H. S. McCORMACK.

TYPE WRITING MACHINE.

APPLICATION FILED JULY 7, 1908.

975,264.

Patented Nov. 8, 1910.

2 SHEETS—SHEET 1.

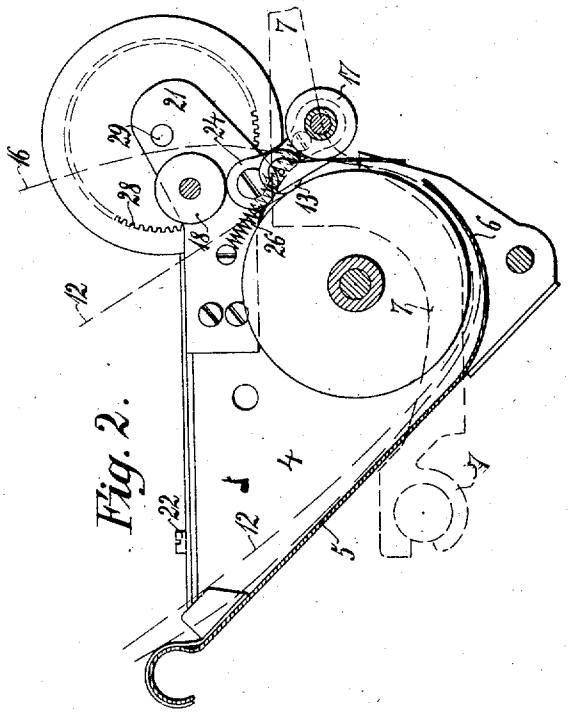

Fig. 2.

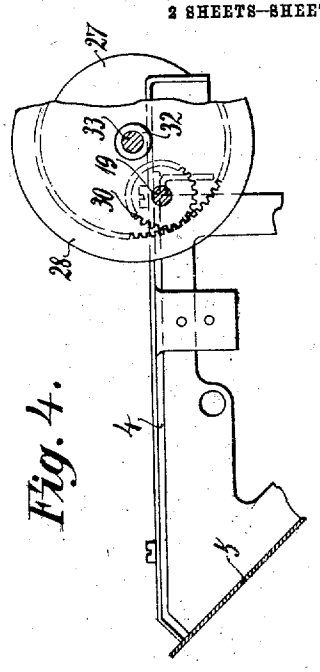

Fig. 4.

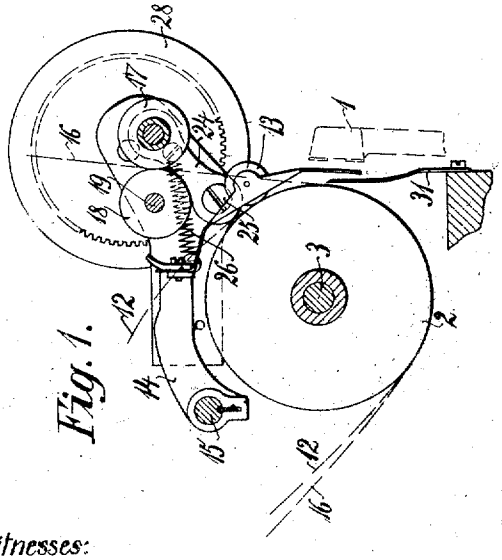

Fig. 1.

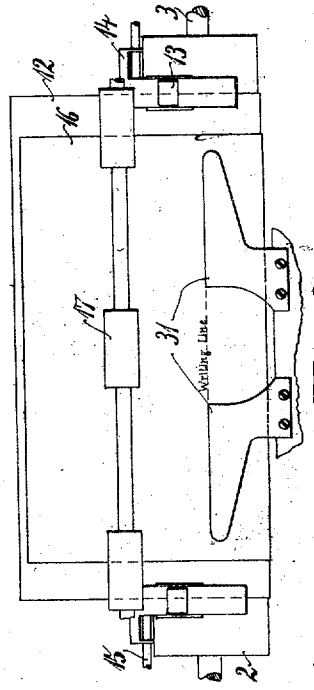

Fig. 3.

