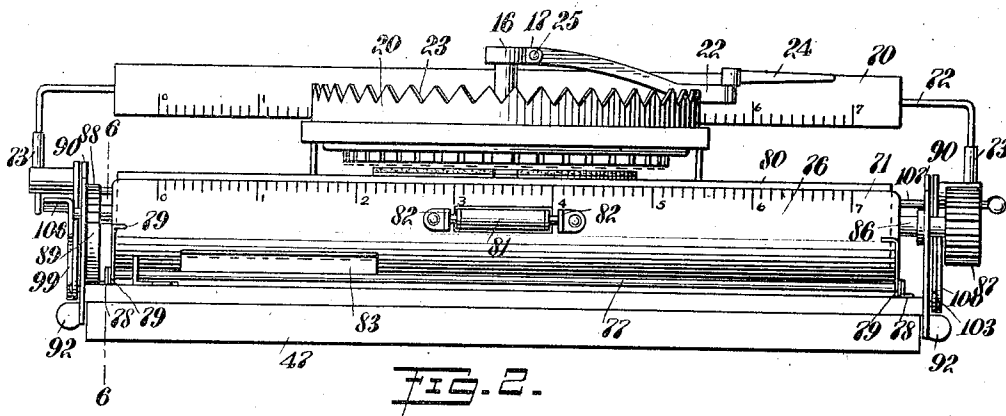
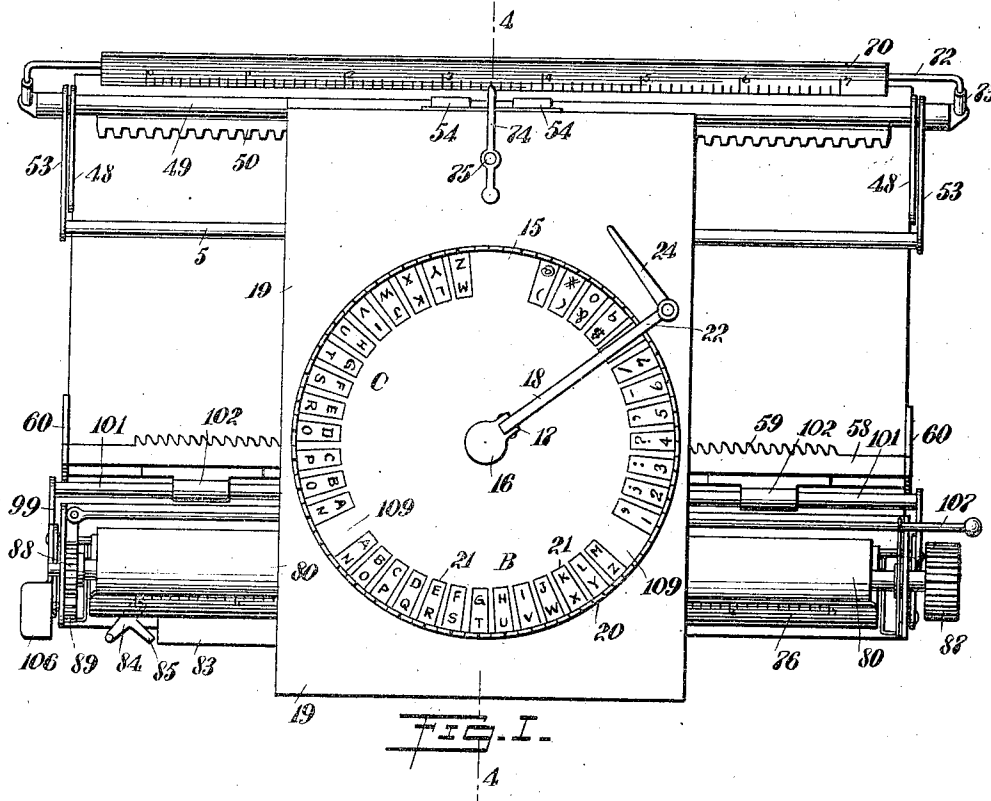


N. F. PETIT.
TYPE WRITING MACHINE.
APPLICATION FILED AUG. 24, 1909.

953,489.

Patented Mar. 29, 1910.

4 SHEET - SHEET 1.



WITNESSES

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4 SHEETS—SHEET 2.

