J. FELBEL.

TYPE WRITING MACHINE.

APPLICATION FILED JAN. 29, 1909.

946,118.

Patented Jan. 11, 1910.

2 SHEETS—SHEET 1.

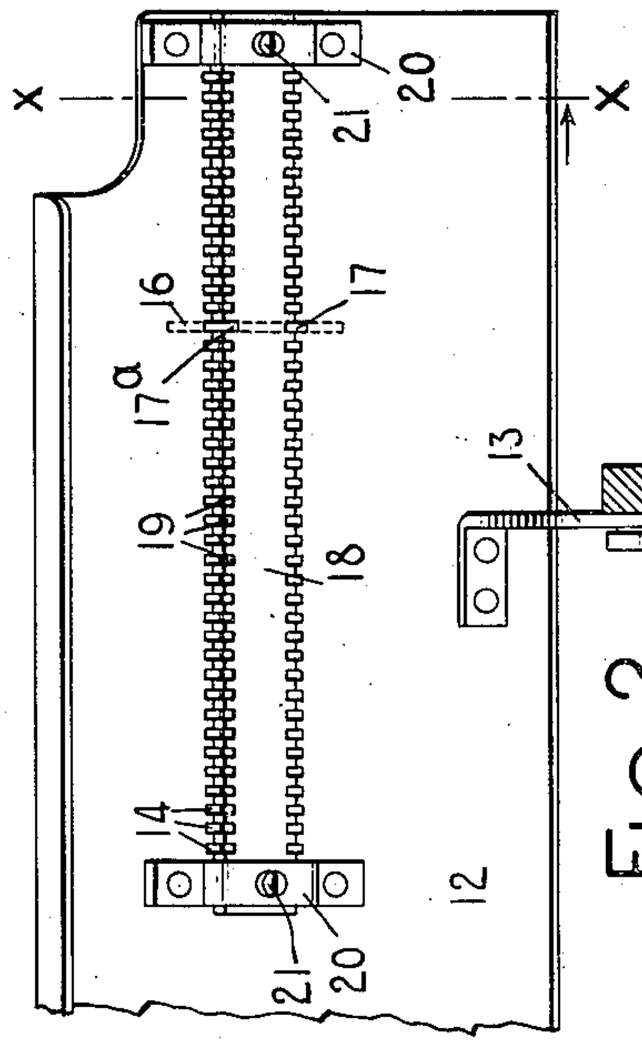

FIG. 2.

FIG. 4.

