No. 776,017. PATENTED NOV. 29, 1904.

J. FELBEL.

TYPE WRITING MACHINE.

APPLICATION FILED JUNE 18, 1904.

NO MODEL.

FIG. 2.

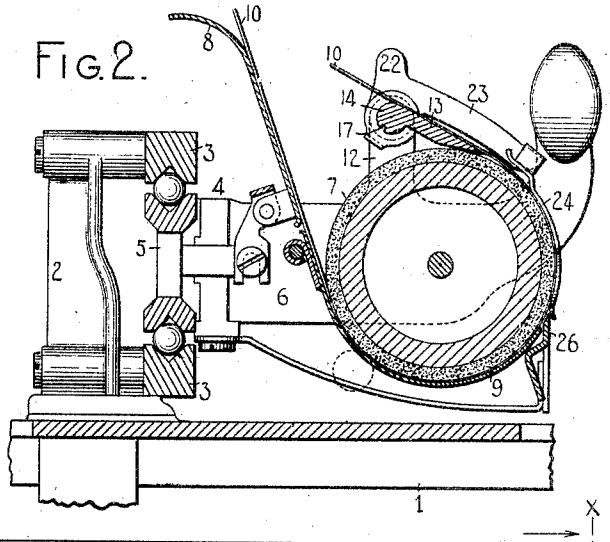


FIG. 3.

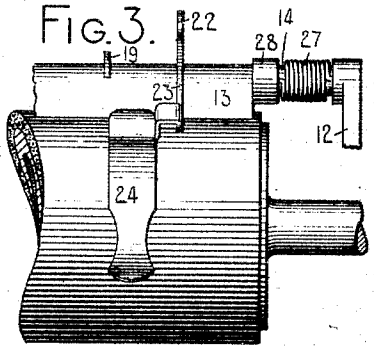


FIG. 1.

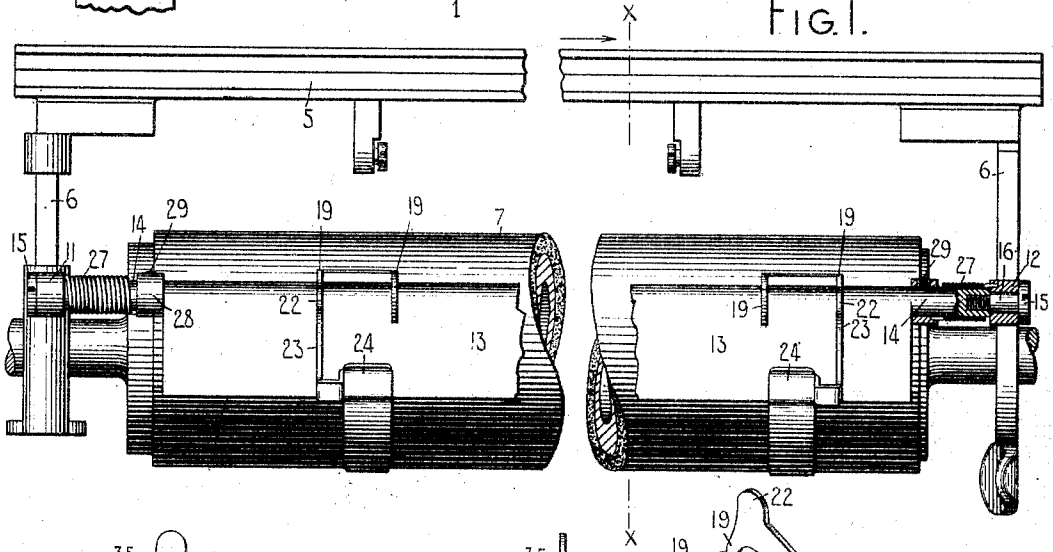


FIG. 5.