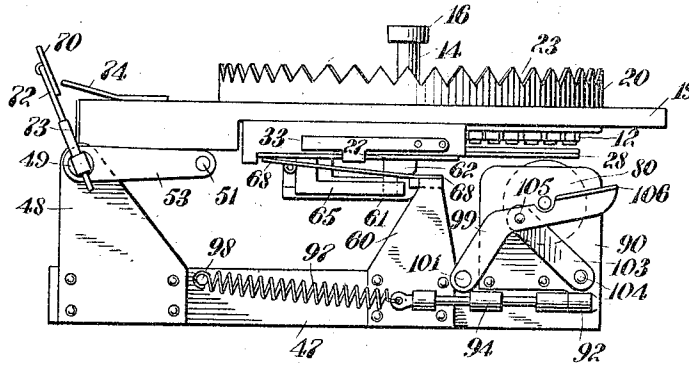


FIG. 3.

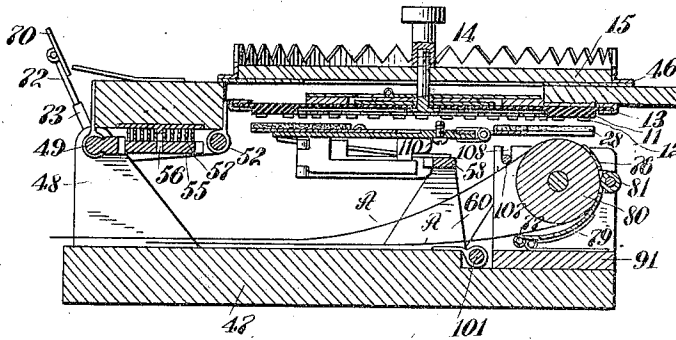


FIG. 4.

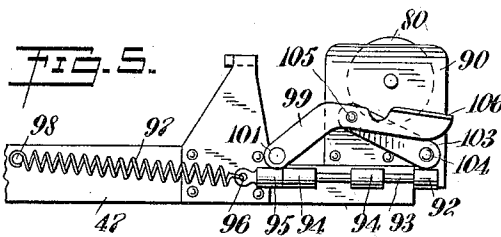


FIG. 5.

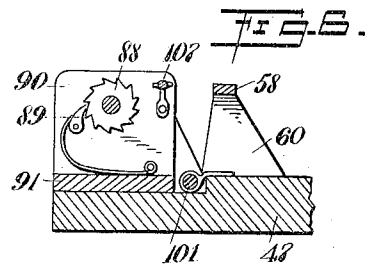


FIG. 6.

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953,489.

Patented Mar. 29, 1910.

4 SHEETS—SHEET 3.

FIG. 7.

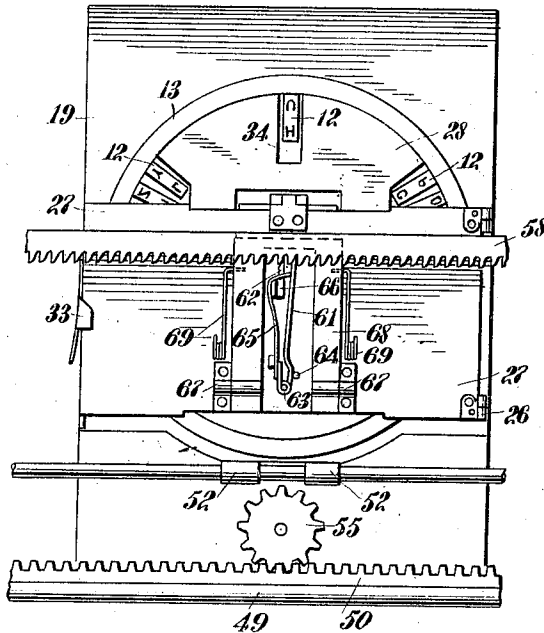


FIG. 10.

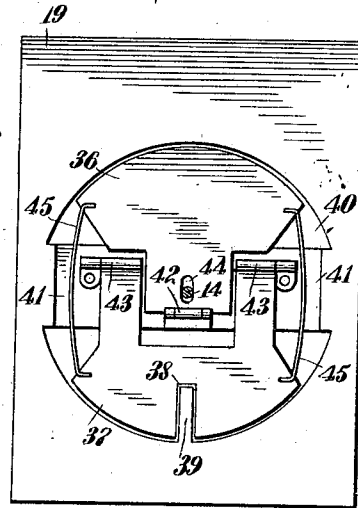


FIG. 8.