Witnesses:

W. Spitz.

John O. Seifert

Inventor:

Harry S. McCormack

By B. B. Stickney

Attorney.

H. S. McCORMACK.

TYPE WRITING MACHINE.

APPLICATION FILED JULY 7, 1908.

975,264.

Patented Nov. 8, 1910.

2 SHEETS—SHEET 2.

Fig. 6.

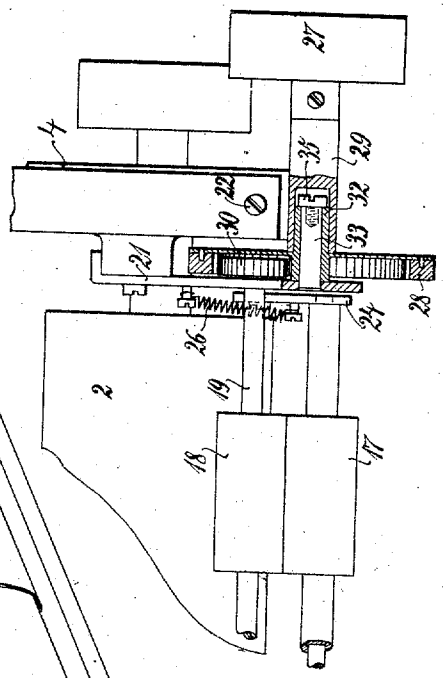

Fig. 5.

Witnesses:

W. Fritze.

John C. Seifert.

Inventor:

Harry S. McCormack

By Bakewell & Stickney Attorney.

UNITED STATES PATENT OFFICE.

HARRY S. McCORMACK, OF NEW ROCHELLE, NEW YORK, ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

975,264. Specification of Letters Patent. Patented Nov. 8, 1910.

Application filed July 7, 1908. Serial No. 442,361.

To all whom it may concern:

Be it known that I, HARRY S. McCORMACK, a citizen of the United States, residing in New Rochelle, in the county of Westchester 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 the paper controlling means of typewriting machines, and particularly to means for feeding original and record sheets when making condensed records.

Heretofore in writing and recording checks, whose lines of writing are usually very widely spaced, the objection has arisen that the carbon records made upon the usual record sheets occupy an excessive amount of room, by reason of such wide line-spacing of the writing on the checks, or on the check sheet, which consists of a succession of check blanks.

The principal object of this invention is to overcome this objection.

In carrying out the invention, I provide for advancing or feeding the record sheet a minimum distance between lines, preferably a distance corresponding with a single notch in the usual line-space wheel, while the multiple-check sheet is advanced a much greater distance from one line to the next line of writing thereon.

I advance the record sheet and its carbon while the usual check sheet remains stationary; the movement of the record sheet being effected by the rotation of the platen; and this in turn being effected by the usual line-space lever, which also returns the carriage to begin a new line. Then a hand wheel is turned, and, by means of a pair of rolls, connected to the hand wheel by movement-multiplying gearing, the check sheet is rapidly advanced until the next ruled line or blank thereon registers with the usual front platen scale or other device which coincides with the line of writing. This advance of the check sheet is effected while the record sheet and carbon remain stationary upon the platen, and without the necessity of first operating any pressure-roll release key or other controlling device. Thus at the completion of the writing of a check only two movements are necessary before beginning the first line of writing on the succeeding check; namely, one movement of the line-spacing lever, which incidentally returns the carriage to begin a new line, and one movement of the check-adjusting hand wheel, to bring the check to register with the printing line. A similar operation is made after writing the first line, and before beginning the second line on the check. It will therefore be seen that the records of the checks are closely spaced on the record sheet, thereby effecting a great economy of space, notwithstanding the great space between the written lines on the check sheet.

Other features and advantages will hereinafter appear.