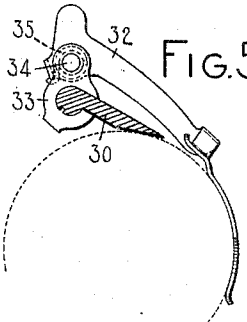


FIG. 6.

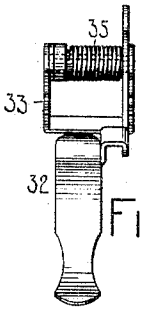
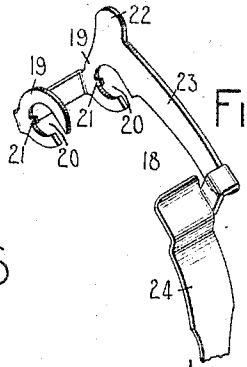


FIG. 4.



WITNESSES:

E. M. Wells.

M. F. Hammeke.

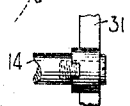


FIG. 8.

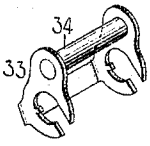


FIG. 7.

INVENTOR.

Jacob Felbel

No. 776,017. Patented November 29, 1904.

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.

SPECIFICATION forming part of Letters Patent No. 776,017, dated November 29, 1904.

Application filed June 18, 1904. Serial No. 213,171. (No model.)

To all whom it may concern:

Be it known that I, JACOB FELBEL, a citizen of the United States, and a 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.

This invention relates to type-writing machines; and my main objects are to provide a base or support for the paper on which erasures or corrections may be made conveniently and also to utilize said base as a mounting for the means for guiding and feeding the paper.

To these and other ends, which will subsequently appear, the invention consists in certain features of construction and combinations of devices, all as will be hereinafter more fully described, and particularly pointed out in the concluding claims.

The invention is shown as embodied in the Monarch type-writing machine; but it is to be understood that it may be adapted to other forms of writing-machines.

In the accompanying drawings, Figure 1 is a fragmentary top plan view of the platen and platen-frame of a type-writing machine and showing my improvements embodied therein. Fig. 2 is a sectional side elevation taken on the line *x x* of Fig. 1. Fig. 3 is a fragmentary front elevation of the right-hand end of the platen. Fig. 4 is a fragmentary perspective view of the right-hand marginal paper-finger. Fig. 5 is a fragmentary sectional side elevation of a modification of the invention. Fig. 6 is a front view of the marginal paper-finger and its bearing employed in connection with the modified construction shown in Fig. 5. Fig. 7 is a perspective view of the support of the marginal paper-finger shown in Figs. 5 and 6. Fig. 8 is a view illustrating the method of mounting the erasing-plate shown in Fig. 5.

In the drawings, 1 is the top plate of the machine, and 2 one of the posts for the guiding and supporting rails 3 of the platen-carrier 4, the back bar 5 of which coöperates with the rails 3 through roller-bearings and the side bars 6 of which furnish bearings for the platen 7. The paper-table 8 and paper-apron 9 sustain and guide the paper 10 as it is introduced into and fed through the machine. The side bars of the platen-frame are provided with standards or lugs 11 and 12, which serve as bearings for an erasing table or shelf, which consists of a bar, plate, or blade 13, extending substantially the length of the platen, and of a rod or shaft-like portion 14, the ends of which extend beyond the blade and are formed with holes which are tapped to receive shouldered screws 15, Fig. 1. The shouldered portions 16 of the screws 15 pass through and bear in perforations in the lugs or standards 11 and 12, and the screws are screwed tightly into the ends of the shaft-like portion 14 of the erasing plate or shelf, the shouldered portions 16 of the screws serving as pivots for and the heads of the screws preventing longitudinal motion of the erasing-shelf. The shaft-like portion 14 of the erasing plate or shelf has a groove 17 formed lengthwise on its under side, and the side or marginal paper-fingers 18 (the bearing portions 19 of which are cut away at 20, forming C-shaped hubs, in order that they may fit around or partially embrace the rear edge portion of the erasing plate or shelf) are formed or provided with tongues or lugs 21, which fit into the groove 17. The paper-fingers each comprise a thumb-piece 22, an arm 23, which extends forwardly over the erasing-plate, and a paper-guiding portion 24, which is offset from the arm 23 and conforms substantially to the surface of the platen. By means of the thumb-piece 22 the paper-fingers may be slid lengthwise of the platen to any desired position. The erasing-plate may be graduated or marked to correspond in position with the graduations of the front platen-scale 26 to facilitate the positioning of the paper-fingers, although this is not essential. The tongue-and-groove connection between the paper-fingers and the erasing-plate prevents any alteration of the relations between the parts other than an adjustment of the paper-fingers longitudinally of the erasing-plate.

