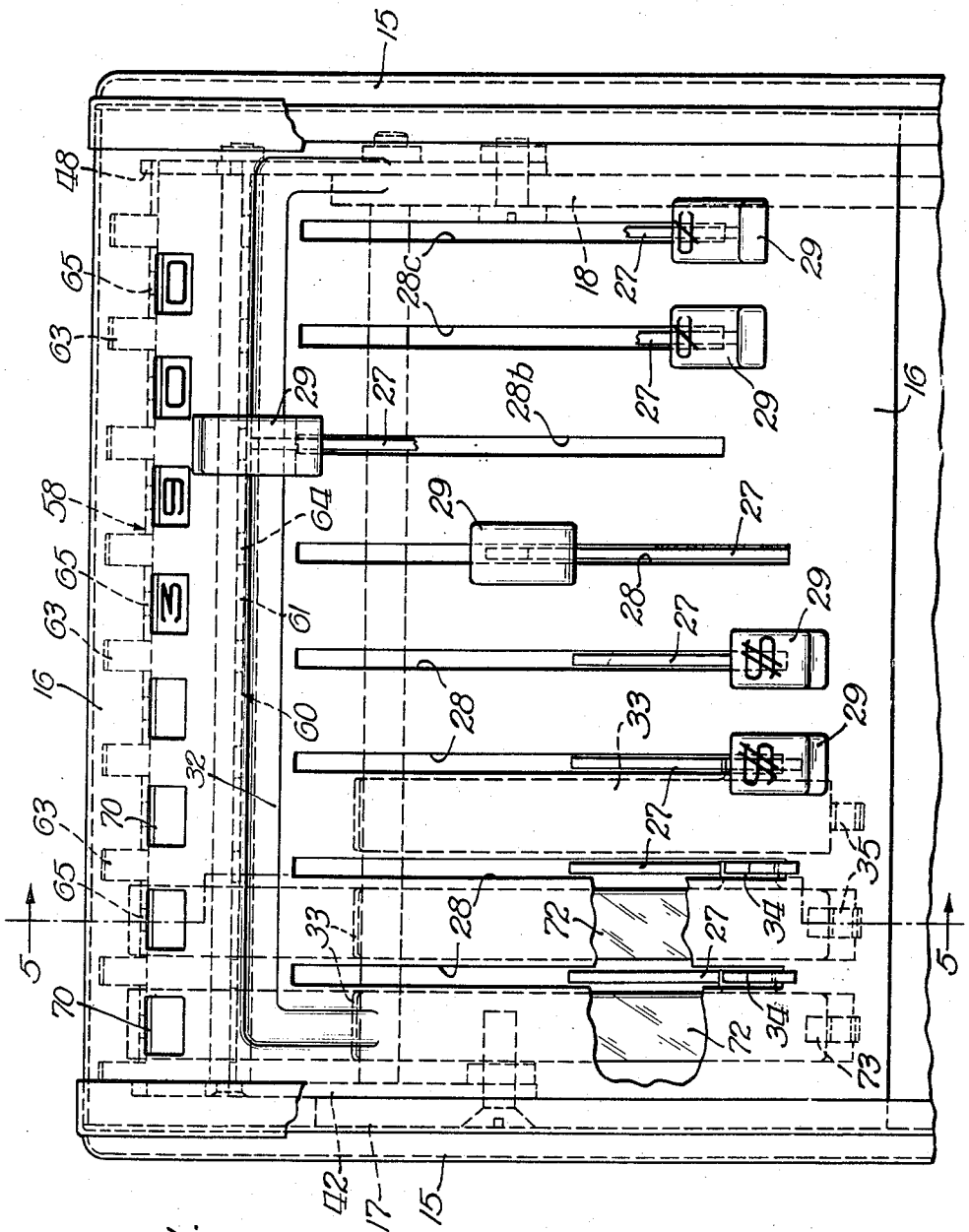


Fig. 1.

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CHECKWRITER

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Fig. 2.

