H. S. McCORMACK.

TYPE WRITING MACHINE.

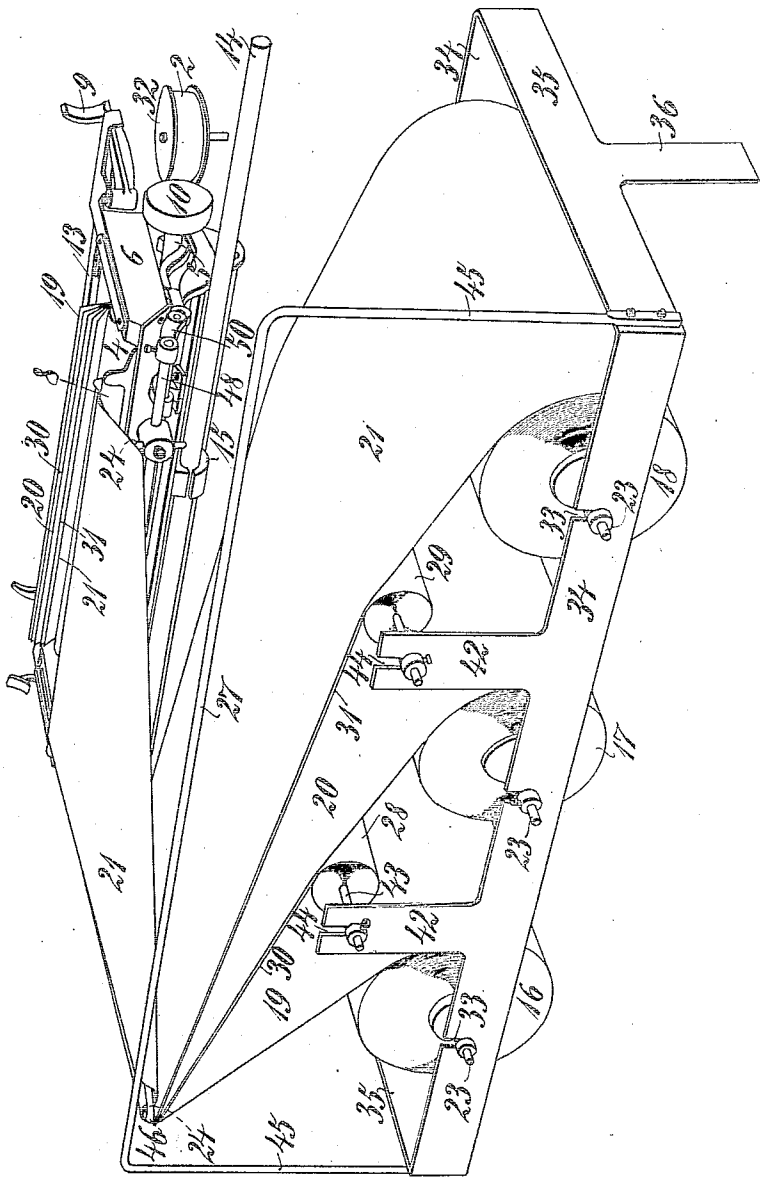
APPLICATION FILED OCT. 2, 1908.

953,854.

Patented Apr. 5, 1910.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses:

W. Fritze.

John A. Seifert.

Inventor:

Harry S McCormack

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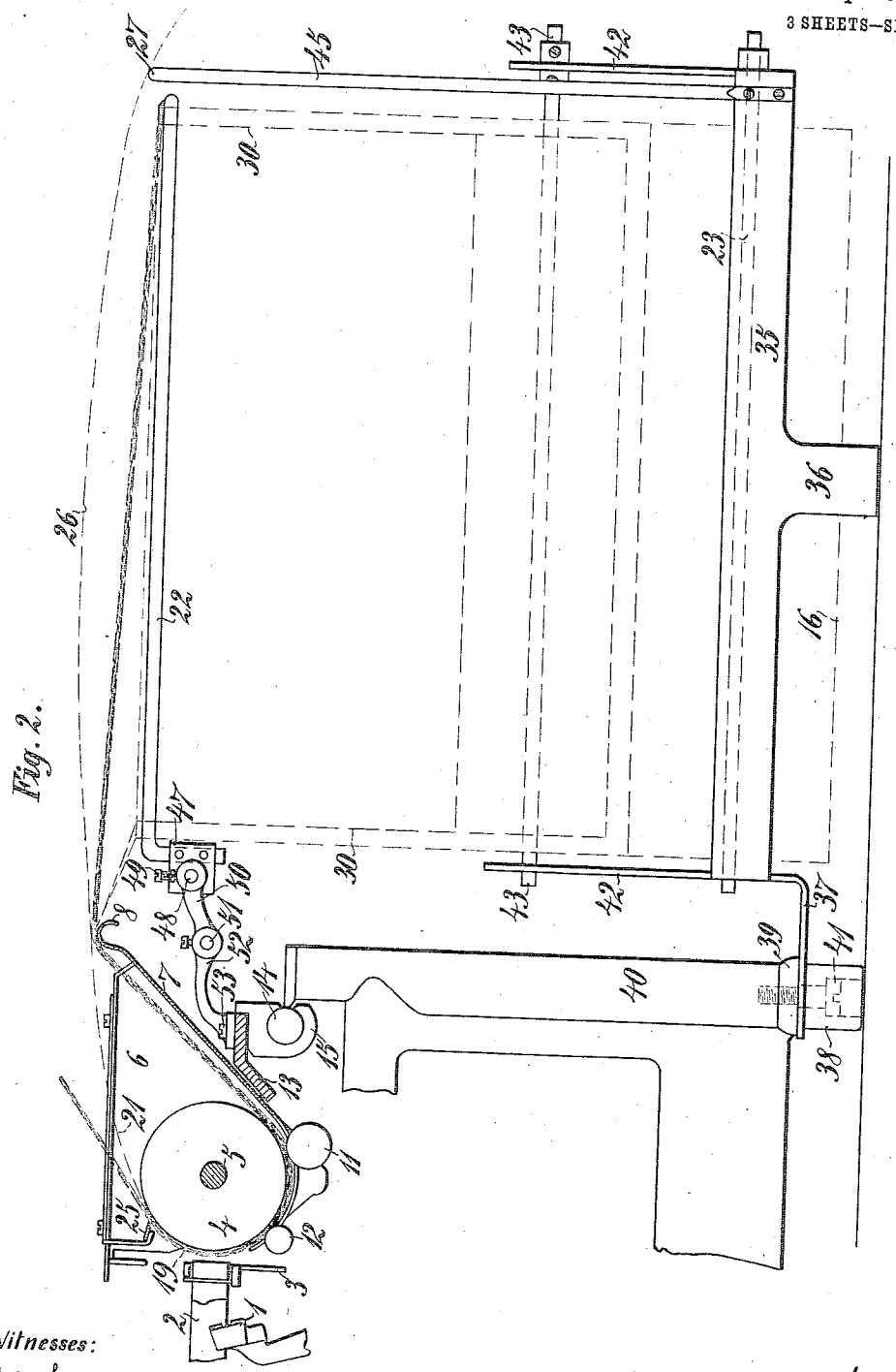

Fig. 2.