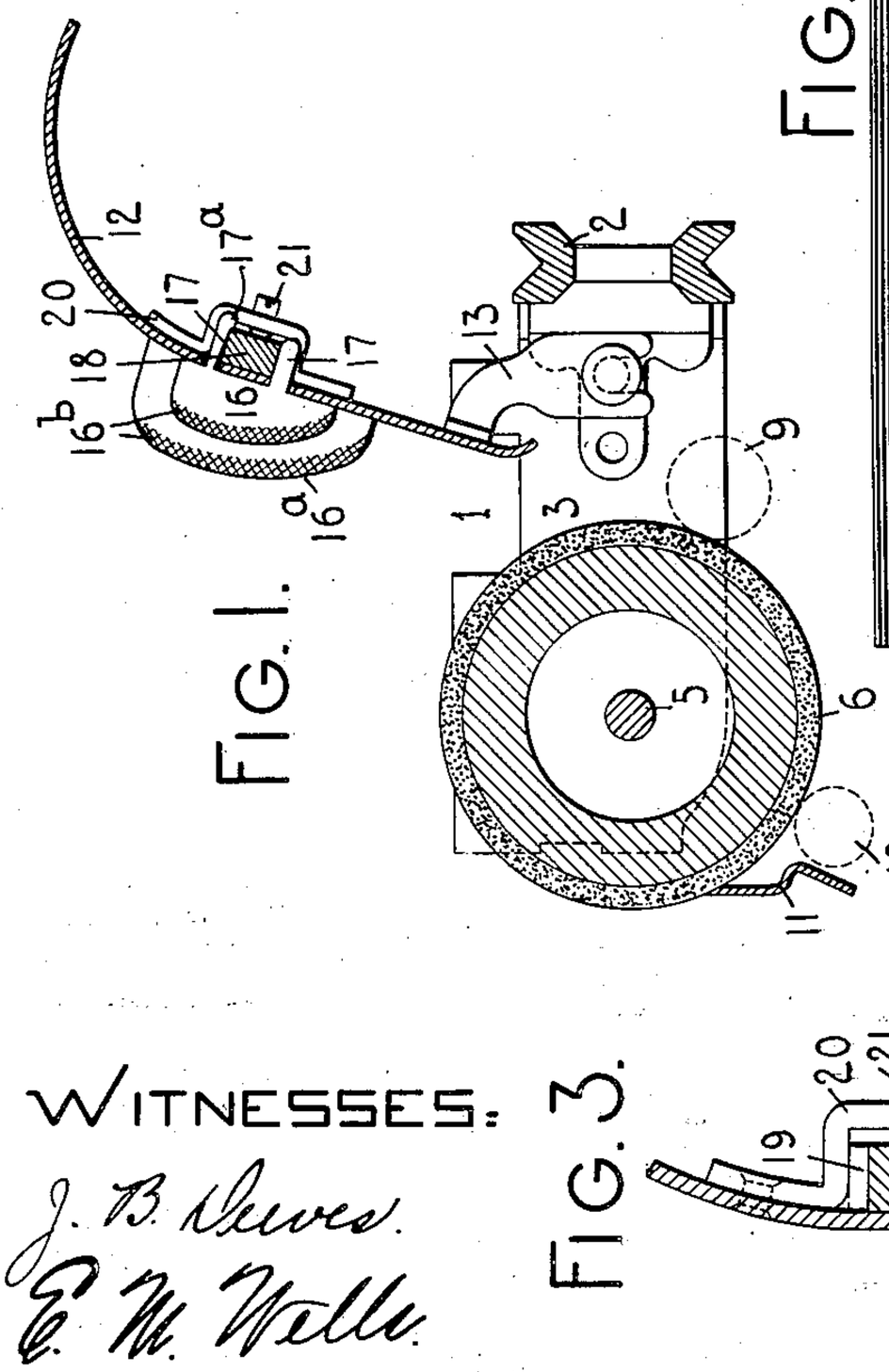

FIG. 1.

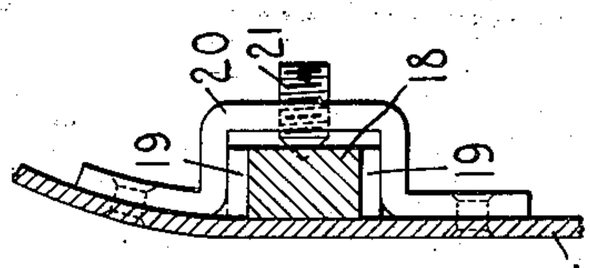

FIG. 3.

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E. M. Wells.

INVENTOR:

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J. FELBEL.

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2 SHEETS—SHEET 2.

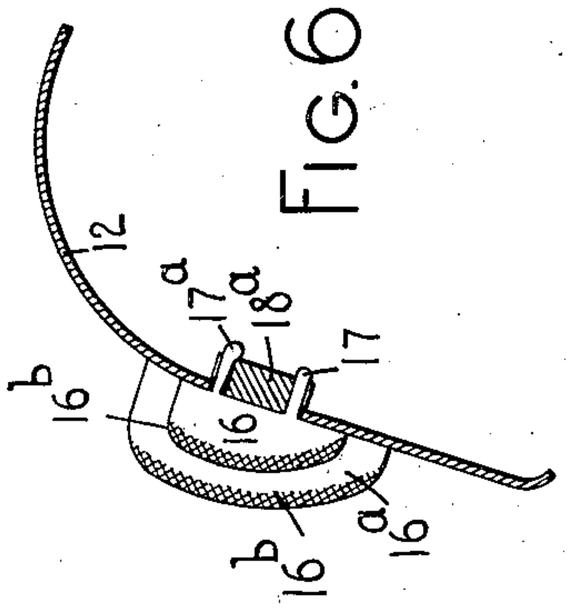

FIG. 6.

