No. 784,376 PATENTED MAR. 7, 1905.

W. J. BARRON & H. W. MERRITT.

TYPE WRITING MACHINE.

APPLICATION FILED JUNE 3, 1902.

2 SHEETS—SHEET 1.

FIG. 3.

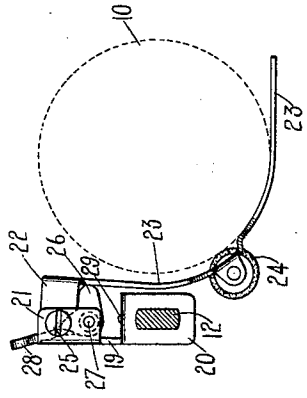


FIG. 2.

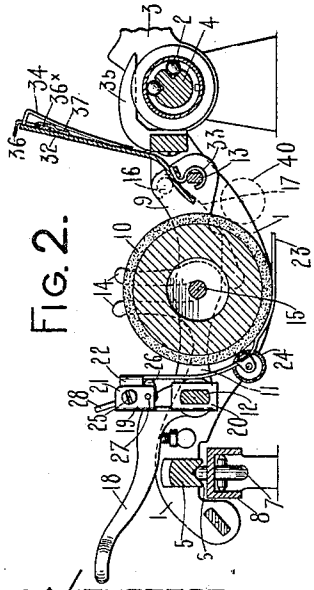


FIG. 4.

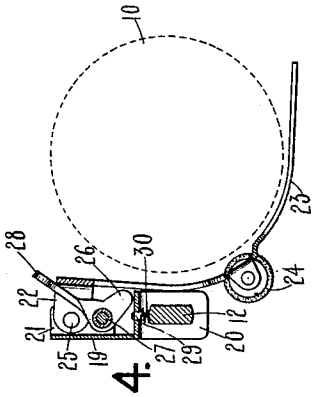
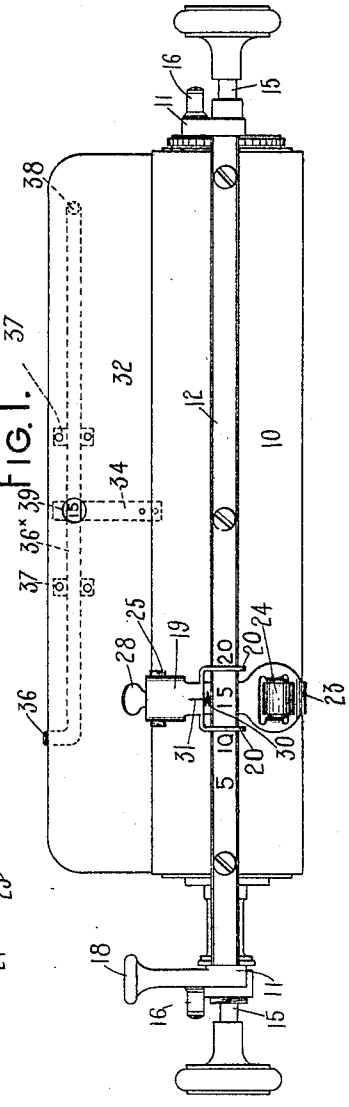


FIG. 1.



WITNESSES.

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TYPE WRITING MACHINE.