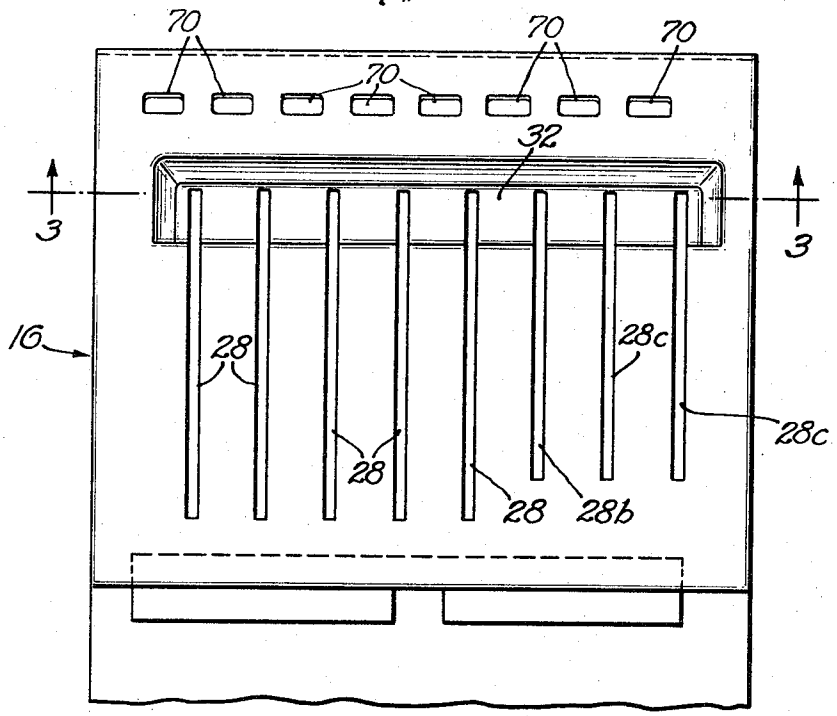


Fig. 3.

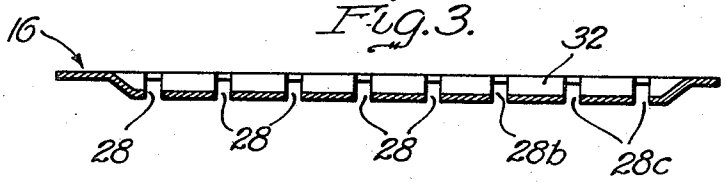
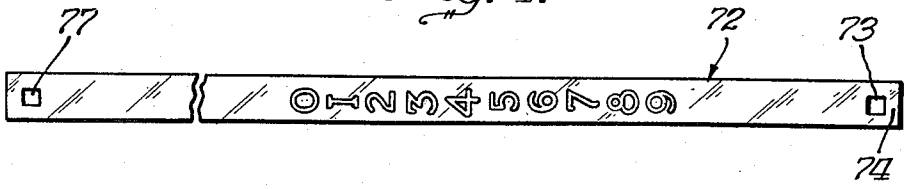


Fig. 4.



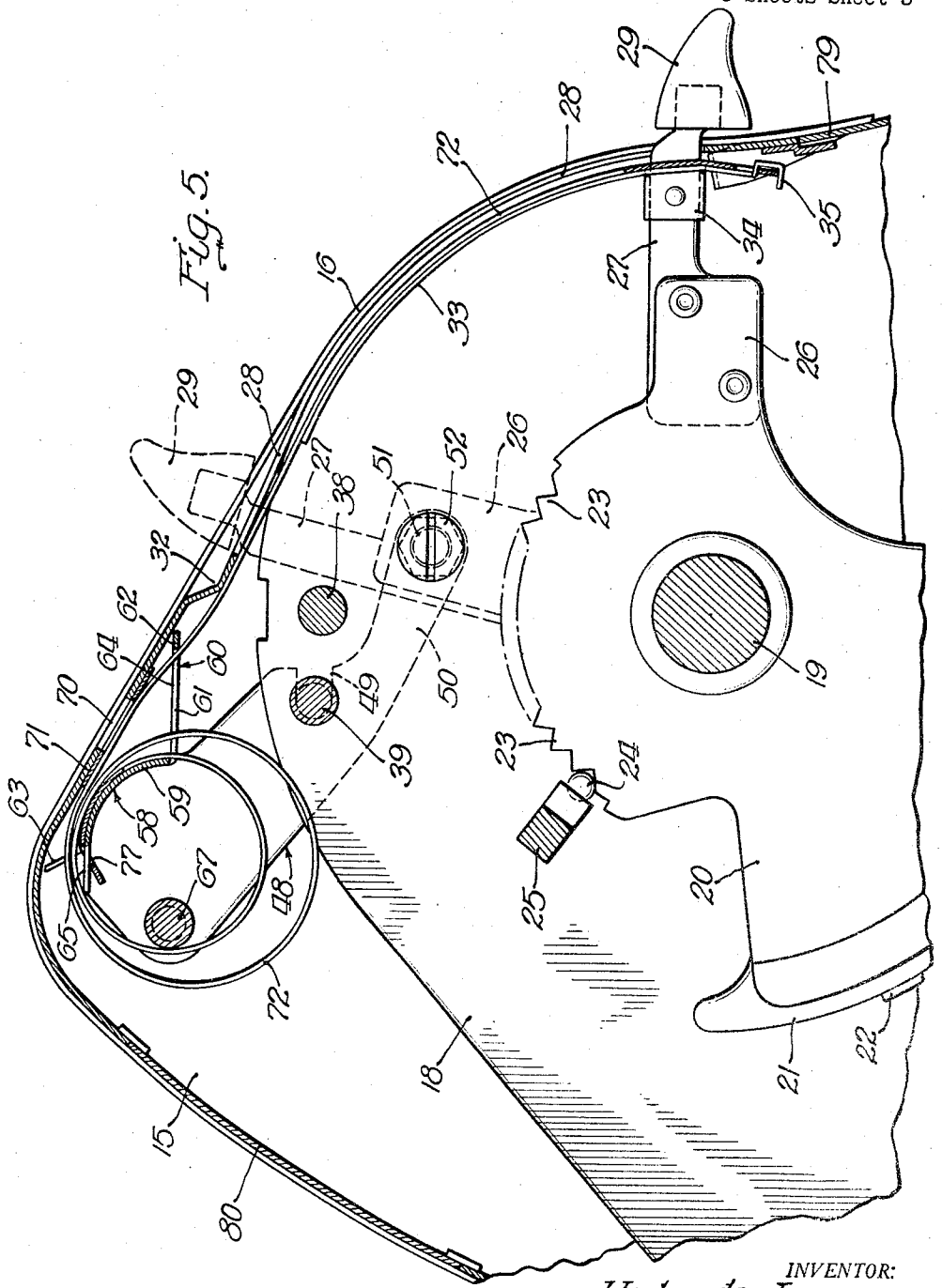
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CHECKWRITER

