

No. 845,251.

PATENTED FEB. 26, 1907.

G. F. NEWMANN.
TYPE WRITING MACHINE.
APPLICATION FILED OCT. 27, 1904.

3 SHEETS—SHEET 1.

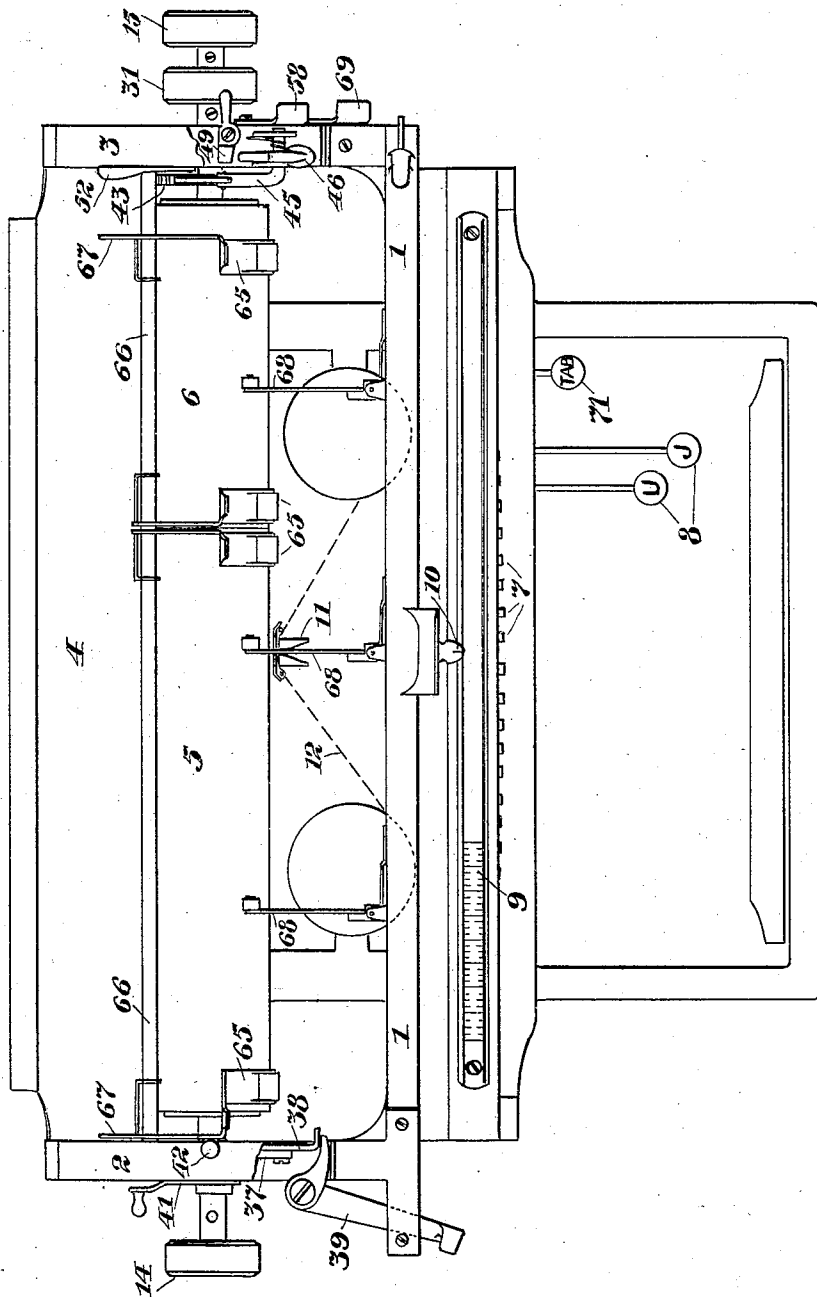


Fig. 1.

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3 SHEETS—SHEET 2.

Fig. 3.