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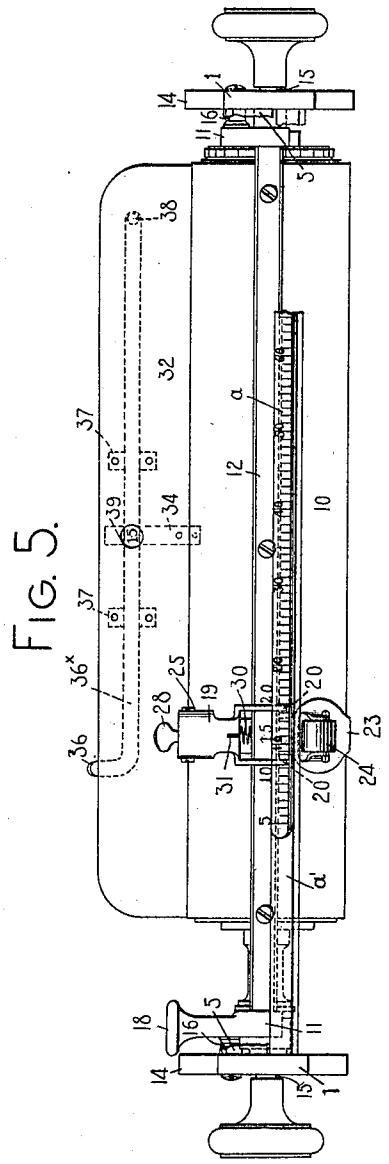
2 SHEETS—SHEET 2.

FIG. 5.



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No. 784,376. Patented March 7, 1905.

# UNITED STATES PATENT OFFICE.

WALTER J. BARRON, OF BROOKLYN, NEW YORK, AND HENRY W. MERRITT, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNORS TO DENSMORE TYPEWRITER COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

## TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 784,376, dated March 7, 1905.

Original application filed February 6, 1902, Serial No. 92,839. Divided and this application filed June 3, 1902. Serial No. 110,041.

*To all whom it may concern:*

Be it known that we, WALTER J. BARRON, a resident of the borough of Brooklyn, county of Kings, city of New York, and State of New York, and HENRY W. MERRITT, a resident of Springfield, county of Hampden, and State of Massachusetts, citizens of the United States, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This application is a division of our application, Serial No. 92,839, filed February 6, 1902.

Our invention relates to type-writing machines, and more particularly to paper feeding and guiding devices therefor; and the object of the invention is to provide simple and efficient devices of the character described.

To these and other ends, which will hereinafter appear, the invention consists in the construction, arrangements, and combinations of parts hereinafter described, and particularly pointed out in the appended claims.

In the accompanying drawings, wherein like reference characters designate corresponding parts in the various views, Figure 1 is a detail front view of the platen, platen-frame, and certain of the coöperating paper feeding and guiding devices constructed in accordance with our invention. Fig. 2 is a fragmentary transverse sectional view through the carriage. Fig. 3 is is a detail side view of one of the paper-feeding devices. Fig. 4 is a longitudinal sectional view of the same, showing the parts in different positions. Fig. 5 is a detail front elevation of the carriage and the platen-frame seated therein, with the bar 5 broken away.

We have shown our invention applied to the carriage of a Densmore type-writing machine; but obviously it or any of the separate features thereof may be applied to other characters of type-writing machines.

The carriage 1 is mounted to travel with the sleeve 2 and truck 3 on a traverse-rod 4, the forward rail or cross-bar 5 of the carriage being grooved at 6 on its under face for coöperation with the bearing-rollers 7, carried by the shift-rail 8, and by means of which the carriage, together with its platen-frame 9 and platen 10, are supported at the front of the machine and shifted transversely of the length of the platen for upper and lower case writing. The platen-frame comprises end bars 11, united by cross-bars 12 and 13, the latter at the rear and the former at the front of the frame. The carriage 1 has upright arms 14, the space between which constitutes slots in which the shaft 15 of the platen is seated and guided when the platen is turned to expose the writing. The platen-frame is provided with an outwardly-extending stud or roller 16 on each end bar 11, that bears on a cam track or guide 17 on each end of the carriage, so as to raise the platen-frame and platen as it is turned by the finger-piece 18, which is formed integral with the left-hand end bar 11 of the platen-frame.