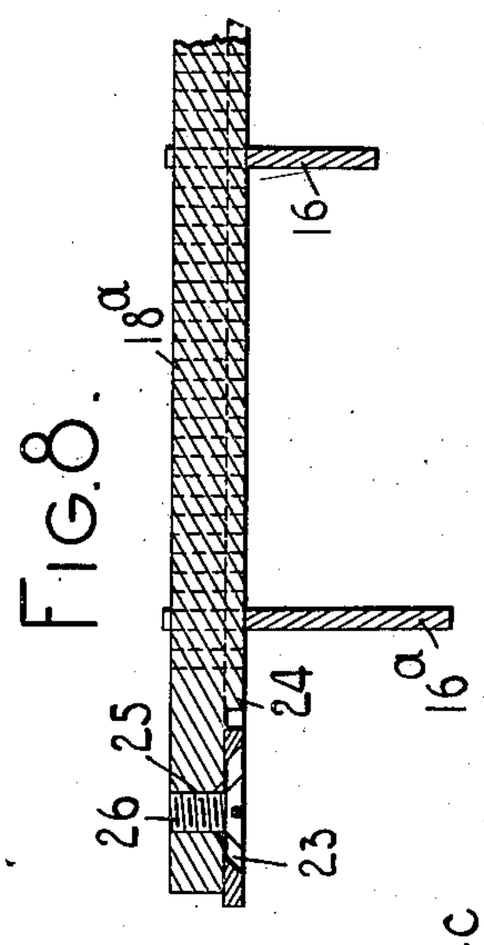

FIG. 8.

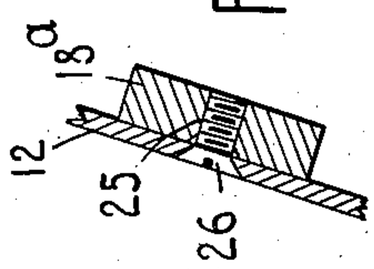

FIG. 7.