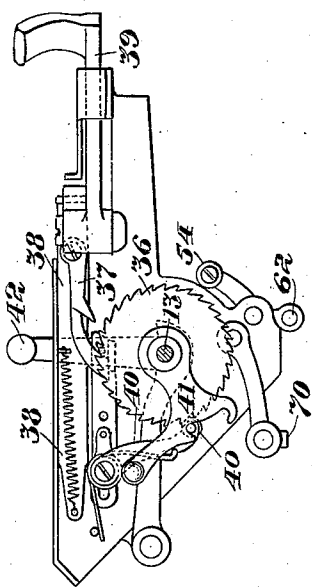
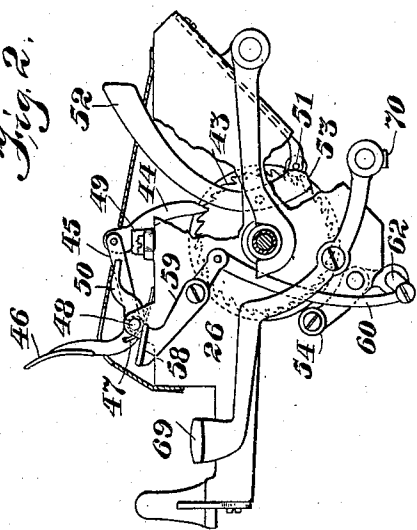
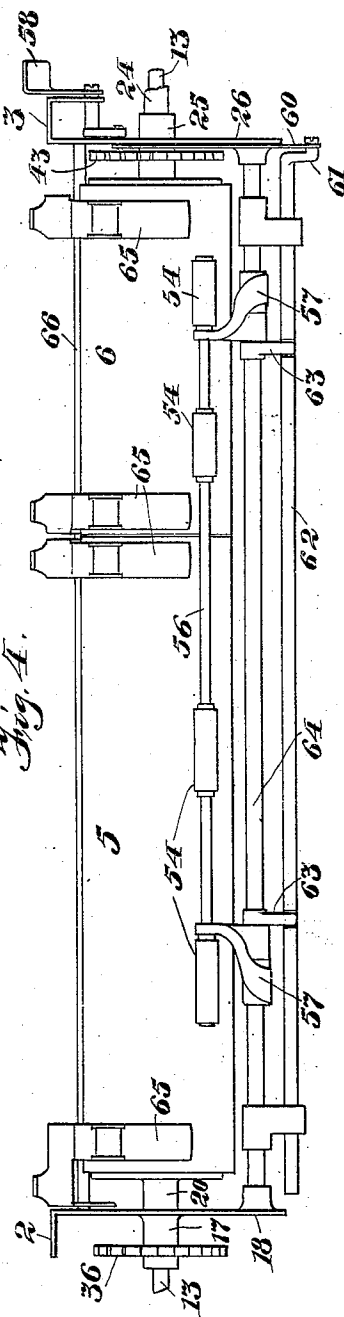


Fig. 2.



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Fig. 1.



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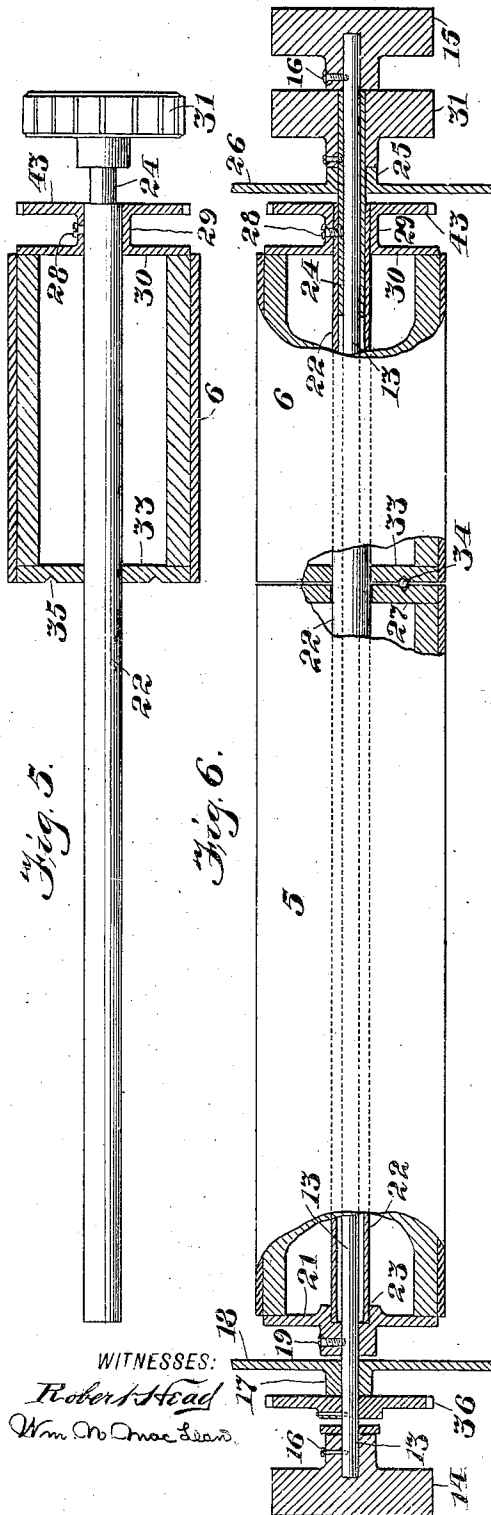
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3 SHEETS—SHEET 3.