Surrounding each end of the shaft-like por-

tion 14 of the erasing-plate is a spiral spring 27. The outer end of each spring is held in the lugs or standards 11 and 12, and the inner ends of the said springs are confined in collars 28, which are fixed upon the shaft-like portion 14 by means of set-screws 29. The tension of the spiral springs 27 forces the erasing-plate about its pivots 16 toward the platen, and this motion is participated in by the paper-fingers 18, which are mounted on the erasing-plate or on its rod or shaft. This motion is limited by the contact of the paper-guiding portions 24 of said fingers with the surface of the platen or the paper thereon, and thus the paper-fingers are spring-pressed against the platen. The parts are so adjusted that when this contact occurs the forward edge of the blade-like portion of the erasing-table is in close proximity to the platen and the table as a whole is so disposed in relation to the platen that when the paper 10 is fed in and around with the latter it is guided by the paper-fingers up and over the erasing-table and its rod or shaft. The front edge of the table may at times act as a "stripper"—that is, as a means for separating the leading edge of the paper from the platen and guide it upwardly and rearwardly and prevent it from following the platen. The rear portion of the erasing-shelf is supported above the top of the platen, and the shelf itself inclines downwardly and forwardly in the general direction of the delivery ends of the guiding-fingers 24, as best seen in Figs. 2 and 5.

If at any time during the course of the writing it should be necessary to make an erasure or correction, the platen is turned in the usual manner until the desired place on the paper is brought over or upon the erasing-plate, which furnishes a firm and unyielding support for the paper while the erasure is being made and one which is exceedingly convenient for the operator.

In front-strike type-writing machines the rod or bar commonly employed for carrying the marginal paper-fingers is usually so disposed in relation to the platen as to make it difficult or quite inconvenient for the operator to make erasures or corrections on the platen. By my invention this ordinary form of bar is replaced by one which has a comparatively broad plate-like plane face, which serves the additional function of an erasing-table. It is arranged above and close to the platen and disposed at a convenient angle thereto, so that the paper as it is delivered from the marginal paper-fingers rests upon it. Little time or trouble is required for the operator to turn the platen so as to bring the desired place on the paper upon this erasing-table, and ample and unobstructed space is afforded thereon to make erasures. The erased particles of intermingled rubber, paper, ink, &c., instead of falling down upon the type-bar bearings, as they ordinarily tend to do when erasures are made against the front face of the platen, remain upon that part of the paper which is above the erasing plate or table and will naturally be brushed back and away from the type-bars by the operator before the paper is returned to the writing position. The use of this combined erasing-table and paper-finger support thus tends also to prevent clogging of the type-bar pivots.

In the modified form of the invention (shown in Figs. 5, 6, 7, and 8) the ends of the erasing-plate 30 are fixedly mounted in the platen-frame 31, as best appears in the last-named figure. The paper-finger 32 is spring-mounted in a separate support 33, which is slidably mounted upon the erasing-plate 30, with which it has a tongue-and-groove connection similar to that hitherto described. The erasing-plate and the support 33 are thus seen to be relatively fixed. The arm of the paper-finger device is pivotally mounted on the cross-bar 34 and is pressed toward the platen by the spring 35. In the construction previously described the erasing-plate and the paper-finger and its integral support are all pivotally mounted and spring-pressed.