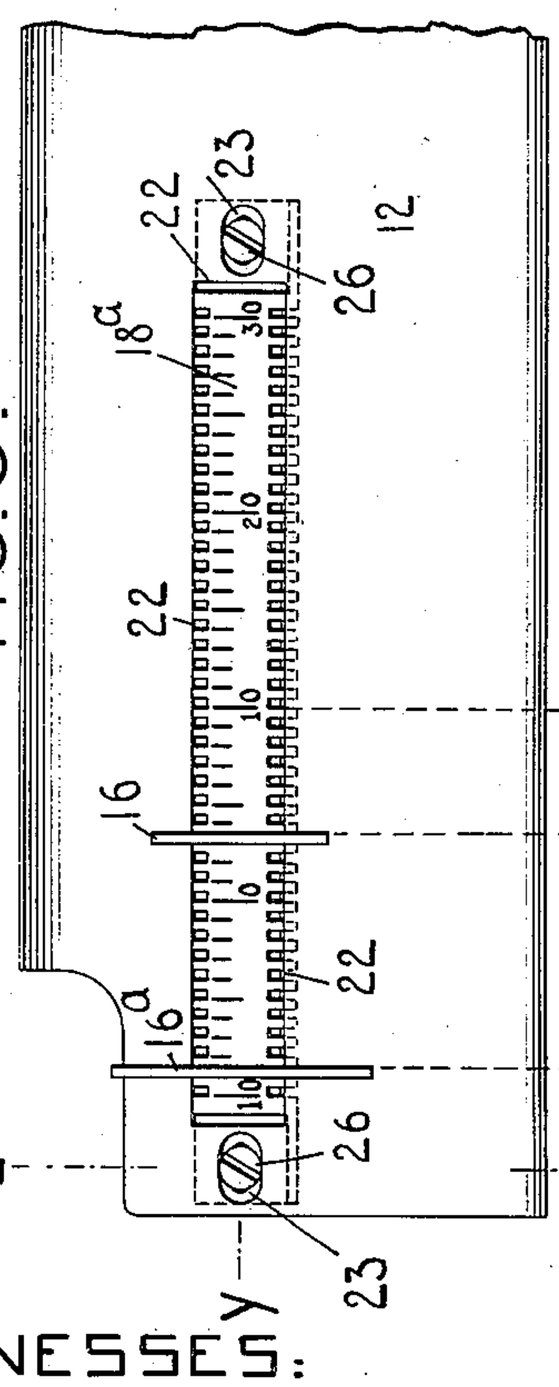

FIG. 5.

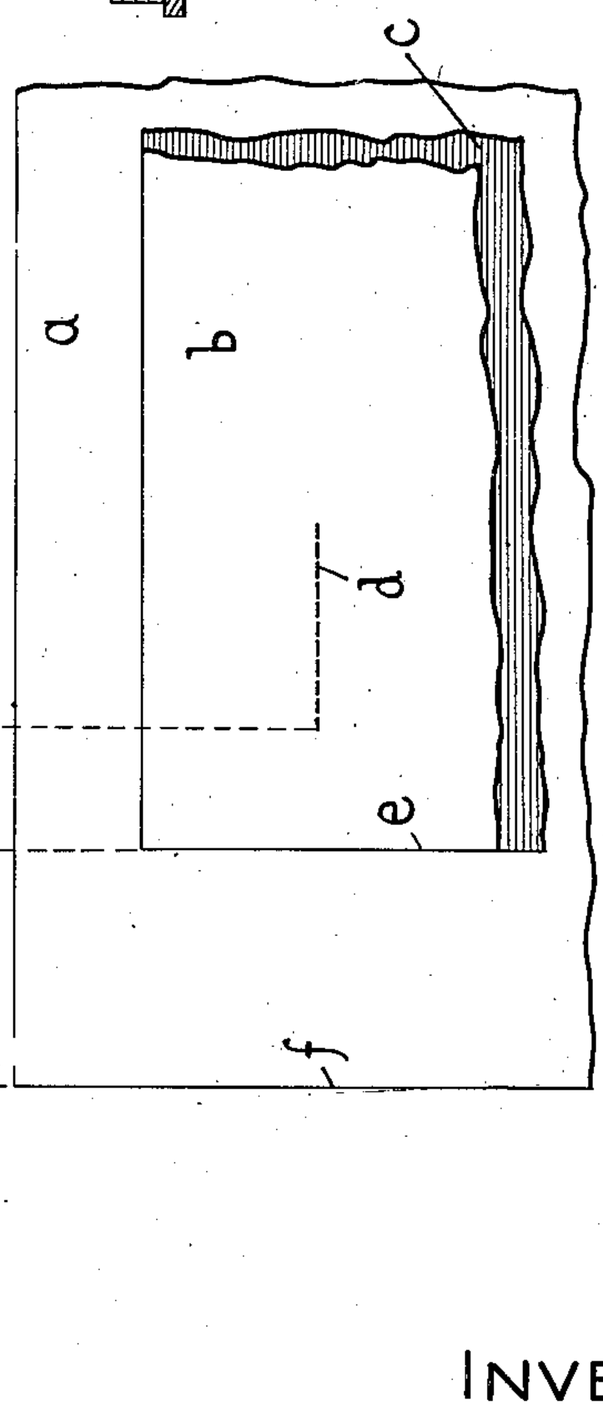

FIG. 9.

WITNESSES:

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UNITED STATES PATENT OFFICE.

JACOB FELBEL, OF NEW YORK, N. Y., ASSIGNOR TO UNION TYPEWRITER COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

946,118. Specification of Letters Patent. Patented Jan. 11, 1910.

Application filed January 29, 1909. Serial No. 474,944.