Filed Jan. 27, 1956 5 Sheets-Sheet 3

Fig. 5.



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Fig. 6.

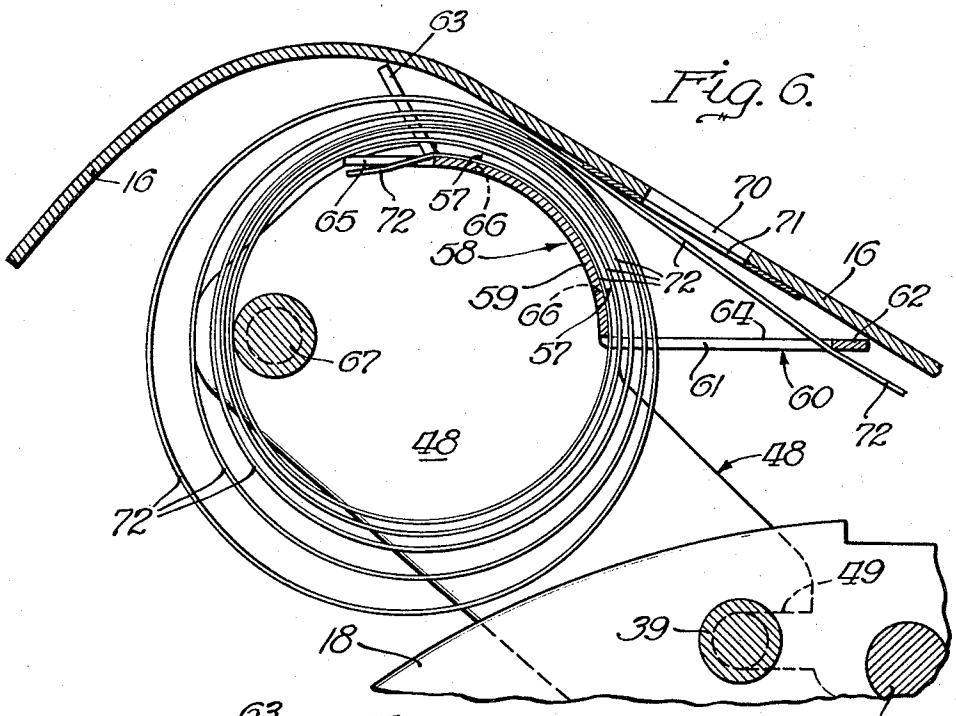
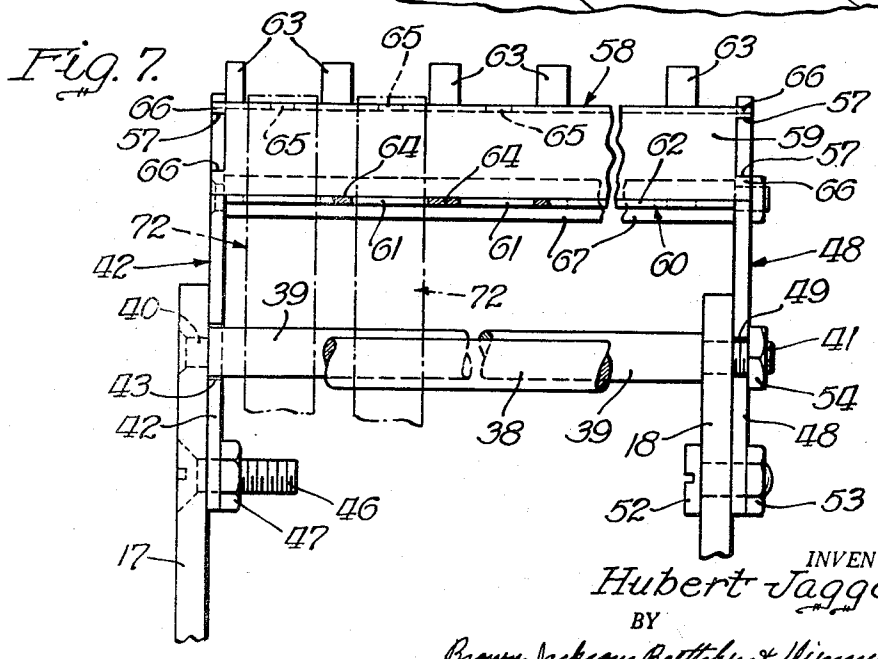