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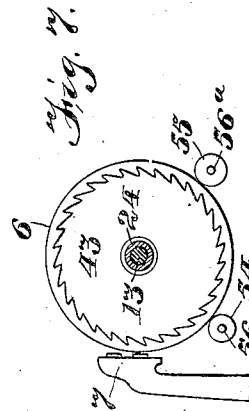
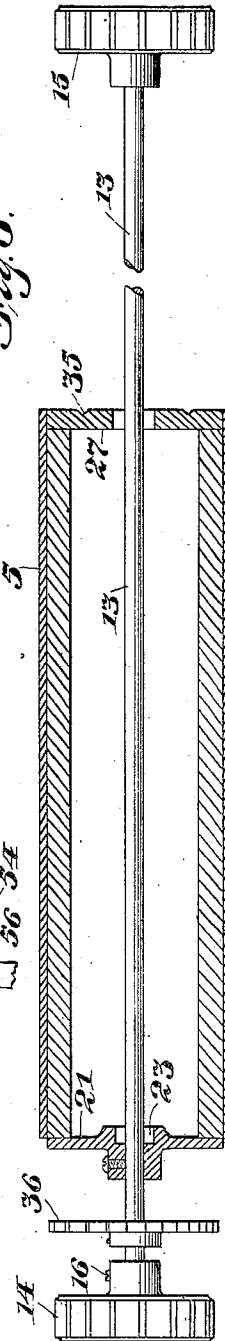


Fig. 8.



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UNITED STATES PATENT OFFICE.

GEORGE F. NEWMANN, OF CHICAGO, ILLINOIS, ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

No. 845,251.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed October 27, 1904. Serial No. 230,200.

To all whom it may concern:

Be it known that I, GEORGE F. NEWMANN, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates generally to the paper-controlling mechanism of type-writing machines.

In some cases it is necessary for an operator to write alternately upon different sheets of paper—as, for instance, an operator making out bills is sometimes required to enter upon a separate sheet the amount of each bill, with the amounts following one another in a column upon the sheet. In order to do this, it is necessary to insert the same sheet in the machine each time that an amount is to be written thereon, whereby much labor and time are consumed and liability of error is incurred.

The object of my invention is to avoid the labor and other objections pertaining to the operation of reinserting the same sheet in the machine for each amount or line to be written thereon. To this end I mount in a platen-frame of usual type a plurality of paper rolls or platens which are independently revoluble, each being provided with paper-feeding means. One platen is preferably longer than the other, the long platen being adapted for writing the bills or main sheets and the short platen being adapted for small sheets on which the amounts of the bills are to be entered or other memoranda made. By this means it becomes practicable to retain the small sheet in the machine during the insertion, writing, and removal of many bills, while upon the completion of each bill the small platen is readily brought to the printing-point and the keys manipulated to write thereon the amount of the bill, the small sheet remaining idle in the machine during the writing of the next bill, and so on. By mounting the two platens in a single frame or carriage the usual letter-spacing, tabulating, and margin-gage mechanisms are made to do duty for both platens, while each may be provided with its own line-spacing mechanism and other paper-feeding devices.