To all whom it may concern:

Be it known that I, JACOB FELBEL, citizen of the United States, and resident of the borough of Manhattan, city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to side edge paper guides of the general description set forth in my Patents Nos. 526,774, 574,144 and 610,390 dated respectively Oct. 2, 1894, Dec. 29, 1896 and Sept. 8, 1898, and has for its main object to provide for more extended and more exact use of such a device, as well as to provide for the use at the same time of a plurality of side edge guides in proximity one to the other and without interfering.

To these ends and others, which will appear hereinafter my invention consists in the various features of construction, combinations and arrangements of devices, all as will be more fully set forth and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a vertical central section of the carriage of a Monarch typewriting machine with my invention embodied therein. Fig. 2 is a rear elevation of part of the same. Fig. 3 is an enlarged vertical cross-section taken on the line *x x* of Fig. 2. Fig. 4 is a front elevation of the carriage shown at Fig. 1. Fig. 5 is a front elevation of the paper table showing my invention carried out in another form. Fig. 6 is a vertical cross-section of Fig. 5. Fig. 7 is a vertical cross-section taken at the line *z* of Fig. 5. Fig. 8 is an enlarged horizontal partial section taken on the line *y* of Fig. 5. Fig. 9 is a plan view to illustrate the placement and arrangement of the papers with reference to one another and to the guides and scales.

In the several views the same parts will be designated by the same numerals of reference.

While I have shown my invention as applied to a Monarch typewriting machine, it will of course be understood that said invention may be adapted to other styles or makes of typewriters.

The carriage is designated as an entirety by the numeral 1 and consists generally of the back bar 2 and side or end bars 3, 4. These end bars support as usual a platen shaft 5 and a cylindrical platen 6 adapted to be rotated either by a hand wheel or knob 7 or by line spacing devices, of which only the line space wheel 8 is shown.

9 and 10 are the usual feed rollers, and 11, the front platen scale employed in connection with the Monarch machine. The manner in which these devices are mounted or supported is so well known that it has not been deemed necessary to illustrate the same, nor does such mounting seem to require any further description herein.

The scale 11 is arranged just below the printing point on the platen and as will be understood, said scale travels with the platen across the machine. The length of the scale is generally substantially equal to that of the length of the platen. In the present instance a long platen is indicated, together with a scale representing 152 letter spaces, this being the length of line capable of being written.

Back of the platen is mounted the usual paper table 12 which may be supported by brackets 13 secured to the carriage 2 either detachably or otherwise. The paper table is formed or provided with a series of slots or openings 14 preferably made a letter space distance apart and equal in spacing to the graduations on the scale 11. These slots or openings are preferably graduated and marked scale-like from left to right, as indicated at 15. Moreover, these slots and their markings are made with reference particularly to the graduations of the scale 11. For example, it will be noted that the "0", "5", "10", "15", "20", "25" and "30" graduations of the scale 15 on the paper table correspond with the same markings on the scale 11; that is to say, they are all respectively in vertical alinement and hence the slots from "0" to "30" are in vertical planes registering with the graduations "0" to "30" on the platen scale 11. It will also be observed that there are ten slots 14^a in the paper table extending from naught or zero leftward, and that these slots or openings are graduated or marked reversely from the graduations 15, such graduations being denoted by the numeral 15^a. The slots 14^a

may be designated as margin slots, as will hereinafter more fully appear.

The several slots 14, 14ª are adapted to receive side edge guides 16 which may be of any desired construction and which may be held in place in any desired way. I have here shown a plate-like side edge guide with two integral tongues 17 which are adapted to pass through the said slots or openings in the paper table and to engage a slotted bar 18 secured on the rear side of the paper table with its slots 19 in register with the slots or openings in the paper table. As will be seen, the slots 19 are formed in alinement on the upper and lower sides of the bar 18 and receive the tongues 17 as they pass through the openings in the paper table, one of said tongues being preferably formed with a rounded or hook-like portion 17ª to engage the body of the bar with a spring-like action so as more securely to hold the guide 16 firmly in position.