It will be seen that the erasing-plate is so located and arranged that the paper need be moved but a short distance from the printing-point in order to make an erasure; that the erasing-plate is in the best possible position for making erasures and also for making pencil-notes on and for ruling the paper; that the erasing-plate serves to support the means for guiding the paper around the platen and also transmits pressure to the said means, by which pressure the paper is held against the platen; that the erasing-plate is supported wholly at its rear portion above the platen and is arranged about tangentially of the upper side of the latter; that the paper is fed into the machine over the paper-table and behind the erasing-plate and is fed out of the machine over the erasing-plate; that the means for guiding and holding the paper are supported at the rear of the erasing-plate and project forwardly over the same; that the guiding and holding means aforesaid are movable longitudinally of the platen over the erasing-plate, the latter being arranged between the platen and the supporting-arm of the paper-finger, and that the erasing-plate may also serve, when using tissue or other limp paper, which would tend to cling to and follow the platen, to separate or "strip" the paper from the platen after it passes the printing-point and cause it to pass over the erasing-plate, and thus out of the machine.

Various changes in construction and details of 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 type-writing machine, the combination of a platen and a relatively fixed erasing-

plate supported wholly at its rear portion, said erasing-plate being arranged above the platen and about tangentially of the upper side of the same.

2. In a type-writing machine, the combination of a cylindrical platen and an erasing-plate supported wholly at its rear portion, said erasing-plate being arranged over and contiguous to said platen and inclined forwardly and downwardly toward the same.

3. In a type-writing machine, the combination of a platen, a platen-frame and an erasing-plate supported at its rear portion in said platen-frame, said erasing-plate being arranged over and contiguous to the platen and about tangentially of the upper side of the same.

4. In a type-writing machine, the combination of a platen, a platen-frame and an erasing-plate supported at its rear portion in the side bars of said platen-frame, said erasing-plate being arranged above the platen and about tangentially of the upper side of the same and inclining forwardly and downwardly toward said platen, and having a fixed relation to the top side thereof.

5. In a type-writing machine, the combination of a cylindrical platen, a platen-frame, a paper-table and an erasing-plate supported at its rear portion in the side bars of said platen-frame, said erasing-plate being arranged above the platen and about tangentially of the upper side of the same, the paper being fed into the machine over said paper-table and behind said erasing-plate, and being fed out of the machine over said erasing-plate.

6. In a type-writing machine, the combination of a platen, an erasing-plate, and means for guiding the paper, said guiding means being supported at the rear of and projecting forwardly over said erasing-plate.

7. In a type-writing machine, the combination of a platen, an erasing-plate, and means for guiding the paper, said means projecting over said erasing-plate and being movable longitudinally of the platen over said erasing-plate.

8. In a type-writing machine, the combination of a platen, an erasing-plate, and means for holding and guiding the paper, said means projecting over said erasing-plate and being movable longitudinally of the platen over said erasing-plate.

9. In a type-writing machine, the combination of a platen, an erasing-plate, and a paper-finger comprising a supporting-arm and a guide, said erasing-plate being arranged between the platen and the arm of said paper-finger.

10. In a type-writing machine, the combination with a platen-carrier and a platen, of a cross-bar supported by the platen-carrier, and an erasing-table supported by the cross-bar, both the erasing-plate and the cross-bar being over the platen.

11. In a type-writing machine, the combination with a platen-carrier and a platen, of a cross-bar supported by the platen-carrier, paper-guiding devices supported by the cross-bar, and an erasing-table also supported by the cross-bar.

12. In a type-writing machine, the combination with a platen, of paper-fingers for directing the paper rearwardly over the platen, and an erasing-table relatively fixed over the platen and projecting toward and terminating in the vicinity of the delivery ends of said paper-fingers.

13. In a type-writing machine, the combination of a platen, an erasing-plate, and means for guiding the paper, said guiding means being mounted on said erasing-plate.