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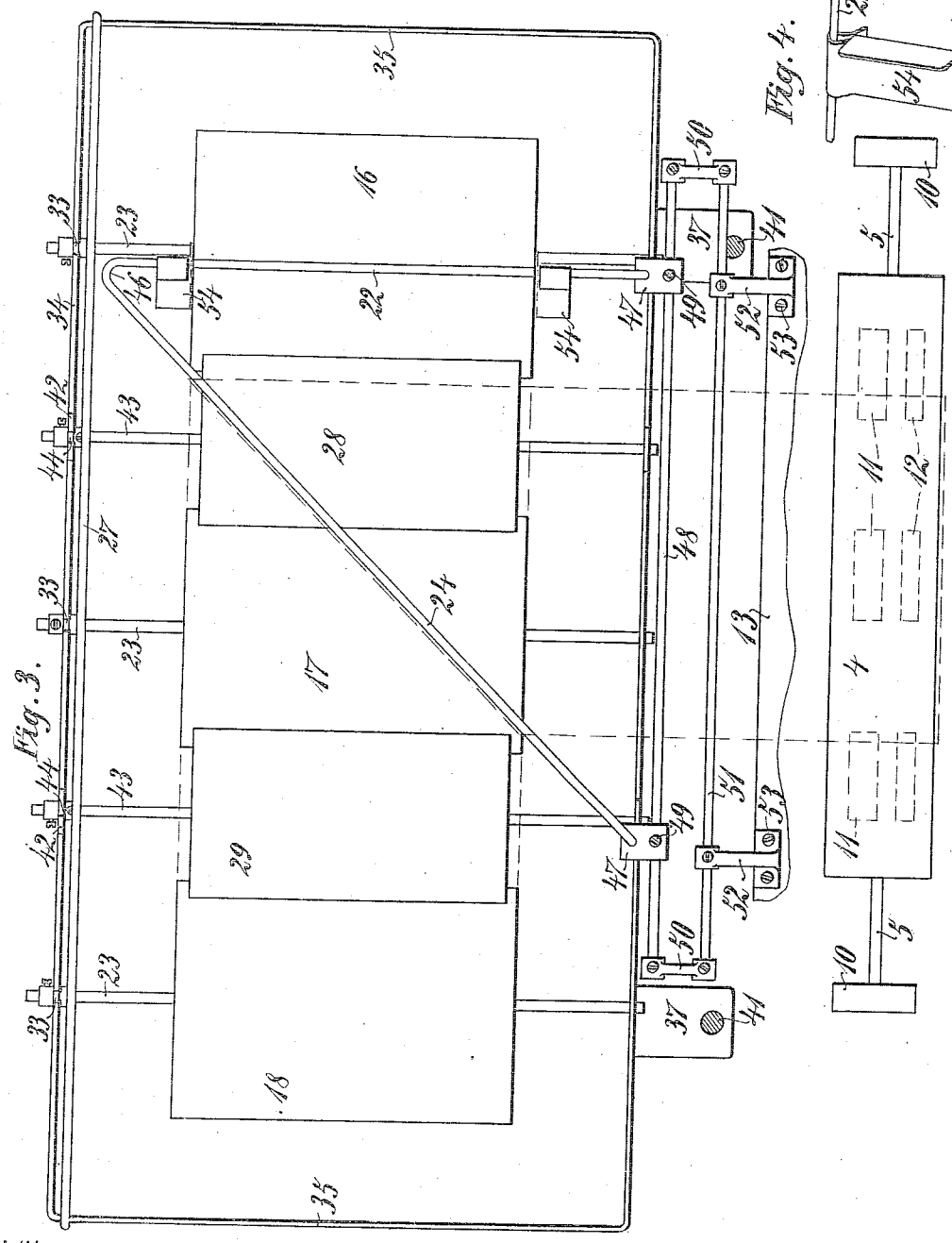

Fig. 3.

Fig. 4.

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UNITED STATES PATENT OFFICE.

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

TYPE-WRITING MACHINE.

953,854. Specification of Letters Patent. Patented Apr. 5, 1910.

Application filed October 2, 1908. Serial No. 455,799.

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 carriages of typewriting machines which move step by step for letter feeding, or rather to means for supporting and handling one or more paper webs or rolls, from which the web or webs are to be led to the line-feeding devices on the carriage, and particularly to machines in which a paper roll is mounted with its axis at about right angles to the direction of travel of the paper carriage; such axis being horizontal, the roll extending directly back from the rear portion of the typewriter, and the paper being led up to a guide-bar which is about parallel with the axis of the roll, and extends horizontally and rearwardly from the carriage; the web running up over and around this guide-bar, and thence along the carriage to a diagonal guide. The diagonal guide also extends rearwardly from the carriage, and joins the first guide at its rear end; the guides forming an acute angle. The web passes under the diagonal guide, and folds around over the top of the same and runs thence forwardly, or at right angles to its former course (considered edgewise,) and enters the bite of the line-feeding rolls on the carriage.