Fig. 7.



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CHECKWRITER

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Fig. 8.

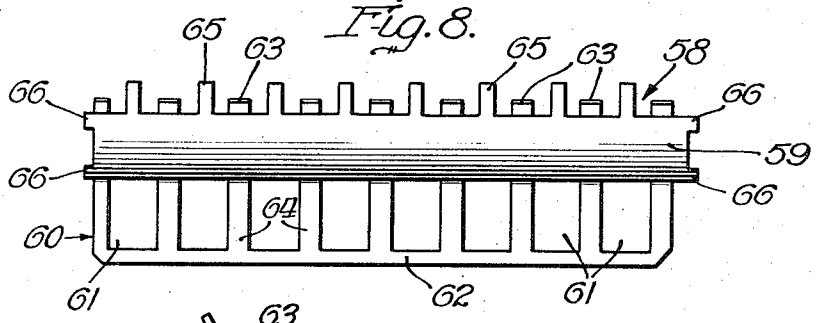


Fig. 9.

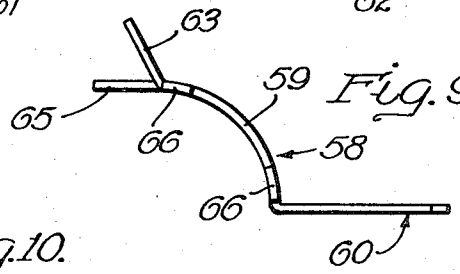


Fig. 10.

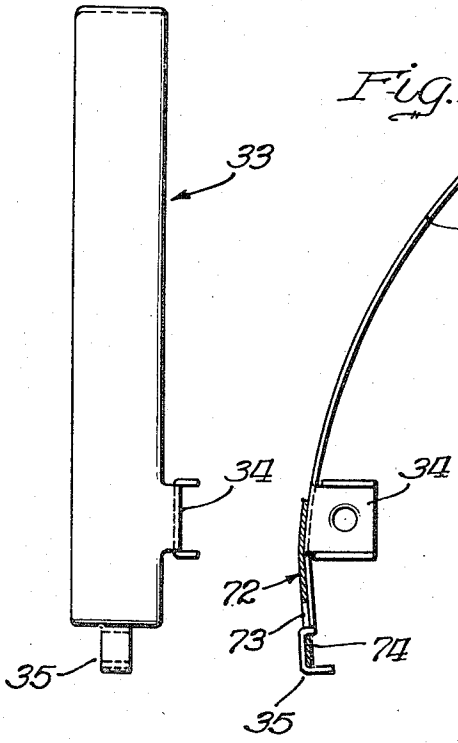


Fig. 11.

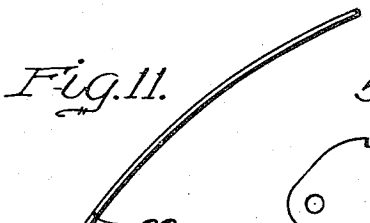


Fig. 12.

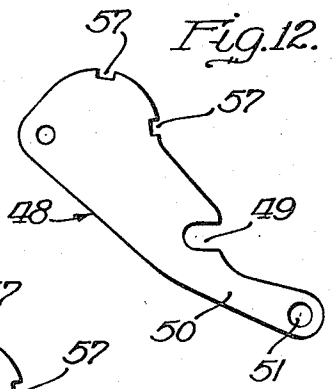
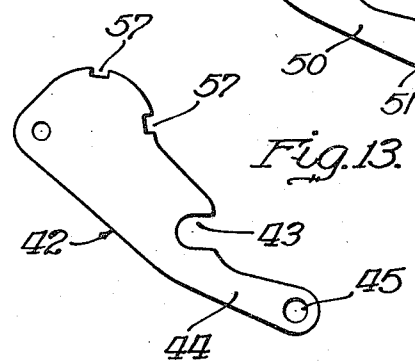


Fig. 13.