The supporting bar 18 may be held in position in any suitable way. As shown, it is mounted in loops or brackets 20 riveted or otherwise fastened to the back of the paper table, the ends of said bar passing into said loops or brackets and being preferably held securely in position against endwise movement by screws 21. This mode of mounting the bar is desirable in that it admits of nice adjustments whereby the slots 19 therein may be made to register exactly with the slots or openings in the paper table or paper support 12.

The slots or openings 12 are preferably all arranged in a single row and in parallel planes lengthwise of the paper table and in consequence it will be observed that any number of side edge guides may be provided and employed at one time. This is often desirable in "billing" work where one side edge guide is needed for the sales or record sheet and another side edge guide for a bill or invoice sheet. Then again in the performance of more complicated billing it may be essential on occasions to have three or more guides.

In the use of my invention, suppose it be desired to begin the writing on the invoice and record sheets at a certain point on the platen scale and it also be desired to leave a certain left-hand margin on the record or sales sheet for binding or other purposes. This having been determined, the two stops are set accordingly. If, for example, it be desired to insert the invoice sheet with its left-hand edge in register with "3" on the platen scale, then a stop 16 is set at "3" on the paper table scale, and if it be desired to have a margin, say, of one inch on the record sheet beyond the edge of the invoice then a second stop 16ª is set in a slot 14ª one inch distant from the stop 16, all as indicated at Fig. 4. When the paper is inserted the record sheet is placed with its left-hand edge against the face of the stop 16ª and when the invoice sheet is inserted, its left-hand edge is placed against the face of the stop or guide 16. Thus the distance apart of the left-hand edges of the two sheets of paper is accurately mechanically determined and as each separate invoice is subsequently fed into the machine, using the stop 16 as a guide, it will have the same relation to the longer record sheet as all previous invoices and the margin finally produced on the record sheet will be uniform for its whole length. The margin on the invoice sheet will usually be determined by the setting of the customary right hand carriage margin stop, not shown. The operations of billing are so well-known that it is not believed to be necessary to describe them more in detail, nor to set forth at any greater length the operations of inserting and removing the paper.

While I have shown elongated rectangular transverse slots in the paper table, these openings may of course be made of any other suitable shape and the side edge guides 16 and 16ª may be constructed or formed in a manner suitable for such openings. Likewise, while I have shown the guides forked or provided with two tongues adapted to a slotted supporting bar, the said guides may be otherwise constructed and the supporting or holding means be other than the slotted or rack bar. Of course the guides themselves may be of any suitable shape and length. In practice I prefer to have the record sheet guides 16ª longer and wider than the invoice guides 16, as it facilitates the work, as I have found in practice.

It will be seen from the foregoing that the guides are adjustable lengthwise of the paper table and of the platen and are also detachable, a desirable feature since when the machine is not needed for billing purposes the guides may be removed entirely and the paper table left free for ordinary work. In the present case I have shown ten openings for the use of margins and thirty openings for the setting of the invoice sheets, but these openings may be fewer or greater than I have shown. Moreover while I have shown them only at the left-hand side of the paper table, they may be provided also at the right-hand side and in fact may extend entirely across the paper table.

It will be observed that the series of parallel slots or thin grooves in the paper table constitutes in effect a rack for holding the side edge guides. The rack 18 is employed in conjunction with said slots more particularly to provide a better hold for the guides and prevent side wabbling thereof, which

would be apt to occur if the bearing were not long enough. Hence the rack 18 may be considered as an extension of the rack formed by the slots 14 and 14ª, it being impracticable, or at least undesirable, to make the paper table itself thick enough for the purpose of firmly holding the guides. The slots or grooves in the racks constitute a plurality of means for holding the guides in a plurality of different positions.