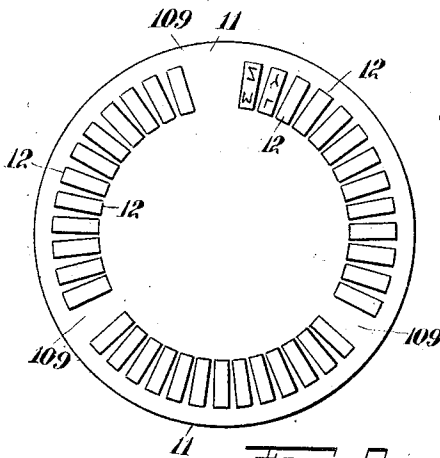
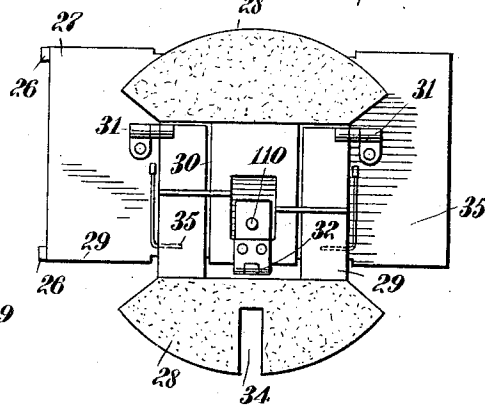


FIG. 9.

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4 SHEETS—SHEET 4.

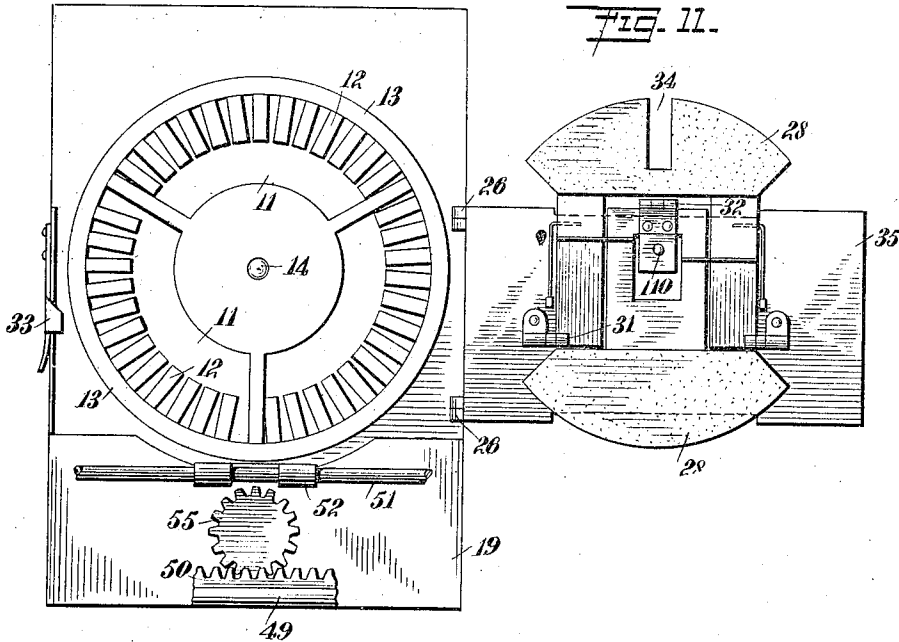


Fig. 12.

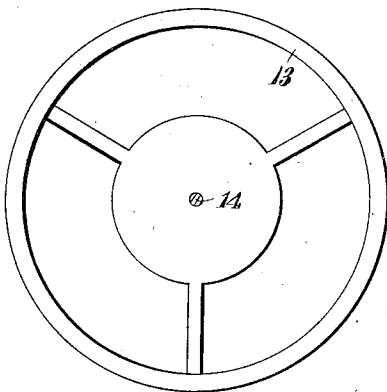
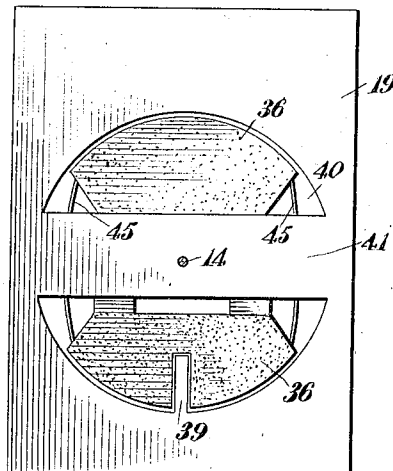


Fig. 13.