Upon the front bar 12 of the platen-frame are mounted certain paper feeding and guiding devices, one on each end, but only one of which is shown, that being deemed sufficient to illustrate this feature of our invention. This paper feeding and guiding device comprises a frame 19, having downwardly-extending apertured ears 20 to receive the supporting-bar 12 and to permit the frame to slide longitudinally thereon. Extending from this frame are two right-angle rearwardly-projecting ears 21, that receive between them ears 22 on a curved paper guiding and feed finger 23 which may, if desired, be provided with a feed-roller 24 and a portion of it may conform substantially to the contour of the platen. The ears 22 are pivoted to the ears 21 at 25, and a cam-finger 26 is pivoted at 27 between the ears 21 and is provided with a finger-piece 28, by means of which the paper-finger and its feed-roller 24 may be held against the platen or the paper thereon by pressure, the finger 23 being made of springy or resilient sheet metal. When the cam 26 is in the position

shown in Fig. 3, the finger 23 and feed-roller will press against the paper. When, however, the finger-piece 28 is moved to the position represented in Fig. 4, the guiding-finger will be relieved of the pressure of the cam 26 and will drop away from the platen and will be ineffective to press against the paper.

Referring to Fig. 4, it will be seen that the horizontal portion of the frame 19 is provided with a stud 29, which receives a small spiral spring 30, that bears upon the supporting-bar 12, and the friction of said spring maintains the frame in any position to which it is moved along the bar.

From an examination of Figs. 1 and 5 it will be seen that the frame 19 is provided with an index-mark 31, which is adapted to register with certain numbers on the front side of the supporting-bar 12. These numbers or indices on the bar correspond to a plurality of letter-space distances and to certain of said indices on the carriage scale *a*, carried by a bar *a'*, that extends from side to side of the carriage 1. Thus, for instance, the distance between the numerals "5" and "10" on this bar corresponds to five letter-space distances and to the distance between the point "5" and "10" on the carriage-scale.

It will be observed that the free end of the paper-guiding finger extends rearwardly or past the under side of the platen on which the impressions are made, and care should be taken in adjusting this finger that when the carriage is at the right hand for the beginning of a line the said finger shall not lie to the right of the printing-point or coincide therewith, for if it should it will be seen that the types would strike the said finger either at the beginning of the printing operation or subsequently as soon as the finger reached the printing-point in the travel of the carriage toward the left, and such striking would of course be injurious to the types, besides leaving an unprinted space on the paper. To avoid this objection and to facilitate the adjustment of the finger while the platen-frame is down in the working position is the purpose of the set of numbers "5," "10," "15," and "20" on the bar "12" and of the index "31" on the paper-finger frame or support. In other words, it is desirable to set the paper-finger relatively to the position of the right-hand margin-stop of the machine. Thus, for instance, if the right-hand margin-stop be positioned at "10" (in order to start the writing at the left-hand side of the paper at "10") the paper-finger support should be moved along the bar 12 until its indicating-point 31 is brought into register with the numeral "10" on the bar, when the parts will bear such relation one to another that the paper-finger will be on the left-hand side of the printing-point when the paper-carriage is pulled to the right and positioned at "10" on the carriage-scale *a*. It will be understood, of course, that if the carriage is to be positioned by the margin-stop at "15" or at "20" the paper-finger is set either at "15" or "20" of the scale on the front bar "12."

While we have shown the scale on the bar 12 as formed in periods of five and which we have found is sufficient in practice, there may, however, be provided graduations between the numbers "5" and "10" and "10" and "15" and "15" and "20," so as to enable finer adjustments of the paper-finger to be made with reference to such scale.

Upon reference to Fig. 2 of the drawings it will be seen that a paper-table 32 is provided near its lower edge with hooks 33, that partly surround the rear cross-bar 13 of the platen-frame. This paper-table is provided with a sheet-metal strip 34, which is riveted to the table only at its lower end by flat or flush headed rivets. This strip 34 bears and rides against an arm 35, connected to the carriage 1, during the turning up and down movements of the platen-frame, the paper-table turning about its hinged rod 13 in said movements and being provided with the usual spring (not shown) for keeping the paper-table normally in contact with its back-stop and for restoring the paper-table to the normal position when the platen-frame is turned down to the working position.