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United States Patent Office

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2,878,749

CHECKWRITER

Hubert Jagger, Maywood, Ill., assignor to Theodore B. Hirschberg, Jr., Chicago, Ill.

Application January 27, 1956, Serial No. 561,792

2 Claims. (Cl. 101—20)

This invention relates to machines for printing checks, commonly termed checkwriters, and has to do with means for indicating the printing characters or numbers which are positioned on the printing line of the checkwriter.

Checkwriters employing printing segments adjustable about a common axis by means of arms extending from the segments through slots in the front wall of the housing or casing of the machine are well known. In such machines the angular position of the respective printing segments usually is indicated by a series of numbers, the same as the numbers on the segment, extending along each slot and in cooperation with the arm of the segment indicating the printing character of the latter which is disposed on the printing line of the checkwriter. There are thus a plurality of vertical series or columns of numbers on the front of the machine, one column for each segment, with the risk that the operator may become confused and adjust one or more of the segments incorrectly for the amount of the check to be printed.

My invention is directed to avoiding the necessity for providing a plurality of columns of numbers on the front of the machine, while providing means for indicating the setting of each printing member or segment, thereby reducing likelihood of confusion and improper setting of the checkwriter. To that end I provide, at the upper front portion of the casing of the machine, a series of openings, one for each printing member or segment, and means associated with each opening for indicating the setting of the corresponding segment. The indicating means comprises an index strip underlying the opening and movable with the corresponding printing segment, the strip bearing upon its upper face numbers similar to those on the printing segment and arranged to be displayed through the opening so as to indicate the character or number of the segment which is positioned on the printing line of the checkwriter. In order to assure accuracy, I provide means whereby lengthwise movement of the index strip in either direction relative to its associated printing segment is prevented. In order to maintain the overall dimensions of the checkwriter within desirable limits I provide means whereby the index strips are coiled about receiving means during movement of the printing segments in one direction and are uncoiled therefrom during movement of the segments in the opposite direction, such means assuring ease in movement of the index strips in either direction while avoiding objectionable rubbing pressure contact thereof with parts of the machine such as might tend to remove or obliterate the numbers on the strips. The strips are detachably secured to the segments and to the receiving means, and the latter, including associated guide means for the strips, is removable as a unit from the checkwriter to facilitate replacement and repair as may be required. Further objects and advantages of my invention will appear from the detail description.

In the drawings:

Figure 1 is a front view, partly broken away, of the upper portion of a checkwriter embodying my invention;

Figure 2 is a front view, on a reduced scale, relative to Figure 1, of the upper portion of the cover panel of the casing of the machine of Figure 1;

Figure 3 is a sectional view taken substantially on line 3—3 of Figure 2;

Figure 4 is a face view of one of the index strips, a portion of which is broken away;

Figure 5 is a sectional view taken substantially on line 5—5 of Figure 1;

Figure 6 is a fragmentary sectional view on the order of Figure 5, of the top portion of the machine, on an enlarged scale, showing the position of an index strip when the corresponding printing segment has been turned upward and rearward to its extreme position in that direction;

Figure 7 is a fragmentary front view, partly broken away, of the index strip receiving means mounted on the side plates of the frame of the checkwriter, on a reduced scale relative to Figure 6;

Figure 8 is a plan view of the index strip receiving means;

Figure 9 is an end view, on an enlarged scale, of the index strip receiving means of Figure 8;

Figure 10 is a front view, on an enlarged scale, of one of the index strip supports;

Figure 11 is a side view of the support of Figure 10 showing an index strip fragmentarily and in section attached to the support;

Figure 12 is a side view of one of the mounting brackets for the index strip receiving means; and

Figure 13 is a side view of the other mounting bracket for the index strip receiving means.

The indicating means of my invention may be applied to any suitable checkwriter of known construction and operation such, for example, as the checkwriter disclosed in the patent to Arthur G. Rindfleisch, issued December 28, 1954, No. 2,697,981. Accordingly, I have shown only those parts of the machine with which my inventoin is concerned, it being understood that the machine comprises suitable operating means for effecting the printing operation when the proper numbers or characters are properly aligned on the printing line of the machine, a dollar bar at the left of the group of dollar segments, a cents bar at the left of the two cents segments and a prefix plate movable inwardly to the first dollar segment which is in printing position; as is usual in known checkwriters.