Referring now to Fig. 5, it will be observed that the transverse slots or grooves 14 and 14ª, cut out of the paper table itself in Fig. 1, have been omitted, and that the rack 18ª alone is employed. For this purpose the paper table is slotted or cut out in the direction of its length, as indicated at 22, which cut-out or opening is long enough and wide enough to receive the rack bar 18, the face of which preferably lies flush with the face of the paper table as shown at Fig. 6, so as not to interfere in any wise with the top and bottom edges or the corners of the paper in feeding the same in or out of the machine. As will be observed, the rack bar 18ª is capable of slight endwise adjustment so that the graduations on its face may be made to register with the graduations on the platen scale with which it corresponds to the extent before explained in describing Fig. 4. This adjustment of the rack bar 18ª is provided for by making short slots 23 in the paper table and by making the face portion of the bar of slightly less length than the length of the opening 22 in the paper table. It will be seen at Figs. 5 and 6 that the rack bar is shouldered at 24 at the face portion, which is set into the slot 22 of the paper table, and that this shouldered portion 24 is not so long as the body or rear portion of the rack bar. At near the ends of the rack bar threaded holes 25 are provided for fastening screws 26, the shanks of which take into the threaded holes and the heads of which bear against the paper table. By this means the rack bar 18ª may be adjusted lengthwise to the extent permitted by the shoulders 24 and re-secured by the screws. Instead of this means of fastening any other suitable means may be employed, as for example, that shown at Fig. 3; or the rack 18ª may be provided with slots, as 23, instead of the paper table, and the paper table with a round counter-sink hole through which and through the slot in the rack bar may pass a short bolt whose threaded end extends slightly beyond the rear side of the rack bar where it may be provided with a clamping nut. However the rack bar be secured, I prefer that the securing means be flush with the paper table on the front side.

The guides 16 and 16ª are positioned in Fig. 5 the same as in Fig. 4 and are likewise provided with tongues 17 which enter grooves in the top and bottom of the rack bar 18ª, as in Fig. 1. The guides are preferably roughened or milled as at 16ª to facilitate their placement on and removal from the racks.

Referring now to Fig. 9, *a* represents the record sheet, *b* the invoice, and *c* the usually employed interposed carbon or duplicating sheet. From this view it will be noted that the left-hand edge of the record sheet alines with the guide 16ª and that the left-hand edges of the invoice and the carbon aline with the guide 16. The dotted line *d* represents the line of print and the distance at the left-hand end of this dotted line from the side edge *e* of the invoice represents the margin which the invoice will have, namely, a margin equal to seven letter spaces, the printing having been begun at 10 on the platen scale and on the correspondingly located scale provided for the margin guide 16. Again, the distance between the left-hand end to the dotted line *d* and the left-hand edge *f* of the record sheet represents the extent of margin that the record sheet will be provided with, in the example shown in Fig. 9.

It is obvious that various changes in detail construction and arrangement may be made without departing from the spirit of my invention.

What I claim as new and desire to secure by Letters Patent, is:—

1. In a typewriting machine, the combination with a paper table, of a plurality of separate means side by side adapted to hold a plurality of side edge guides.

2. In a typewriting machine, the combination with a paper table, of a plurality of means fixedly placed relatively to the letter spacing of the carriage and adapted to hold a plurality of side edge guides.

3. In a typewriting machine, the combination with a paper table, of a plurality of means arranged a letter space distance apart and adapted to hold a side edge guide detachably in any one of a plurality of positions.

4. In a typewriting machine, the combination with a paper table, of a slotted rack adapted to hold a side edge guide detachably in any one of a plurality of positions.

5. In a typewriting machine, the combination with a paper table, of a rack having grooves or slots arranged a letter space distance apart, and a detachable side edge guide adapted to be fitted to said rack at different letter space points on said rack.

6. In a typewriting machine, the combination of a slotted rack and a plurality of detachable and adjustable side edge guides.

7. In a typewriting machine, the combination of a rack having openings formed with reference to the letter spacing of the car-

riage and adapted to hold in a single row lengthwise of the platen a plurality of side edge guides.

8. In a typewriting machine, the combination of a paper table, and holding means arranged a letter space distance apart for holding a plurality of thin, detachable side edge guides in a single row lengthwise of the paper table.

9. In a typewriting machine, the combination of a slotted paper table, a rack fitted thereto, and one or more detachable and adjustable side edge guides.