The paper-table 32 is provided with an adjustable paper-guide 36, which constitutes an abutment for the left-hand edge of the paper. This paper-guide 36 is preferably formed integral with the bar $36^{\times}$, which extends lengthwise of the table and is freely movable in guideways 37, attached to the table, and a suitable stop or projection 38 is provided on the right-hand end of this bar to prevent its withdrawal from the guideways 37. The bar itself is placed on the back of the paper-table, so as not to interfere with the paper; but the guide 36, carried thereby, extends forwardly and projects over the top edge of and at an angle to the plane of the paper-table, as indicated in Fig. 2. The bar $36^{\times}$ is provided on its front face with a scale or with numbers corresponding to the scale or numbers on the front bar 12 of the platen-frame, and said scale or numbers may be read through a sight hole or opening 39, formed in the paper-table and with which the numbers are adapted to be brought into register. The relation of the numbers on the bar $36^{\times}$ with their sight-opening 39 and their relation to the numbers on the supporting-bar 12 are such that the paper-finger 23 will be brought into substantial transverse alinement with the guide 36 when a given number on the bar $36^{\times}$ is brought to the sight-hole and the paper-finger frame 19 is adjusted on the bar 12 to a like number—that is to say, if the paper-guide 36 is adjusted relatively to the paper-table so that the number "15" on the bar shows at the sight-hole and the paper-finger-supporting frame

19 be adjusted on the bar 12 so that the index-mark 31 registers with the number "15" on the bar 12 then the paper-finger 23 will be in proper position to receive the paper and guide it around the platen if the paper be started in around the platen with its left-hand edge against the guide 35. In practice the relationship of the scales on the bars 12 and 36× and the sight-hole 39 and index 31 are such that when the former have been adjusted to a given number on both scales the paper-finger 23 will stand slightly to the right of a vertical plane passing transversely through the platen and the guide-finger 36, so as to insure the proper engagement of the paper-finger and its roller 24 with the left-hand marginal portion of the paper. By the use of the guide 36 successive sheets in a given piece of work may be so positioned on the platen that all of such sheets will have exactly the same width of margin at the left-hand sides of the printed sheets. The usual feed-rollers (indicated in dotted lines at 40 in Fig. 2 of the drawings) may be provided to coöperate with the platen in feeding the paper.

From the foregoing description it will be understood that simple and efficient means are provided which can be readily adjusted to cooperate with sheets of various widths to accurately and efficiently feed and guide the sheets.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a type-writing machine, the combination of a paper-carriage, a carriage-scale, a supporting-bar carried in front of the platen and extending substantially throughout the length thereof, a scale on said bar, the spacing between the indices on which correspond to the carriage-scale, and one or more paper-guides carried by and adjustable lengthwise on said supporting-bar.

2. In a type-writing machine, the combination of a carriage and carriage-scale, a platen-frame adapted to swing in said carriage, a supporting-bar carried by the platen-frame in front of the platen and extending substantially throughout the length thereof, indices on said bar, the spacing between the indices on which correspond to the spacing between like indices on the carriage-scale, a paper-guide carried by and adjustable lengthwise on said supporting-bar, and pivoted means for moving said guide toward and away from the platen and for retaining it in either of said positions.

3. In a type-writing machine, the combination of a paper-carriage and carriage-scale, a supporting-bar carried in front of the platen and extending substantially throughout the length thereof, indices on said bar, the spacing between the indices on which correspond to the spacing between like indices on the carriage-scale, a paper-guide carried by and adjustable lengthwise on said supporting-bar, frictional means for maintaining said guide in its adjusted position along said rod, and means for moving said guide toward and away from the platen and for retaining it in either of said positions.

4. In a type-writing machine, the combination of a platen, a paper-carriage, a supporting-bar carried by said carriage, a paper-guide support movable along said bar, a paper guiding finger that conforms in part to the contour of the platen pivoted to said support, a hand-operated device pivoted to the support and operable to effect a movement of said guiding-finger toward and away from the platen and to effect a maintenance thereof in either of said positions, and a spring interposed between the support and bar to maintain the support in its adjusted position on said bar.