The checkwriter of my invention is, in general, of known construction and operation, as above stated, and includes an enclosing casing having side panels **15** and a cover panel **16** mounted in assembled relation on the main frame of the checkwriter in any suitable known manner. The main frame of the checkwriter comprises side plates **17** and **18** (Figures 5 and 7) in which is mounted a cross shaft **19**. Printing segments **20** are mounted on shaft **19** for independent turning movement thereabout and are appropriately spaced apart lengthwise thereof. Each of the segments **20** is provided with a type bar **21** concentric with shaft **19** and having a series of printing characters **22** thereon ranging from zero to 9, the zero being at the leading or forward portion of type bar **21** and the number nine being at the rearward portion thereof. Each of the segments **20** is provided, at the upper portion thereof, with an arcuate two-way rack **23**, formed by cutting teeth therein and concentric with shaft **19**. Rack **23** is engaged by a spring pressed ball detent **24** carried by an index bar **25** extending between and mounted in the frame side plates **17** and **18**, as disclosed in the above identified patent. Each of the segments **20** is further provided with a forwardly extending finger **26** to which is secured an adjusting arm **27** extending forwardly through a slot **28** in the cover panel **16**. A finger grip **29** is secured on the

forward end of arm **27**, by a friction fit thereon. The printing segments **20** are turned about shaft **19** so as to position on the printing line of the checkwriter appropriate characters for printing the desired amount of the check, after which the printing operation is performed in a known manner. It is assumed that the checkwriter is provided with six dollars segments and with two cents segments. Referring to Figure 1, it will be noted that the first five slots **28** extend downward a material distance beyond the sixth slot **28***b* and the two cents slots **28***c*. The longer slots **28** permit of the segments **20** corresponding thereto being turned downward and rearward to a position in which the zero character of the type bar **21** is positioned in rear of the printing line so that the prefix plate, previously mentioned, can move inwardly to the first dollars segment in printing position. The length of the sixth slot **28***b* is such that the corresponding segment can be moved downward and rearward to such position that the zero character is on the printing line and cannot be moved in that direction beyond that position. Similarly, the two cents segments cannot be moved downward and rearward beyond zero position.

Referring to Figure 5, it will be noted that the upper forward portion of the main frame side plate **18** is substantially concentric with shaft **19**, as is the upper forward portion of the other frame side plate **17**. The corresponding portion of the cover panel **16** is curved conformably to the upper forward portions of the frame side plates **17** and **18** and is likewise substantially concentric with shaft **19**. It will further be noted that the portion of panel **16** adjacent the upper portions of the slots **28**, **28***b* and **28***c* is offset inwardly of the casing to provide an inwardly and rearwardly extending element **32** in the nature of a cross bar of angle cross section the portions of which are connected by a rounded corner or fillet. Each of the segments **20** has associated therewith an index strip support **33**, shown more clearly in Figures 5, 10 and 11. The support **33** conveniently is formed as a sheet metal stamping, is of arcuate form lengthwise, is provided at one side with a laterally offset rearwardly extending finger **34** of channel cross section and, at its lower forward end, with a rearwardly directed channel element **35** extending downwardly from support **33** centrally thereof and of materially less width than the latter. The finger **34** fits about arm **27** of segment **20** and is secured thereto, conveniently by riveting, a short distance inward from the cover panel **16**. In the rearward adjusted position of segment **20** shown in Figure 5, the index strip support **33** of the respective segments is disposed substantially concentrically with shaft **19** and with the portion of panel **16** corresponding to the upper forward portions of the frame side plates **17** and **18**, as shown.

Referring to Figures 5 to 7, inclusive, the main frame side plates **17** and **18** are connected, adjacent the tops thereof, by a cross rod **38** suitably secured at its ends therein. A second cross rod **39** extends between the plates **17** and **18** a short distance in rear of the cross rod **38**. The left hand end portion of cross rod **39** is of reduced diameter to provide a stud **40** the outer end of which is headed and is countersunk in plate **17**. The right hand end portion of cross rod **39** is also reduced in diameter and is threaded a provide a screw stud **41** which extends through and projects beyond plate **18** at the outer side thereof. A mounting bracket **42**, shown more clearly in Figure 13, is disposed at the inner face of plate **17**, this bracket being provided with a forwardly directed slot **43** which fits snugly about stud **40** of cross rod **39** and is confined between plate **17** and the body of rod **39**. Bracket **42** is provided with a downwardly and forwardly extending finger **44** having at its forward end an opening **45** which receives a screw **46** passing through plate **17** with its head countersunk therein, there being a nut **47** threaded on screw **46** at the inner face of finger **44**. The bracket **42** is thus removably mounted on plate **17** and is effectively held against any objectionable looseness or play. A second mounting bracket **48**, similar to bracket **42**, is disposed at the outer face of frame side plate **18**, bracket **48** having a forwardly opening slot **49** and a forwardly extending finger **50** provided at its lower end with an opening **51**. The slot **49** fits snugly about stud **41** and opening **51** receives a flat headed screw **52** passing therethrough and through plate **18**, the lower end of finger **50** being clamped between plate **18** and a nut **53** threaded on screw **52**. Bracket **48** is also clamped between plate **18** and a nut **54** threaded on stud **41**. Bracket **48** is thus removably mounted on plate **18** and is effectively secured against any objectionable looseness or play.