In the accompanying drawings, Figure 1 is a sectional elevation of a platen and paper-feeding devices, showing the check and record sheets in position for writing thereon. Fig. 2 is a sectional elevation of the platen, platen frame, and sheet feeding devices constructed in accordance with my improvements; the check sheet being shown released from its feeding devices. Fig. 3 is a front elevation, illustrating the relation of the check to the record sheet, and the manner of feeding the latter at its edges. Fig. 4 is a sectional view showing the movement-multiplying gearing between the hand wheel and the feed-roll shaft. Fig. 5 is a perspective front view of platen, platen frame, &c. Fig. 6 is a plan of the devices at the right hand end of the platen frame.

Types 1 strike on the front side of a platen 2, revolubly mounted by an axle 3 in a platen frame, comprising ends 4 and a paper shelf 5; the latter curving forwardly around the under side of the platen to form a paper guide 6. The platen rests upon a letter-feeding carriage 7. Said carriage is returned to begin a new line by means of a lever 8, which also, by means of a slide 9 and pawl 10, operates a ratchet wheel 11 mounted on the platen axle 3. Preferably said lever turns the wheel only a single notch each time that the carriage is returned to begin a new line of writing, so that the written lines fall as closely as possible together on the record sheet.

The record sheet 12 is introduced at the rear side of the platen and passed forwardly between the same and the guide 6 and up in front of the platen, where its side edges are engaged by feed rolls 13 carried upon arms 14, mounted on a rod 15 and adjustable therealong. These rolls are the sole means

for advancing the record sheet; the pressure rolls that usually run upon the bottom of the platen being omitted from the machine, so that the record sheet may be advanced without advancing the check sheet, and vice versa.

A multiple check sheet 16 is inserted in the machine in the same manner as the record sheet 12, the latter being provided with the usual front carbon sheet (not shown). The check sheet 16, which consists of a succession of check blanks, is too narow to be caught by the rolls 13, but is led up between the ends of said rolls, and caught by a set of front and rear paired rolls 17, 18, which are located directly over the printing point in front of the platen. Each of these rolls may consist of several sections, as illustrated. The rear rolls 18 are carried upon a shaft 19 journaled in brackets 20, 21, secured upon the platen frame by screws 22. The forward rolls 17 are carried upon the front ends of a pair of arms 23, 24 hinged at 25 upon said brackets to swing forwardly and downwardly, to separate the rolls 17 from the rolls 18, as at Fig. 2, and permit the introduction of the check sheet 16 between the same. A draw-spring or springs 26, extending from the platen frame to the arms 23, 24, serve either to hold the rolls 17 down, as at Fig. 2, or up and against the rolls 18, as at Figs. 1 and 5.

It will be seen that the record sheet 12 and its carbon may be advanced by merely turning the platen, while the check sheet 16, which incloses the record sheet and the carbon, remains stationary; and that by turning the rolls 17, 18, the check sheet 16 may be advanced while the record sheet 12 and the platen remain stationary.

After the record sheet 12 and its carbon are inserted in the machine, caught beneath the rolls 13, and adjusted to the proper position to receive the first line of writing, the check sheet 16 is inserted and slipped around beneath the platen and led up between the rolls 17 and 18 at Fig. 2, then the rolls 17 are swung up and back to catch the check sheet 16. A hand wheel 27 is then turned to adjust the check sheet to the printing line; said hand wheel operating an internal gear 28 by means of a shaft 29, and a pinion 30, in mesh with said gear, being fixed upon the shaft 19 of the roll or rolls 18, so that quick movement of the check sheet can be easily effected. The check is adjusted until the first line or blank thereon registers with the usual front platen scale 31 found upon the Underwood and certain other front-strike machines; the top edge of said scale coinciding with the line of writing as seen at Fig. 3; it being only necessary to turn the wheel 27 until the blank line on the check registers with the scale or straight edge 31, when the writing may begin.