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UNITED STATES PATENT OFFICE.

NELZIRE FRANCIS PETIT, OF CHARLESTON, SOUTH CAROLINA.

TYPE-WRITING MACHINE.

953,489.

Specification of Letters Patent.

Patented Mar. 29, 1910.

Application filed August 24, 1909. Serial No. 514,363.

To all whom it may concern:

Be it known that I, NELZIRE FRANCIS PETIT, a citizen of the United States, and a resident of Charleston, in the county of Charleston and State of South Carolina, have invented a new and Improved Type-Writing Machine, of which the following is a full, clear, and exact description.

Among the principal objects which the present invention has in view are: to provide a construction to occupy a minimum of space; to provide an arrangement of type wherein a number of characters may be arranged to be employed; and to provide a portable typewriting machine which is simple, economical and durable in construction.

One embodiment of the present invention is disclosed in the structure illustrated in the accompanying drawings, in which like characters of reference denote corresponding parts in all the views, and in which—

Figure 1 is a plan view of a typewriting machine constructed in accordance with this invention; Fig. 2 is a front elevation of the same; Fig. 3 is a side elevation of the same; Fig. 4 is a vertical cross section taken on the line 4—4 in Fig. 1; Fig. 5 is a detail view in side elevation, of the carriage mounting and shifting mechanism connected thereto; Fig. 6 is a detail view in vertical section taken on the line 6—6 in Fig. 2, showing the spacing wheel of the carriage; Fig. 7 is a plan view of the type carriage as seen from beneath, the rack bar, propelling wheel, guide bar and spacing bar being shown in conjunction therewith, said bars being illustrated in a fragmentary manner; Fig. 8 is a top view of the inking pads; Fig. 9 is a face view of the type plate; Fig. 10 is a top view of the type pressure plates and printing frame, the selecting disk having been removed; Fig. 11 is a view of the underside of the type carriage, the same being raised from printing position and the inking pads being thrown back away from the type and in position to be inked; Fig. 12 is a view of the frame for the type disks, the said disks being removed therefrom; and Fig. 13 is a view of the under side of the carriage and the type pressure plates, the type disks having been removed and showing the reverse side of the construction illustrated in Fig. 10.

The particular class of writing machines to which the present invention most clearly belongs is that wherein the individual type are cast or formed upon an integral or

single plate. In the present construction the type are cast upon a circular disk 11 whereon are formed individual type pads 12, 12. The disk 11 is constructed preferably of flexible rubber, held within a suitable channeled metal ring 13. The disk or ring 13 is rigidly secured to a pivot post 14, which is extended upward through a selecting plate 15. The plate 15 is provided with one or more series of characters disposed substantially as shown in Fig. 1 of the drawings, to aid in selecting the various type characters on the type disk 11. To the post 14 is secured a head 16 having extended hinged wings 17, 17 to receive in hinged relation a selecting arm 18. The disk 11, pivot post 14, head 16 and arm 18, are fixedly connected. The various positions of the arm 18 on the disk 11, determine the character presented in position to print. By reason of this construction, when the arm 18 is rotated about the pivot 14 to locate the said arm 18 over any character on the plate 15, the character on the disk 11, corresponding with the character on the plate 15 over which the arm 18 is arrested, is then in printing position. The plate 15 is stationarily mounted upon a carriage 19, which, as illustrated, is a suitable platform or rest.

Surrounding the circle of characters on the plate 15 is an upturned flange 20 having a serrated or saw-toothed edge, the depressions whereof are centralized upon character spaces 21, 21. The arm 18 is so shaped that the forward end forms a finder 22, which drops into, or is depressed into, saw-toothed spaces 23, 23 of the flange 20. Pivotaly attached to the arm 18 is a handle 24, whereby the arm 18 is moved about the circle of the flange 20. It will be understood that the arm 18 may be raised on a pivot 25 in the hinged wings 17 to any angle.