The upper portion of each of the brackets **42** and **48** is of rounded or arcuate shape, as shown more clearly in Figures 12 and 13 and is provided with two spaced notches **57**. An index strip receiving and guide structure **58**, shown more clearly in Figures 8 and 9, extends between the upper ends of the mounting brackets **42** and **48**. The structure **58** comprises a strip receiving member **59** of arcuate cross section conforming to the curvature of the top portions of brackets **42** and **48**. A slotted guide frame **60**, formed integrally with the member **59**, extends forwardly from the lower edge thereof and is provided with a plurality of slots **61** closed at their forward ends by a cross bar **62**, the slots **61** corresponding in number to the index strips, to be referred to further presently, for receiving and guiding them. At its rearward edge the index strip receiving member **59** is provided with upwardly and rearwardly inclined guide fingers **63** respectively aligned with bars **64** separating the slots **61** of guide frame **60**. The index strip receiving member **59** is further provided at its rearward edge with rearwardly extending anchoring or securing fingers **65** respectively aligned with the slots **61** centrally thereof. Member **59** is provided at each end thereof with two spaced tabs **66** of proper size to fit tightly in notches **57** of the mounting brackets **42** and **48**, with the ends of member **59** between the tabs **66** seating against the inner faces of the brackets. After the tabs **66** have been forced into the notches **57**, the sides of the notches may be peened over to lock the tabs in position, the brackets **42** and **48** being then secured together by means of the index strip receiving member **59**. Preferably the brackets **42** and **48** are also secured together by a cross rod **67** extending therebetween with its end portions reduced to provide studs passing through the brackets with their outer ends riveted over for securing the brackets together in spaced relation. Conveniently the index strip receiving and guide structure **58** is formed as a metal stamping and when assembled with the brackets **42** and **48** in the manner above described provides therewith a unitary structure which may readily be mounted on and removed from the plates **17** and **18** as conditions may require.

The cover panel **16** is provided with a plurality of observation openings **70** aligned transversely thereof and disposed a short distance above the inwardly offset element **32** of panel **16**, the lower or inner sides of the openings **70** being closed by a strip **71** of transparent plastic or other suitable material adhesively secured to the underside of panel **16**. The openings **70** are disposed respectively in the vertical planes of the index strip supports **33** associated with the respective printing segments **20**. Each of the supports **33** has associated therewith an index strip **72** of appropriate length preferably formed from a plastic known commercially as "Mylar" which possesses appreciable rigidity while being readily flexible. The upper or outer face of each strip has a series of characters or numbers ranging from zero to 9 and arranged on the strip in the same manner in which the printing characters are arranged on the type bar of the corresponding printing segment. The strip **72** is provided, at its forward end, with an opening **73** of a width to receive the channel element **35** of the strip support **33**. The distance from the lower edge of opening **73** to the lower edge of the strip **72** is the same as the

interior height of channel element 35. In attaching the strip 72 to the channel element 35 the normally lower end of strip 72 is inverted and is placed over channel element 35, after which the lower end 74 of strip 72 is pressed into channel element 35 so as to fit snugly therein and the strip is then led upward along the support 33, as will be clear from Figures 5 and 11. The lower end portion 74 of strip 72 cooperates with channel element 35 for restraining strip 72 against lengthwise movement in either direction relative to support 33, which is of importance in respect to accuracy in indicating the adjusted position of the associated printing segment 20. Further, the strip 72 may readily be detached from the support 33, for removal or replacement, as required, which is advantageous.

When the index strip receiving and guide structure or assembly 58 is mounted in operative position upon the frame side plates 17 and 18, the strip guide frame 60 extends forward in underlying relation to the openings 70 and the strip receiving member 59 is spaced a short distance below panel 16, as shown in Figure 5. Each of the index strips 72 is led upward over the corresponding support 33 and through the corresponding slot 61 in guide frame 60, the excess length of the strip being coiled about member 59 and cross rod 67 and the rearward end of the strip being attached to member 59 by inserting opening 77 at that end over one of the securing fingers 65. The strip 72 is of substantially greater length than the maximum distance between finger 65 and channel element 35 so that when the corresponding segment 20 is in its extreme downward and forward position shown in Figure 5, the excess length of the strip remains coiled about the member 59 and rod 67, as shown. In that connection, the strip 72 possesses appreciable rigidity while being readily flexible and resilient. The portion of the strip coiled about member 59 and cross rod 67, due to its elasticity or resiliency, functions in the manner of a coil spring to hold the strip 72 under desirable lengthwise tension sufficient to assure that when the printing segment 20 is turned upward and rearward, in counterclockwise direction as viewed in Figure 5, any slack in the strip will be taken up and the additional length of the strip thus rendered available will also be disposed in coils about the member 59 and cross rod 67. That will be clear from Figure 6, in which the strip is shown coiled about member 59 and cross rod 67 when the corresponding segment has been moved to its extreme upward and rearward position.