After the completion of the line, which usually consists of the name of the payee, the operator simply presses the handle 8 to the left, thereby advancing the record sheet 12 and its carbon and returning the carriage to begin a new line. The operator then turns the hand wheel 27 to register the second line on the check with the scale 31, and then operates the keys to write such second line, which usually consists of the amount of the check. The operator again employs the handle 8 to advance the sheet 12 a single line and to return the carriage, and then turns the handle 27 a sufficient distance to bring the first line on the second check into register with the scale or straight edge 31. The operation is repeated until the check sheet 16 is filled. The operator then swings down the roll 17 and withdraws the check sheet and inserts a fresh one, the record sheet 12 remaining in the machine, and proceeds as before. Thus it will be seen that records of several check sheets can be condensed upon one record sheet, and thus a great economy of space and material is effected.

The internal gear 28 is formed with a hub 32 turning upon a stud 33 projecting outwardly from the bracket 21; and a shaft 34 fixed to the hand wheel 27 is hollowed at its end to fit upon said hub, and is secured thereto. The stud is provided with a screw 35 to hold the gear 28 upon the stud.

Having thus described my invention, I claim:

1. In a front strike writing machine, the combination with a carriage, a revoluble platen, and a line-space lever effective to run the carriage back to begin a new line, of means to press the side edges of a wide record sheet against the end portions of the platen to cause the sheet to advance with the platen, a set of paired rolls directly above the printing line on the platen to receive from the platen and feed up a relatively narrow multiple-check sheet, said set of rolls constituting the sole means for advancing the multiple-check sheet, and the platen being revoluble by said lever independently of the rolls, to advance the record sheet at the completion of a line of writing without line-spacing the check sheet; a finger-piece being connected to the rolls to turn the same, movement-multiplying gearing intervening between the finger-piece and the rolls, and a device to register with the printing line on the front of the platen, whereby said lever may first be operated to advance only the record sheet and return the carriage to begin a new line, and said finger-piece may then be operated to advance the check-sheet, independently of the platen and record sheet, a distance greater than the movement of the record sheet, and to bring the next ruled line or blank on the check sheet to register with said registering device.

2. In a front strike writing machine, the combination with a carriage, a revoluble platen, and a line-space lever effective to run the carriage back to begin a new line, of means to press the side edges of a wide record sheet against the end portions of the platen to cause the sheet to advance with the platen, a set of paired rolls directly above the printing line on the platen to receive from the platen and feed up a relatively narrow multiple-check sheet, said set of rolls constituting the sole means for advancing the multiple-check sheet, and the platen being revoluble by said lever independently of the rolls, to advance the record sheet at the completion of a line of writing without line-spacing the check sheet; a finger-piece being connected to the rolls to turn the same, movement-multiplying gearing intervening between the finger-piece and the rolls, and a device to register with the printing on the front of the platen, one of said rolls mounted on a shaft whose ends are carried upon swinging arms, and springs connected to said arms to cause the roll to press against the opposite roll.

3. In a front strike writing machine, the combination with a carriage, a revoluble platen, and a line-space lever effective to run the carriage back to begin a new line, of means to press the side edges of a wide record sheet against the end portions of the platen to cause the sheet to advance with the platen, a set of paired rolls directly above the printing line on the platen to receive from the platen and feed up a relatively narrow multiple-check sheet, said set of rolls constituting the sole means for advancing the multiple-check sheet, and the platen being revoluble by said lever independently of the rolls, to advance the record sheet at the completion of a line of writing without line-spacing the check sheet; a finger-piece being connected to the rolls to turn the same, movement-multiplying gearing intervening between the finger-piece and the rolls, and a device to register with the printing line on the front of the platen, one of said rolls mounted on a shaft whose ends are carried upon swinging arms, and springs connected to said arms to cause the roll to press against the opposite roll; said springs mounted to hold the roll released when said arms are swung down.

HARRY S. McCORMACK.

Witnesses:
JOHN O. SEIFERT,
KITTIE FRANKFORT.