In the accompanying drawings, Figure 1 is

a plan of the well-known front-strike "Underwood" writing-machine of the style or size known as "No. 3," modified in accordance with my invention. I have chosen to illustrate my invention as applied to a No. 3 because that style of machine has a paper-carriage of extra length, in which I am therefore enabled to mount end to end two platens or platen-sections each of adequate length. Fig. 2 is an elevation of the right-hand end of the carriage, showing principally the line-spacing mechanism connected to the right-hand platen, which in this instance is the shorter of the two platens. Fig. 3 is an elevation of the left-hand end of the carriage, showing the usual Underwood line-spacing mechanism, which in this instance is connected to the left-hand or longer platen. Fig. 4 is a front elevation of the platen-frame and platens therein. Fig. 5 is a sectional view showing the shorter platen and parts rigid therewith. Fig. 6 is a part sectional view showing how the platens are mounted. Fig. 7 illustrates the shorter platen and its line-space wheel, a type-bar being also shown striking the platen upon its front side. Fig. 8 is a sectional view of the longer platen and parts rigid therewith.

The carriage of the Underwood machine usually comprises a main frame 1, whereon is mounted a vertically-shiftable platen-frame, consisting of ends 2 3, united by a rear plate 4, which also serves as a paper-shelf. In place of the usual single extra-length platen I mount in the platen-frame two platens or platen-sections 5 6, the former being preferably of sufficient length to accommodate an ordinary letter-sheet or bill-head and the latter being preferably considerably shorter and suitable for narrow tally-sheets or the like. The carriage may be moved back and forth in the usual manner for letter-spacing and for returning to begin a new line, and the single-type system may be operated by the usual keys 8 to write upon either of the platens by simply moving the carriage until the desired platen is opposite the printing point or center of the type system, the positioning of the carriage being facilitated by the usual front scale 9 and index 10 and the usual platen scale or scales. (Not shown.) As usual, the types are centered by a guide and strike through a ribbon 12.

The platens 5 and 6 are of equal diameter, concentric, abutting, and independently revoluble. At Fig. 6 it will be seen that an axle 13 extends through both platens and projects beyond the ends of the platen-frame, hand-wheels 14 and 15 being fixed to said axle outside of the platen-frame by screws 16. At the left-hand end of the frame said axle is journaled directly in a boss 17, which is usually fixed in the vertical plate portion 18 of the platen-frame end 2, and to said axle is secured, by means of screw 19 and hub 20, the left-hand end or head 21 of main platen 5, so that the latter may be rotated at any time by either hand-wheel 14 15. Owing to the proximity of the head 21 to the platen-frame end, the platen 5 is firmly supported notwithstanding the small diameter and consequent weakness of the axle 13, and in order to afford a firm support for the right-hand end also of the platen 5 I employ a relatively large and strong tube or tubular shaft 22, too large to fit upon the axle 13 and extending nearly the entire distance between the platen-frame ends. The left-hand end of said tubular shaft is loosely journaled at 23 in platen-head 21, while its right-hand end is provided with a bush in the form of a sleeve 24, which is fixed within the end of the tubular shaft, so as to rotate therewith, and fits loosely upon the axle 13 and is journaled in a boss 25, usually fixed upon the vertical-plate portion 26 of the right-hand platen-frame end 3. This tubular shaft 22 not only serves as a support for the inner end of platen 5, (whose right-hand end or head 27 is journaled loosely upon said tube at a considerable distance from either end of the platen-frame,) but also performs the function of an independent axle for the small or short platen 6, a screw 28 uniting the hub 29 of the right-hand head 30 of the short platen to the tubular shaft 22 and the bush 24, a third hand-wheel 31 outside of the platen-frame being secured by screw 32 to said bush or sleeve 24 and serving to rotate platen 6 independently of platen 5. Thus it will be seen that in the present form of the invention the tubular shaft 22, while serving as an independent axle for platen 6, permits the projection of the smaller axle 13 through the ends of the platen-frame, so that a hand-wheel may be fixed to each end thereof independently of the hand-wheel 31, fixed on said tubular shaft by means of sleeve 24, while also affording an unyielding support for the abutting ends of the platens, the left-hand head 33 of platen 6 fitting tightly upon said tubular shaft.