Hingedly mounted by wings 26, 26 to the carriage 19 is a table 27 carrying inking pads 28, 28. The pads 28, 28 are hingedly mounted on the said table 27. The pads are constructed substantially as shown in Fig. 8, the one having arms 29, 29 to straddle a single arm 30 of the other. The first mentioned pad is hinged at 31, 31, while the second mentioned pad is hinged at 32, in each instance the hinge being formed upon the table 27. The two pads 28, 28 are segmental in shape and are faced with any suitable absorptive material, such as felt. The table

27 is held in locked relation with the carriage 19 by means of a latch 33, the body portion of which is hingedly secured to the carriage 19. When the table 27 is placed in locked position on the carriage 19, an opening 34 is brought into line to form a passage for the type so that the same may be introduced upon the paper. The remainder of the pad 28 prevents the impingement of any other of the type upon the paper adjacent to the opening 34. The pads 28, 28 are raised to contact with the type pads 12, 12 by springs 35, 35.

Interposed between the plate 15 and the type pads 12 are pressure plates 36 and 37, the latter of which is grooved at 38 to pass the pressure foot formed in the carriage 19. The carriage 19 is provided with a circular opening 40 to house the type pads 12, 12 and pressure plates 36 and 37. Across the opening 40 is extended a bridge 41. To the upper surface of the bridge 41 are hingedly mounted the plates 36 and 37, the hinge connections being formed at 42 and 43 respectively. The plate 36 is provided with an elongated slot 44, through which is upwardly passed the pivot post 14. The plates 36 and 37 are depressed against the upper side of the type pads 12, 12 by means of springs 45, 45, which are anchored to the bridge 41, the free ends resting loosely over the upper side of the plates 36 and 37. The plates 36 and 37 are so formed and disposed as to coincide and cooperate with the inking pads 28, 28. They serve the purpose of forcing the type, by a gentle pressure, against the inking pads without binding the same, the springs 45, 45 being always in condition to yield to any binding pressure of the type upon the pad due to accidental irregularity of the pads. The under surfaces of the plates 36 and 37 are provided with suitable soft pads 46, 46. The inking pads 28, 28, by reason of the hinged construction of the table 27, may be thrown back to expose the pads to view, and in a manner to be readily supplied with ink by the operator.

The carriage 19 is mounted upon a base 47 of the machine by means of standards 48, 48, in the upper ends whereof are provided bearings for a pivot rod 49, having formed thereon a rack bar 50. The carriage 19 is maintained in alinement by means of a guide rod 51, upon which it is slidably mounted by means of depended brackets 52, 52. The guide rod 51 is held in alinement with the rod 49 by link arms 53, 53. The carriage 19 is pivotally mounted by means of bearings 54, 54 upon the said rod 49. By means of this construction and arrangement the carriage 19 may be raised upward and away from the paper upon which the printing is being impressed, holding in mutual relation the rods 49 and 51 and in guided relation the said rods to the carriage itself.

Carried by the carriage 19 is a cog wheel 55, which is rotatively mounted upon a spindle 56. The said wheel 55 is provided with a coiled spring 57, so connected to the carriage 19 and to the wheel 55 as to rotate the latter by the tension of the spring. The wheel 55 is held in toothed engagement with the rack bar 50, and the spring 57 is so connected to the wheel 55 that the said spring is wound to its highest tension by shifting the carriage 19 to the left of the machine, or the inner margin line of the work to be performed. The wheel 55, in being thus carried to the left, is rotated so that the spring 57 is brought to its full tension and therein operates to rotate the wheel 55 to force the carriage in the opposite direction, or toward the right hand side of the machine. In this action it is retarded by the spacing mechanism.

The spacing mechanism consists in a spacing bar 58, having in the top thereof ratchet teeth 59, the spacing of which is spacing of the machine. In other words, the distance from the face of one of the teeth 59 to the adjacent tooth 59 is equal to the space required for the printing of each of the letters. The bar 58 is stationarily held in brackets 60, 60 mounted at each side of the base 47. To engage the teeth 59 there is provided a yielding toothed arm 61 and a fixed toothed arm 62. The yielding toothed arm 61 is pivoted at 63, and is provided with a stop post 64. The stop post 64 regulates the advanced position of the yielding arm 61 to which it is moved by a leaf spring 65. The leaf spring 65 is anchored on the bottom of the table 27, as is also the pivot 63, post 64 and arm 62. The yielding arm 61 is so disposed that it moves in a path just below the fixed arm 62. A stop 66 is provided to receive the yielding arm 61 when the same is swung back against the pressure of the wheel 55, and in which position the arms 61 and 62 aline.