5. In a type-writing machine, the combination of a paper-carriage, a paper-table carried thereby, and a paper-guide which is carried by said table and is adjustable thereon in the direction of the length of the platen, said guide comprising a longitudinally-movable bar with a guiding-finger thereon that is adapted to project over the top edge and beyond the face of the paper-table and at an angle to the plane thereof, so as to constitute a guiding-abutment for one side edge of the paper.

6. In a type-writing machine, the combination of a paper-carriage, a paper-table carried thereby, a paper-guide which is carried by said table and is adjustable thereon in the direction of the length of the platen, said guide comprising a longitudinally-movable bar with a guiding-finger thereon that is adapted to project over the top edge and beyond the face of the paper-table and at an angle to the plane thereof so as to constitute a guiding-abutment for one side edge of the paper, a scale on said bar operating at an indicating-point to determine the proper adjustment of the paper-guide.

7. In a type-writing machine, the combination of a paper-carriage, a paper-table carried thereby and having an indicating-opening therein, a paper-guide which is carried by said table and is adjustable thereon in the direction of the length of the platen, said guide comprising a longitudinally-movable bar carried at the rear of the paper-table so as not to interfere with the feed of the paper and which is provided with a guiding-finger thereon that is adapted to project from the face of the paper-table and at an angle to the plane thereof so as to constitute a guiding-abutment for one side edge of the paper, and a scale on said bar, the indices on said scale being adapted to register with the indicating-opening in the paper-table to determine the proper adjustment of the paper-guide.

8. In a type-writing machine, the combination of a platen, a paper feeding or guiding device which is adjustable longitudinally of the platen, indices for said device, an independent paper-edge guide which constitutes

an abutment for one side edge of the paper, and which is adjustable longitudinally of the platen, and indices for said edge guide.

9. In a type-writing machine, the combination of a platen, a paper feeding or guiding device which is adjustable longitudinally of the platen, indices for said device, an independent paper-edge guide which constitutes an abutment for one side edge of the paper and which is adjustable longitudinally of the platen, and indices for said edge guide, both sets of said indices corresponding, whereby when both guides are adjusted to the corresponding index-points, the guides will be moved to positions where they will coöperate one with the other.

10. In a type-writing machine, the combination of a platen, a paper feeding or guiding device, a portion of which conforms substantially to the contour of the platen and which is adjustable and coöperates therewith, indices for said device, an independent paper-edge guide which constitutes an abutment for one side edge of the paper and which is adjustable longitudinally of the platen, and indices for said edge guide, both sets of said indices corresponding and being so related to their coöperating guides that when both guides are adjusted to the corresponding index-points, the guides will be moved to positions where they will coöperate one with the other.

11. In a type-writing machine, the combination of a platen-carriage, a paper-table carried thereby, a paper-guide carried by said paper-table and which is adjustable in the direction of the length of the platen, a second paper-guide which is adjustable in the direction of the length of the platen and coöperates with the platen and with the first-mentioned guide, and means for determining when said paper-guides are in coöperative relation.

12. In a type-writing machine, the combination of a platen-carriage, a paper-table carried thereby, a paper-edge guide carried by said paper-table and which is adjustable in the direction of the length of the platen, said guide constituting an abutment for one side edge of the paper, a paper-guide which is adjustable in the direction of the length of the platen and coöperates with the platen, and indicating means for determining the position of said guides one with relation to the other.

13. In a type-writing machine, the combination of a platen-carriage, a paper-table carried thereby, a paper-edge guide carried by said paper-table and which is adjustable in the direction of the length of the platen, a paper-guide, a portion of which conforms substantially to the contour of the platen and which is adjustable longitudinally of the platen and coöperates therewith, and indicating mechanism for indicating the position of said guides one with relation to the other and to the platen.

Signed in the borough of Manhattan, city of New York, in the county of New York and State of New York, this 2d day of June, A. D. 1902.

WALTER J. BARRON.
HENRY W. MERRITT.

Witnesses:
K. V. DONOVAN,
E. M. WELLS.