The principal object of my invention is to improve the construction and operation of devices of this class, particularly with a view to permitting the web to be run over different portions of the platen, considered lengthwise, and also to avoiding lateral displacement of the web or webs as they run around the platen.

In the accompanying drawings, Figure 1 is a perspective view illustrating the manner of supporting a series of paper rolls and guiding them to the line-feeding devices of the typewriting machine. Fig. 2 is a fragmentary side elevation of the typewriter, partly in section, and of the roll-supporting and guiding means. Fig. 3 is a plan of the paper rolls and their supporting and guiding means, and illustrates the manner of leading the webs to the line-feeding rolls on the typewriter carriage. Fig. 4 is an adjustable guide for the side edges of the webs.

As usual in the Underwood typewriting machine, types 1 strike rearwardly through a ribbon 2 (threaded through a vibrator 3) against the front side of a cylindrical platen or roll 4, which is mounted by an axle 5 in the ends 6 of a platen frame, the latter also comprising a paper shelf 7, in rear of the platen, and formed upon its top with a rolled brim 8. The platen is turned either by a line-spacing and carriage-returning lever 9, or by knobs 10 fixed upon the ends of the platen axle 5. Pressure rolls 11, 12 run upon the under side of the platen to feed the paper in line space direction. The platen frame in said Underwood machine is mounted upon a carriage 13, which travels upon a horizontal rail 14 for letter feeding; ears 15 depending from the carriage to fit upon said rail.

There are shown three horizontal rolls or webs of paper 16, 17, 18, in the rear of the typewriting machine, with their axes extending rearwardly at right angles to the carriage-rail 14, or to the direction of travel of the carriage. From these rolls the webs are led upwardly to the right (to the left at Fig. 1), as indicated at 19, 20, 21, to a horizontal guide bar 22 fixed upon the carriage, said bar extending rearwardly and parallel to the axes 23 of said paper rolls. It will be understood however, that it is not always necessary that the webs shall be in the form of rolls, so long as the means herein disclosed are employed for guiding the webs to the line-feeding rolls on the carriage.

The webs (of which either one or more may be used, as required) turn around over the top of said guide 22, and thence run reversely, or longitudinally of the paper carriage, to a second guide bar 24. The latter extends diagonally at an angle of 45 degrees to the guide bar 22; the apex of the angle being at the rear ends of the bars. The webs dip under the diagonal bar 24, and fold over the same to take a direction (considered edgewise) at right angles to their preceding direction, or parallel with the bar 22; and then they run over the rolled brim 8 on the paper shelf, and thence down between the platen 4 and the feed rolls 11, 12, whereby they are drawn along line by line.

The webs pass forwardly around the bot-

tom of the platen and up between the same and a knife 25 usually employed for severing the webs after writing. If a web is not severed, it may pass rearwardly from the machine, as indicated at 26, and drop over a horizontal guard 27 extending in the same direction as the carriage travel, located in rear of the guide bars 22, 24. There may be also employed simultaneously additional horizontal rolls 28, 29, in a row forming a tier above the row of rolls already described; and the webs 30, 31 from the upper rolls may interleave the webs from the lower rolls, as seen at Fig. 1. In some cases the rolls 28, 29 may consist of carbon paper, to make copies on the webs 20, 21 of the original matter written on the web 19. Any suitable system of ink ribbons may be mounted on the carriage to run between the webs to write upon the under webs. The ribbon 2 writes upon the upper web 19; said ribbon 2 being usually wound on spools 32.

It will be understood that the paper rolls may have other than horizontal axes, so long as their axes run at an angle to the direction of travel of the carriage, and so long as the webs led from the rolls fold over a diagonal bar to alter the direction of the travel of the web to run to the paper feeding rolls of the carriage.