Hingedly secured upon the table 27, at the hinged wings 67, 67, is a plate 68, the center of which is cut away to pass the yielding arm 61 and fixed arm 62, and structural parts connected therewith. The end of the plate 68 is depressed to rest upon the bar 58, and is held in its depressed position by coiled extension springs 69, 69 disposed on each side of the plate 68 and adapted to normally force the said plate 68 against the bar 58 so that the carriage 19, and parts connected therewith are maintained in such a position where the yielding toothed arm 61 is in engagement with the bar 58. In this engagement of the yielding arm 61, the pressure of the spring 57 as exerted upon the wheel 55 forces the said arm 61 backward against the spring 65 and against the stop 66. In this position, as above stated, the yielding toothed arm 61 and the fixed

toothed arm 62 are in alinement. When now, for the purpose of printing, the carriage 19 is depressed, the plate 68 is forced to yield to the pressure, permitting the yielding arm 61 to pass below the bar 58. Before the arm 61 passes out of engagement with the bar 58 the arm 62 engages the bar 58; so that the carriage remains in a stationary position during the imprint caused by this depression of the carriage 19. Instantly the arm 61 passes out of engagement with the bar 58 the spring 65 moves the arm 61 until arrested by the stop 64. In this position it will be found that the arm 61 is in alinement with the next succeeding tooth 59 of the bar 58. After the imprint, the carriage 19 is allowed to rise, lifting the arm 61 into engagement with the bar 58 and with the next succeeding tooth 59 thereof. This engagement between the arm 61 and the bar 58 occurs before the disengagement of the arm 62 and the bar 58. Immediately the arm 62 passes out of engagement with the bar 58 on the rise of the carriage 19, the lateral pressure of the carriage, due to the pull of the spring 57, overcomes the tension of the spring 65 and advances the carriage until the arm 61 impinges upon the stop 66. In this position the carriage is advanced one printing space, and is ready to imprint the next succeeding letter.

To operate in conjunction with the spacing mechanism just described there are provided two visible tabular spacing indexes 70 and 71. The index 70 is fixedly mounted upon a rod 72, which is removably mounted in socket posts 73, 73. When so mounted the index 70 is disposed to aline with a pointer 74, which is fixedly mounted at 75 upon the carriage 19. The index 70 is arranged as described to be removed from the machine during transportation, it being more readily packed within smaller compass when the index is removed. At such times the pointer 74 is so moved that the index end thereof is rotated over the platform of the carriage 19. When the pointer 74 is extended it will show the printing position of the carriage.

The index 71 is formed on the upper edge of a paper guide 76, and corresponds in perfect alinement with the index 70. The guide 76 is provided at the lower edge with a stiffening rod 77, which is preferably mounted in standards 78, 78 located at each end of the base 47. Surrounding the rod 77, and anchored to the base 47, are coiled extension springs 79, 79. The upper ends of the springs 79 bear against the paper guide 76 to throw the same forward against a platen roller 80. The paper guide 76 is provided with a fender roller 81 which is mounted in bearing tabs 82, 82, mounted upon the said paper guide in such manner that the surface of the roller 80 extends slightly be-

yond the inner surface of the paper guide 76. In this manner a binding strain is prevented from being exerted by the guide 76 upon the paper and roller 80. Fixedly attached to the guide 76 is an extension 83, whereby the said guide 76 may be swung upon its bearings down and away from the platen roller 80. In this position the guide 76 may be locked by a lever 84, the arm 85 whereof is adapted to throw over the extension 83 when the same is depressed, as above indicated. This facilitates the introduction of the paper, leaving the runway between the roller 80 and the paper guide 76 free so that the paper can be quickly and readily inserted therein. When the paper is inserted the lever 84 is thrown back to cause the arm 85 to release the extension 83, when the springs 79, 79 press the guide 76 against the paper, holding the same tightly against the platen roller 80. In this position the pointer 74 is used for corrections or omissions in the printing, very much in the same manner as in the present standard typewriting machines.