The platens are confined closely between the platen ends, so as to be incapable of end-wise play, and in order to enable either to rotate freely independently of the other a circular row of bearing-balls 34 is placed between the adjoining platen-heads 27 and 33,

each head being provided with a suitable annular depression, as 35, these depressions coöperating to form a raceway for the balls.

In the present construction the main platen 5 is operable by a line-spacing mechanism similar to that usually provided at the left-hand end of an Underwood carriage and comprising a line-space wheel 36, fixed to axle 13, pawl 37, adapted to said wheel, slide 38, carrying said pawl, and lever 39 for operating said slide. The line-space wheel is provided with a spring-detent 40, releasable by a lever 41. The usual regulator 42 adjusts the throw of the pawl 37. I prefer to provide a line-spacing mechanism for the right-hand platen 6 also, one line-spacing mechanism being preferably entirely independent of the other. The right-hand line-spacing mechanism may be of any suitable or usual type; but for the purpose of illustration it is shown as comprising a line-space wheel 43, rigid with platen-head 30, a pawl 44, adapted to said wheel, a lever 45, to which said pawl is pivoted, said lever being provided with an upstanding finger-piece 46, and a returning-spring 47 for said lever, the latter being pivoted at 48 to the plate 26. The throw of lever and pawl is determined by a regulator 49, which may be swung into or out of the path of a stop 50, fixed upon said lever. A spring-detent 51, normally engaging the ratchet-wheel 43, is releasable by a lever 52, which is provided at its lower end with a cam 53 to engage the projecting pin of the roller or detent 51.

The paper is advanced around the platens by means of front and rear pressure-rollers 54 55, similar in all respects to those usually provided in the No. 3 Underwood machine and similarly mounted and operated, except that by preference two front and two rear rollers are provided for each platen, as will be understood by reference to Figs. 4 and 7, all of the front rollers being independently revoluble upon the usual front shaft (seen at 56) and the rear rollers being similarly mounted upon shaft 56^a. The usual springs 57 may be provided for the roller-shafts, and both of the latter may be released by the usual key 58, connected by lever 59 and link 60 to crank 61 on rock-shaft 62, which co-operates in the usual manner with arms 63 upon rock-shaft 64 to release the pressure-rollers.

Each platen is also provided with a pair of front paper-guiding fingers 65, all adjustable independently of one another along rod 66, extending longitudinally of the platen in rear thereof. The extreme fingers are provided with gages 67 to determine the position of the paper when inserted in the machine, one gage for each platen, the gage for platen 5 adapted to be engaged by the left-hand edge of the sheet and that for platen 6 by the right-hand edge of the sheet. Paper-guid-

ing arms 68 are also pivoted upon the front bar of the carriage 1, two for platen 5 and one for platen 6.

The usual carriage-release key 69 for lifting the letter-spacing rack 70 out of use enables the carriage to be run rapidly along, so as to bring platen 6 to the printing-point.

In using the machine a bill-head (usually accompanied by a record-sheet) is inserted around the main platen 5 and a tally-sheet is inserted around platen 6. The bill is then written while the tally-sheet remains idle, the platen 6 not being rotated during the line-spacing of platen 5 for writing successive items upon the bill. Upon finishing the latter the tabulating-key 71 is depressed and the carriage runs rapidly to the left until the proper column upon the tally-sheet is brought to the printing-point, upon which is then written the total of the bill. Then the bill is withdrawn without disturbing the tally-sheet and a new bill inserted and written, the tabulating-key 71 again depressed, the platen 6 line-spaced, and the amount of the second bill written beneath the first upon the tally-sheet, and so on for any number of bills, the aggregate of which can of course be then readily computed upon the tally-sheet. By having the main platen 5 at the left hand of the carriage the usual margin-gage (not shown) is used for the beginning of lines upon the bill, while the tabulating mechanism is conveniently employed for skipping to the proper column upon the tally-sheet when desired. The invention, however, is not limited to the precise purpose set forth, and variations may be resorted to within the scope thereof.

Portions of the improvements may be used without others.

Having thus described my invention, I claim—

1. In a type-writing machine, the combination with a frame having ends, of two independently-revoluble abutting cylindrical platen-sections extending between said ends, a tube extending axially of said sections between said ends and affording a substantial support for the abutting ends of said sections, and the ends of said tube, together with the outer ends of said sections, being supported upon said frame.