Referring further to Figure 5, it will be noted that the strip 72 passes beneath cross bar 62 of guide frame 60 and thence downward beneath element 32 of panel 16 so as to be directly thereby onto the support 33 substantially tangent thereto in the downward and forward or clockwise movement of the printing segment 20. Likewise, when the printing segment 20 is turned in the opposite direction the strip 72 is moved rearward substantially tangent to support 33 so as to be coiled about the member 59 and cross rod 67 as above described, the element 32 of panel 16 preventing buckling of the strip, it being noted that element 32 is of but slight width so that strip 72 does not have objectionable rubbing contact of appreciable extent with any part of the checkwriter.

In Figure 1 it is assumed that the checkwriter is set to print a check in the amount of $39.00. It will be noted that the first four dollar segments have been moved downward and rearward beyond zero position, as indicated by the positions of the associated finger grips, the fifth dollar segment has been moved to position in which the number 3 is on the printing line of the machine, the sixth dollar segment has been moved to its uppermost position in which the number 9 is on the printing line, and the two cents segments have been moved downward and rearward to zero printing positions. The first four openings 70 are blank indicating that the corresponding printing segments are in non-printing position, the fifth

opening 70 displays the figure 3 corresponding to the setting of the fifth segment, the sixth opening displays the number 9 corresponding to the setting of the sixth segment and the seventh and eighth openings each display the zero character indicating that the two cents segments are set at zero printing position. The index strips 72 thus indicate accurately the setting of the respective printing segments and the openings 70 are disposed at the front upper portion of the checkwriter so as to be readily observed, thus reducing likelihood of error in setting of the checkwriter for printing a check for a desired amount.

Conveniently the panel 60 is provided with a front opening normally closed by a door 79 releasably secured closed in a known manner, and with a rear opening normally closed by a door 80 also releasably secured closed in a known manner. The doors 79 and 80, when opened, give access to the anchoring means at the ends of the strips whereby a strip may be removed or replaced as required. The panels 15 and 16 of the casing are removably mounted on the main frame of the machine, as above indicated, and upon removal thereof the strip receiving and guide assembly, including the mounting brackets 42 and 48, may readily be removed as a unit, and as readily replaced, as may be necessary or desired.

It will be understood that 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 checkwriter, a frame comprising spaced apart side plates, a casing enclosing said frame and having at its upper portion a plurality of observation openings spaced apart transversely thereof, a plurality of printing segments disposed below and forwardly of said openings and mounted for independent adjustment about a common substantially horizontal axis, each of said segments bearing a series of printing characters selectively disposable in a predetermined angular position about said axis by adjustment of said segment, a support carried by each of said segments extending therefrom upwardly toward said openings and substantially concentric with said axis, mounting brackets releasably secured to said side plates, a strip receiving member carried by said brackets extending between said plates in proximity to and in rear of said openings, a slotted guide frame extending forwardly from said receiving member and closed at its front by a cross bar, said brackets and strip receiving member and guide frame being removable as a unit from said side plates, and flexible index strips respectively releasably anchored at their forward ends to the forward ends of said supports and anchored at their rearward ends to said receiving member, each of said strips seating on and overlying the corresponding support and underlying one of said openings and having on its upper face characters similar to those of the corresponding printing segment and disposed to be exposed through the corresponding opening and to indicate the character of the segment disposed in said predetermined angular position, the respective index strips being resilient and of a length materially greater than the maximum distance between said receiving member and the forward end of the corresponding support and the excess length of the strip being coiled loosely about said receiving member providing a coiled spring element effective for maintaining the strip under lengthwise tension in the adjustment of the corresponding printing segment, said cross bar being disposed to direct said strips onto the respective supports substantially tangentially thereof during downward and forward movement of the respective segments.

2. In a checkwriter, a casing having an observation opening, a printing segment disposed below and forwardly of said opening and adjustable about a substantially

horizontal axis, said segment bearing a series of printing characters selectively disposable in printing position by adjustment of said segment, an arcuate support carried by said segment extending therefrom upwardly toward said opening and substantially concentric with said axis, and a resilient and flexible index strip overlying and seating on said support and underlying said opening, said strip being bent about said segment conformably to the arcuate curvature thereof and thereby placed under transverse tension in the adjustment of said segment, said support having at its leading end a transverse channel element opening toward said axis and said strip having an opening space from its forward end a distance equal to the interior height of said channel element, the forward end portion of said strip beyond said opening fitting snugly between the flanges of said channel element and being urged inwardly of the latter by the inherent resiliency of the strip when it is bent about said support,

said forward end portion of said strip in cooperation with the flanges of said channel element restraining said strip against endwise movement in either direction relative to said support in the adjustment of said segment.

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