In the present instance the roll axles are detachably hung in open vertical slots 33 cut in the top of a pair of horizontal supporting bars 34 connected by cross bars 35, the latter having legs 36 to rest upon a table. Preferably a pair of perforated ears 37 are bent forwardly from the forward bar 34, to be inserted between the usual rubber feet 38 and the bosses 39 formed on the bottom of the typewriter framework 40; said ears secured by the same screws 41 which usually secure the rubber feet 38. From the bars 34 rise standards 42 to support the rolls 28, 29, whose axles 43 rest detachably mounted in slots 44 in the tops of said standards. The guard 27 is bent down at its ends to form standards 45, secured to the end bars 35 of the roll frame.

The web-controlling guides 22, 24 are preferably formed of a single length of wire bent at 46 to give the required angle. At their forward ends the bars are secured in collars 47 adjustable along a rod 48 and secured thereon by screws 49. The rod 48 is carried in arms 50, the latter supported by a rod 51 fixed in brackets 52, the latter fixed by screws 53 upon the carriage 13.

Side guides or gages 54 for the edges of the web or webs may be adjusted along the guide bar 22 and secured in any suitable way.

It will be seen that all the work of unwinding the webs from the rolls occurs during the return of the paper carriage to begin a new line. The webs hang loosely from the bar 22 during the writing of the line, and offer no impediment to the operation of the carriage.

Many variations may be resorted to within the scope of the invention, and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. The combination with a letter-feeding paper carriage having line-feeding devices, of a roll or web of paper mounted upon a stationary support, its axis at about a right angle to the travel of the carriage, a guide upon the carriage over which the web from said roll is led, said guide being about parallel with the axis of the roll, and a diagonal guide over which the web folds to run toward said line-feeding devices, said web guides formed of a single rod bent to give the required direction to the guides; said bent rod being secured in collars which are adjustable along a support provided upon the carriage.

2. The combination with a letter-feeding paper carriage having line-feeding devices, of a roll or web of paper mounted upon a stationary support, its axis at about a right angle to the travel of the carriage, a guide upon the carriage over which the web from said roll is led, said guide being about parallel with the axis of the roll, and a diagonal guide over which the web folds to run toward said line-feeding devices; said web guides being adjustable along the carriage to position the web longitudinally of the platen.

3. The combination with a letter-feeding paper carriage having line-feeding devices, of a plurality of paper rolls or webs mounted upon stationary supports, their axes extending horizontally and rearwardly, a horizontal guide upon the carriage over which the webs are led, said guide extending rearwardly, and a horizontal diagonal guide over which the webs fold to run toward the line-feeding devices of the machine; the diagonal guide adjustable along the carriage to position the webs longitudinally of the platen.

4. The combination with a letter-feeding paper carriage provided with line-feeding devices and having a guide, of a diagonal guide, and a paper web running over the first guide and folded around the diagonal guide and running thence to the line-feeding devices; the diagonal guide adjustable along the carriage.

5. A letter-feeding paper carriage provided with line-feeding devices and having two guides for a web of paper, said guides disposed one at an acute angle to the other, and one of said guides extending in a direction transverse to the letter-feeding movement of the carriage, whereby a paper web

may be led over the first guide and folded over the second and led thence to the line-feeding devices; the second guide adjustable along the carriage.

6. A letter-feeding paper carriage provided with line-feeding devices and having two guides for a web of paper, said guides disposed one at an acute angle to the other, and one of said guides extending in a direction transverse to the letter-feeding movement of the carriage, whereby a paper web may be led over the first guide and folded over the second and led thence to the line-feeding devices; the second guides adjustable along the carriage; and guides being provided upon one of said guides for the side edges of the web.

7. A letter-feeding paper carriage having line-feeding devices and provided with web guides projecting therefrom, one at an acute angle to the other; one guide in position to receive a web traveling in one direction, and the second guide to cause the web to make a fold to travel toward said paper-feeding devices; the second guide being adjustable along the carriage.

8. A letter-feeding paper carriage having line-feeding devices and provided with web guides projecting therefrom, one at an acute angle to the other; one guide in position to receive a web traveling in one direction, and the second guide to cause the web to make a fold to travel toward said paper-feeding devices; the second guide being adjustable along the carriage, and a guide provided upon one of said guides for the side edge of the web.

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