14. In a type-writing machine, the combination of a platen, an erasing-plate, and means for holding the paper, said holding means being mounted on said erasing-plate.

15. In a type-writing machine, the combination of a platen, an erasing-plate, and means for guiding and holding the paper, said guiding and holding means being mounted on said erasing-plate.

16. In a type-writing machine, the combination of a platen, an erasing-plate, and a paper-finger, said finger being mounted on said erasing-plate.

17. In a type-writing machine, the combination of a platen, an erasing-plate, and a slidable paper-finger, said finger being mounted to slide on said erasing-plate.

18. In a type-writing machine, the combination of a platen, a spring-pressed erasing-plate, means for holding the paper, and means for transmitting the spring-pressure of said erasing-plate to said holding means.

19. In a type-writing machine, the combination of a platen, a spring-pressed erasing-plate, and a paper-finger, said paper-finger being mounted on said erasing-plate, and the spring pressure of said plate being transmitted to said paper-finger.

20. In a type-writing machine, the combination of a platen, an erasing-plate provided with a longitudinal groove, and a paper-finger, said paper-finger extending over embracing said erasing-plate and being provided with a tongue which fits into the groove in the erasing-plate.

21. In a type-writing machine, the combination of a platen, paper feeding and guiding devices, and an erasing-plate fixedly mounted relatively to the platen; the combination and arrangement being such that the paper is fed to the platen from behind said erasing-plate and fed away from the platen in front of said erasing-plate.

22. In a type-writing machine, the combination of a cylindrical platen, paper feeding and guiding devices, a paper-table in rear of the platen, and an erasing-table over said platen and in front of said paper-table.

23. In a type-writing machine, the combination of a platen, a paper-table behind said platen, paper-feeding mechanism, paper-guiding means on the front side of said platen, and an erasing-table wholly supported in rear of said paper-guiding means and forward of said paper-table.

24. In a type-writing machine, the combination of a platen, a platen-frame and an erasing-plate mounted on said platen-frame, the paper being fed into the machine behind said erasing-plate and being fed out of the machine over said erasing-plate.

25. In a type-writing machine, the combination of a platen, a platen-frame, a paper-table and an erasing-plate mounted on said platen-frame, the paper being fed into the machine over said paper-table and behind said erasing-plate and being fed out of the machine over said erasing-plate.

26. In a type-writing machine, the combination of a cylindrical platen, a platen-frame, a paper-table, and an erasing-plate supported at its rear portion on said platen-frame, said erasing-plate being arranged above the platen and about tangentially of the upper side of the same, the paper being fed into the machine over said paper-table and behind said erasing-plate, and being fed out of the machine over said erasing-plate.

27. In a type-writing machine, the combination of a platen, an erasing-plate comprising a shaft-like portion and a blade-like portion, and a paper-finger mounted on said erasing-plate, said paper-finger having a hub-like part surrounding the shaft-like portion of the erasing-plate.

28. In a type-writing machine, the combination of a platen, a platen-frame, an erasing-plate mounted in said platen-frame and comprising a shaft-like portion and a blade-like portion, and a paper-finger mounted on said erasing-plate, said paper-finger having a C-shaped hub surrounding the shaft-like portion of the erasing-plate.

29. In a type-writing machine, the combination of a platen, a platen-frame, a paper-finger rod, a paper-finger having a hub or bearing surrounding said rod, and a suitably-mounted erasing-plate, said paper-finger being freely movable on said rod and over said plate.

30. In a type-writing machine, the combination of a platen, a platen-frame, a paper-finger rod mounted in said platen-frame, a paper-finger, and a suitably-mounted erasing-plate, said paper-finger being freely movable on said rod and over said plate.

Signed in the borough of Manhattan, city of New York, in the county of New York and State of New York, this 17th day of June, A. D. 1904.

JACOB FELBEL.

Witnesses:
E. M. WELLS,
M. F. HANNWEBER.