The platen roller 80 is constructed of any suitable material, such as employed at present on standard typewriting machines. The roller is fixedly mounted upon a bearing rod, at the one end of which is fixedly mounted a knurled or milled adjusting wheel 87. At the opposite end of the platen roller 80 is mounted a ratchet toothed spacing wheel 88. Into the spacing wheel 88 is set the tooth of a pawl 89, which is spring-actuated to snap against the face of the succeeding teeth to thereby gain the proper space to which the roller is turned. The roller 80 is mounted in standards 90, 90, which are mounted upon a plate slide 91. Attached to the slide 91 and extended therefrom, are brackets 92, 92. Fixedly mounted in the brackets 92, 92 are guide rods 93, 93. The guide rods 93, 93 are extended through perforated brackets 94, 94 set out from the side of the base 47. Fixedly mounted upon the inner ends of the rods 93, 93 are stop blocks 95, 95. Through an eyelet in an extension 96 of the said rods 93, is passed the end of a spiral expansion spring 97. The anchored end of the spring 97 is secured to pins 98, 98 extended from the side of the base 47. It is by means of this arrangement that the platen roller 80 is shifted to accommodate the disposition of printing characters in parallel rows, as, for instance, to form the lower and upper font characters of the type.

The shifting mechanism employed to operate in opposition to the spring 97 consists of levers 99 and 100. The levers 99 and 100 are fixedly mounted upon a pivot rod 101, which is extended across the machine and is pivoted in bearings 102, 102. By this arrangement both the levers 99 and

100 are operated simultaneously. Each of the said levers 99 and 100 are pivotally connected to links 103, 103. The links 103 are pivotally connected at 104 to the standards 90, 90, and at 105 to the levers 99 and 100. Due to the arrangement and construction above described, whenever the levers 99 are depressed, which occurs when the operator, by means of his thumb or finger pushes down a foot 106 mounted upon the lever 99, the platen roller 80 is shifted so as to receive the type characters of the outer row on the disk 11. As stated, the operation of the levers 99 and 100 and the links 103, 103 are in opposition to the spring 97. The spring 97 normally holds the platen roller 80 in position to receive the inner row of type characters formed on the disk 11. The roller is returned instantly to this position upon the release, by the operator, of the foot 106.

The paper is inserted between the platen roller 80 and the paper guide 76. The extension 83 is then released, as above stated, and the guide 76 permitted to press upon the roller 80. The paper, or forward edge of the paper, is now extended over the roller 80, and a rod 107 is depressed upon the paper and inserted in a slot 108, being held therein by a suitable spring adapted to snap over the slot 108 when the rod 107 is seated therein. In this position the paper is guided on being passed off the roller 80 to deliver upon the base 47 and to be delivered from the machine under the pivot rod 49 and at the rear of the machine.

With a machine constructed as above described and as illustrated in the drawings, the operation is as follows: To introduce the paper the carriage 19 is raised until the opening between the pivot rod 49 and the rack bar 58 is free. The paper is then introduced under the roller 80, the paper guide 76 having been retracted from the said roller and locked in retracted position. When the paper is inserted beyond the upper edge of the guide 76, the lever 84 is rotated to release the extension 83 to permit the guide to move against the paper and hold the same in contact with the roller 80. In this position, and by means of the wheel 87, the paper is adjusted. The rod 107 is removed from the slot 108 and raised until the end of the paper is wound from the roller 80 to extend beyond the rod 107 when the same is depressed. The rod 107 is then depressed, passing it below the retaining spring and seating it within the slot 108, the paper being held below the rod. The carriage 19 is now moved to the extreme left and there permitted to assume the recumbent position wherein the carriage is supported upon the plate 63. In this position the fixed toothed arm 62 is held between the teeth 59 and the machine is in readiness to proceed with the printing.

The printing proceeds by the operator shifting the arm 18 until the finder 22 thereon is disposed over the character selected for printing. As above described, the movement of the arm 18 causes the disk 11 to move in unison therewith, so that the type pad 12 corresponding to the character illustrated at the point where the said arm is arrested, will be presented above the opening 34, in the inking pad 28. The type, in moving to the opening 34, is wiped by the inking pad 28, and placed thereby in condition to print upon the paper A. The carriage 19 is then depressed by either the hand moving the arm 18 or the other hand of the operator forcing the pressure foot 39 downward upon the type pad 12 which is alined with the opening 34. The pad 28 being interposed between the type and paper to either side of the opening 34 prevents the imprinting of any but the letter disposed above the opening 34. The letter having been imprinted, the pressure from the carriage 19 is removed, permitting the springs 69 to raise the carriage 19 so that the same is allowed to shift the succeeding space, or until the yielding arm 61 is arrested by the stop 66. In this position the carriage is ready to imprint the second letter. The operation is repeated until the word is completed, when, by moving the arm 18 opposite the blank spaces 109, 109, and co-incidentally depressing the carriage 19, the spacing mechanism is caused to operate without the attendant imprinting of a letter. At the end of the line the carriage is raised so as to remove the arms 61 and 62 from engagement with the spacing bar 58, and again returned to the extreme left hand position on the guide rod 49 and there permitted to resume engagement with the spacing bar 58. The roller 80 is rotated one or more spaces, as the case may be, to receive the succeeding line. As stated, the knowledge of the movement of the roller 80 is imparted through the click or sound of the pawl 89 upon the ratchet wheel 88. During the operation, if it is desired to shift the position of the roller 80 forward or backward so that the outer line of letters or characters is brought in line with the crown of the said roller, this is accomplished by depressing the foot 106, as above described, thereby shifting the roller 80 outward. The letter of the outer row, as for instance, a capital, being imprinted, the operator releases the foot 106 when the springs 97, 97 immediately return the roller 80 to receive the letters on the inner row.