2. In a type-writing machine, the combination with a frame having ends, of two independently-revoluble coaxial platens or sections placed end to end between said frame ends, an axle extending through said frame ends and said platens and connected to one of the latter, hand-wheels fixed upon the ends of said axle, and a hand-wheel connected to the other of said platens.

3. In a type-writing machine, the combination with a frame having ends, of long and short platens placed end to end between said frame ends, said platens being coaxial and of

equal diameter and independently revoluble, an axle extending through said frame ends and said platens and connected to said long platen, hand-wheels fixed upon the ends of said axle, and a hand-wheel fixed to said short platen; all of said hand-wheels being outside of said frame.

4. In a type-writing machine, the combination with a frame, of an axle journaled therein and projecting at its ends therefrom and provided at its ends with hand-wheels, platens placed end to end and one thereof fixed to said axle, a sleeve or tube mounted loosely upon said axle and fixed to another of said platens, and a hand-wheel fixed to said sleeve or tube.

5. In a type-writing machine, the combination with a frame, of two platens placed end to end within said frame, a tubular shaft within said platens and extending for substantially the entire length thereof, an axle within said tubular shaft and projecting at its ends from said platen-frame, one of said platens being secured to said axle and the other to said tubular shaft, and the latter affording a substantial support for the adjoining ends of said platens, hand-wheels secured to the ends of said axle, and a hand-wheel secured to said tubular shaft.

6. In a type-writing machine, the combination with a frame, of two platens placed end to end within said frame, an axle extending through said platens and frame, hand-wheels secured upon the ends of said axle outside of said frame, means securing the outer end of one of said platens to said axle, a tubular shaft too large to fit said axle and extending through both said platens and at one end journaled loosely in said outer end, the adjoining ends of both of said platens fitting upon said tube, a sleeve forming a bush in said tubular shaft at the outer end of the other of said platens and fitting upon said axle, said bush being fixed to said tubular shaft and journaled in said platen-frame, and a hand-wheel secured upon said sleeve outside of said platen-frame.

7. In a type-writing machine, the combination with a frame, of two coaxial platens placed end to end within said frame and independently revoluble, an axle extending through said platens and fixed to one thereof, a tubular shaft inclosing said axle and fixed to the other of said platens, a line-space wheel fixed to said axle and provided with step-by-step rotating mechanism, and a line-space wheel fixed to said tubular shaft and provided with step-by-step rotating mechanism.

8. In a type-writing machine, the combination with a frame, of two coaxial platens placed end to end within said frame and independently revoluble, a hand-wheel connected to each platen, a line-space wheel connected to each platen, a spring-detent for

each line-space wheel, and releasing means for each detent.

9. In a type-writing machine, the combination with a frame, of two coaxial platens 5 of equal diameter placed end to end within said frame and independently revolable, pressure-rolls for guiding the paper around said platens, and a single release-key for throwing off all of said pressure-rolls.

10 10. In a type-writing machine, the combination with a frame, of two coaxial platens of equal diameter placed end to end within said frame and independently revolable, means for guiding the paper beneath said 15 platens, and a pair of front paper-guiding fingers for each of said platens; each finger being independently adjustable along its platen.

11. In a type-writing machine, the combination with a frame, of two coaxial platens 20 of equal diameter and unequal length placed end to end within said frame and independently revolable, means for guiding the paper beneath said platens, a pair of front paper-guiding fingers for each of said platens, and a 25 single rod upon which all of said fingers are

mounted and along which they may be independently adjusted.

12. In a type-writing machine, the combination with a frame, of two coaxial platens 30 placed end to end within said frame and independently revolable, means for guiding the paper around each platen independently of the other, and a gage for each of said platens for determining the sidewise adjustment of 35 the paper when inserting the same into the machine; each gage being adjustable along its platen independently of the other.

13. In a type-writing machine, the combination with a frame having ends, of two 40 platens mounted end to end coaxially between said frame ends, said platens being independently revolable, a line-spacing mechanism upon one end of said platen-frame for rotating one platen, and an independent line-spacing mechanism upon the other end of said 45 platen-frame for rotating the other platen.

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Witnesses:

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