10. In a typewriting machine, the combination of a paper table having a plurality of transverse slots, one or more side edge guides. and means on the paper table for holding the latter.

11. In a typewriting machine, a paper table having transverse openings arranged with reference to the letter spacing of the carriage and adapted to receive one or more side edge guides.

12. In a typewriting machine, a paper table having a plurality of transverse openings extending lengthwise thereof and arranged at a letter space distance apart and adapted to receive one or more side edge guides.

13. In a typewriting machine, the combination of a paper table having a series of transverse slots which extend in a row lengthwise of the paper table, and means fixed on the rear side of the paper table adapted to hold one or more side edge guides.

14. In a typewriting machine, the combination of a paper table, a rack thereon adapted to receive side edge guides, a scale for said rack, and a platen scale, graduations of the platen scale and the rack scale being arranged in register.

15. In a typewriting machine, the combination of a paper table, a rack thereon adapted to receive side edge guides, a scale for said rack, and a platen scale, the graduations of the platen scale and the rack scale being arranged in register and the rack scale having an additional set of graduations extending to the left to assist in determining the setting of one of the guides.

16. In a typewriting machine, a paper table having a slotted rack portion adapted to receive an invoice side edge guide, and a slotted rack portion adapted to receive a record sheet side edge guide.

17. In a typewriting machine, the combination of a paper table, a platen scale, and a slotted rack parallel therewith adapted to receive at varying points the side edge guide for an invoice sheet.

18. In a typewriting machine, the combination of a paper table, a platen scale, a slotted rack parallel therewith but extending leftward farther than said platen scale and adapted to receive both a side edge guide for an invoice sheet and a side edge guide for a record sheet.

19. In a typewriting machine, the combination of a paper table, a platen scale, a rack parallel with said table and said scale with grooves arranged in register with said platen scale, said rack having a marginal portion extending beyond the platen scale, an invoice side guide, and a record sheet side guide both adjustably mounted on said rack.

20. In a typewriting machine, the combination of a paper table, a rack, and a pair of side edge guides, one being of a larger size than the other.

21. In a typewriting machine, a paper table having a row of individual holding devices adapted to receive a plurality of detachable side edge guides.

22. In a typewriting machine, a slotted paper table provided with a side edge guide supporting bar fixed in register with said slot.

23. In a typewriting machine, a slotted paper table having a plurality of side edge guide-supporting means fixedly arranged back of the face of the paper table.

24. In a typewriting machine, a paper table cut out and provided with a fixed longitudinally arranged bar for supporting one or more adjustable side edge guides.

25. In a typewriting machine, the combination of a slotted paper table, a fixed guide-supporting bar in register with the slotted portion, and a side edge guide provided with means which extends through the slotted portion and engages said bar.

26. In a typewriting machine, the combination of a paper table, and a side edge guide-supporting bar adjustably mounted thereon.

27. In a typewriting machine, the combination of a paper table having a cut-out, and a side edge guide-supporting bar fitted to said cut-out and projecting in rear of said paper table.

28. In a typewriting machine, the combination of a paper table having a cut-out, and a side edge guide-supporting bar mounted on the back of said paper table.

29. In a typewriting machine, the combination of a paper table having a cut-out, and a side edge guide-supporting bar mounted adjustably on the back of said paper table.

30. In a typewriting machine, the combination of a paper table having a longitudinal slot, a side edge guide-supporting bar fixed to register with said slot and supported by said paper table.

31. In a typewriting machine, the combination of a paper table having a longitudinal slot, a shouldered rack bar fitted within said slot and having its face substantially

flush with the face of the paper table and having a body portion extending in rear of said paper table.

32. In a typewriting machine, the combination of a guide supporting bar arranged longitudinally of the platen, and a plurality of detachable and adjustable side edge guides, both arranged at the same end of the platen.

Signed at the borough of Manhattan, city of New York in the county of New York and State of New York this 28th day of January A. D. 1909.

JACOB FELBEL.

Witnesses:
CHARLES E. SMITH,
E. M. WELLS.