I have found it convenient in machines of this character to provide the machine with two styles of type characters. This is illustrated in the drawings where the section B and the section C are shown as having duplicate sets of letters. In actual practice I

prefer to vary the style of these letters, thus giving to the machine a wider scope of usefulness than that possessed by the present make of machines.

5 Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A typewriting machine comprising a laterally movable carriage embodying an extended platform slidably mounted upon parallel bars, one of said bars being pivotally mounted upon a stationary frame; means for moving said carriage across said frame; a rotary platen mounted upon said frame to extend parallel with the path of the said carriage; a rotary type pad mounted upon said carriage and having arranged concentrically thereon protruded type characters and pivotally mounted on the under side of said platform; an inking pad constructed of an ink retaining material; yielding supporting members to maintain the said pads in contact with said type; a stationary dial mounted upon said carriage concentrically with said type pad; a selecting arm attached to said type pad and adapted to extend over said dial to indicate characters thereon; a presser member fixedly attached to said platform and extended above the said platen and type pad; and means for controlling the extent of the movement of said carriage.

2. A typewriting machine, comprising a laterally movable carriage embodying a platform slidably mounted on parallel bars, one of which is pivotally mounted on a stationary frame, said platform being provided with a circular recess and having a rigid member projected into the said recess; means for moving said carriage across said frame; a rotary platen mounted upon said frame to extend parallel with the path of the said carriage, said platen being extended in the path of said rigid member on said platform; a rotary type pad having arranged concentrically thereon protruded type characters, said type being pivoted concentrically with said recess, the type characters thereof being extended under said projected member; a stationary dial mounted upon said platform above said recess; a selecting arm fixedly attached to said type pad and adapted to extend over said dial to indicate characters thereon; and spacing means for controlling the extent of the movement of said carriage.

3. A typewriting machine comprising a laterally movable carriage embodying a platform slidably mounted on parallel bars, one of which is pivotally mounted on a sta-

tionary frame; means for moving said carriage across said frame; a rotary platen mounted upon said frame to extend parallel with the path of said carriage; a rotary type pad having arranged concentrically thereon protruded printing type, said type being pivotally mounted on said platform and arranged so that the type extend over the center of said platen; an inking pad yieldingly mounted upon said platform, having in the periphery thereof an opening adapted to pass one of said type; resilient supporting members adapted to support the said pad against the said type; resilient supporting members for holding the said platform raised above said platen to lift the said type therefrom; a presser member mounted rigidly on said platform to strike above said type pad in line with the opening therein; means for rotating said type pad to present the various type thereon under said presser member; and means for controlling the lateral movement of said carriage.

4. A typewriting machine comprising a laterally movable carriage embodying an extended platform slidably mounted upon parallel bars, one of said bars being pivotally mounted upon a stationary frame; means for moving said carriage across said frame; a rotary platen mounted upon said frame to extend parallel with the path of the said carriage; a rotary type pad pivotally mounted upon said platform and having arranged concentrically thereon protruded type characters disposed to be extended above the center of said platform; a table hingedly connected with said platform; an inking pad yieldingly connected to said table; resilient supporting means for raising the said inking pad against said type characters; means for rotating the said type pad to present the various letters in printing position; a yielding support for said platform adapted to raise the same above the said platen to lift the type therefrom; and a type spacing mechanism to control the movement of said carriage embodying a fixed tooth mounted upon said table to engage a fixed rack bar, and a movable toothed spring controlled to engage said rack bar in advance of the said fixed tooth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

NELZIRE FRANCIS PETIT.

Witnesses:

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JAMES ROBERTSON.