No. 862,536. PATENTED AUG. 6, 1907.

A. T. BROWN.

TYPE WRITING MACHINE.

APPLICATION FILED NOV. 11, 1904.

4 SHEETS—SHEET 1.

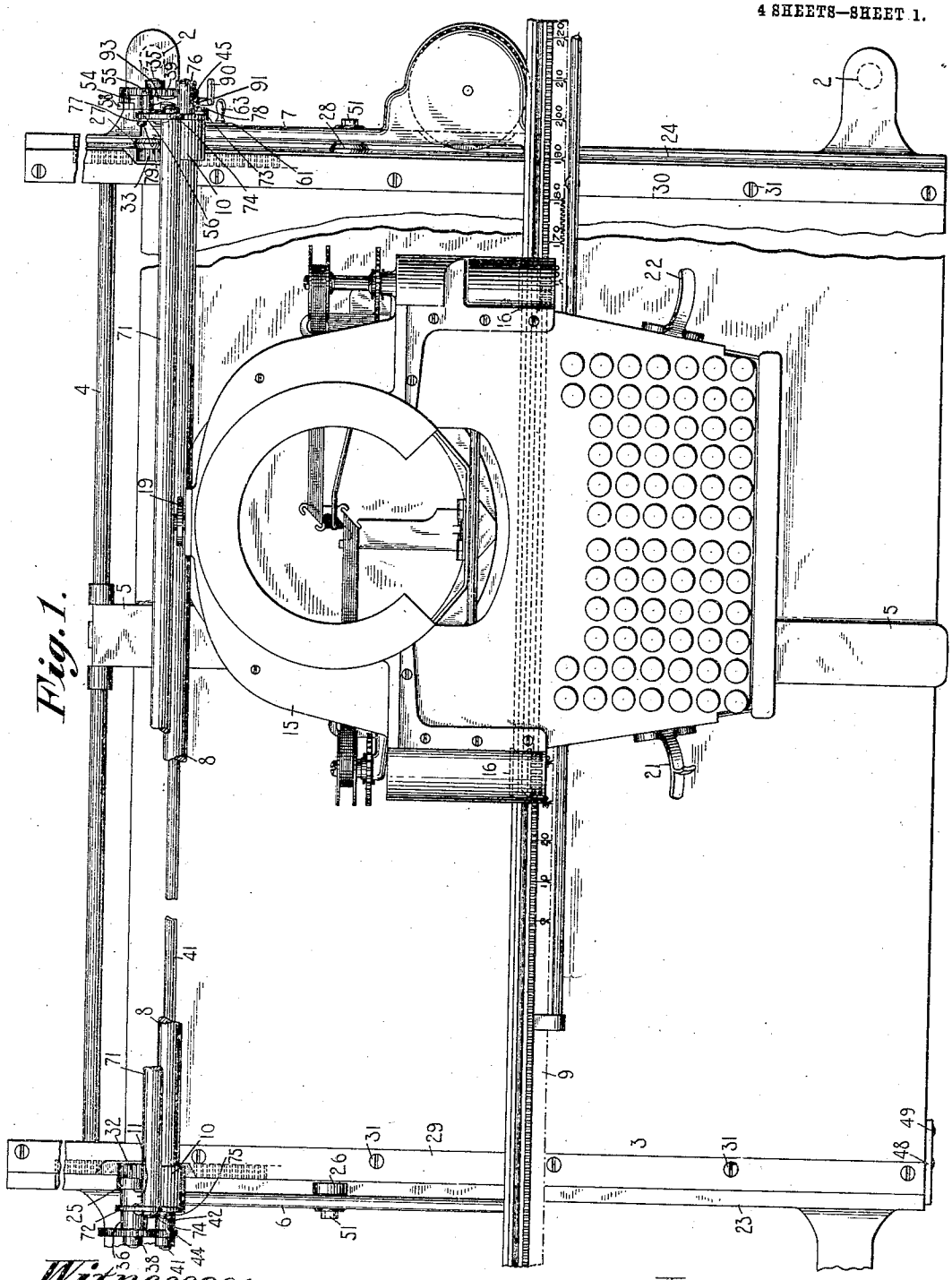


Fig. 1.

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M. F. Hannweber.

Inventor:

Alexander T. Brown

by Jacob Felbel

His Attorney

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4 SHEETS—SHEET 2.

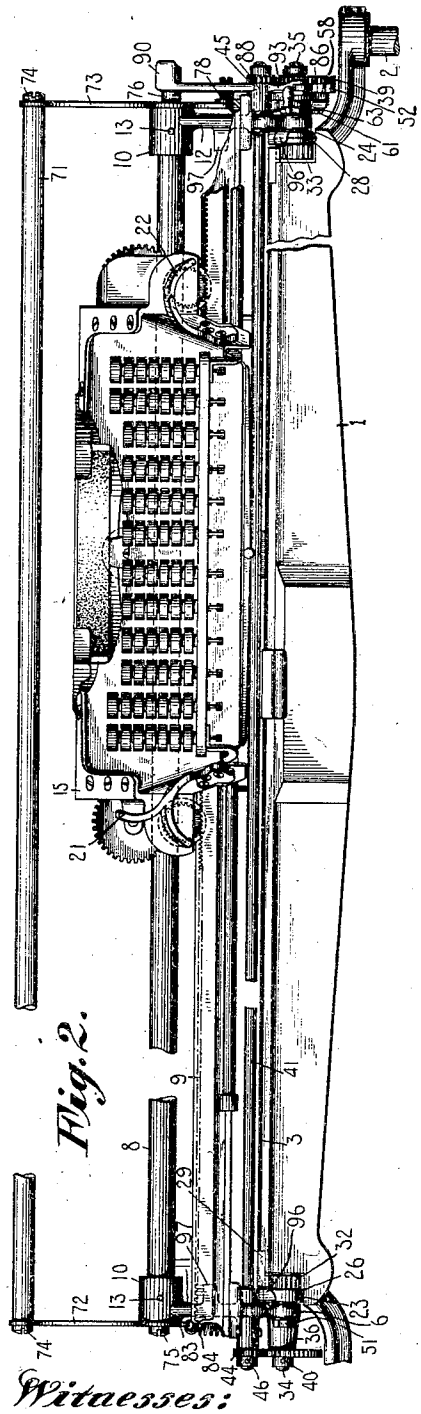


Fig. 2.

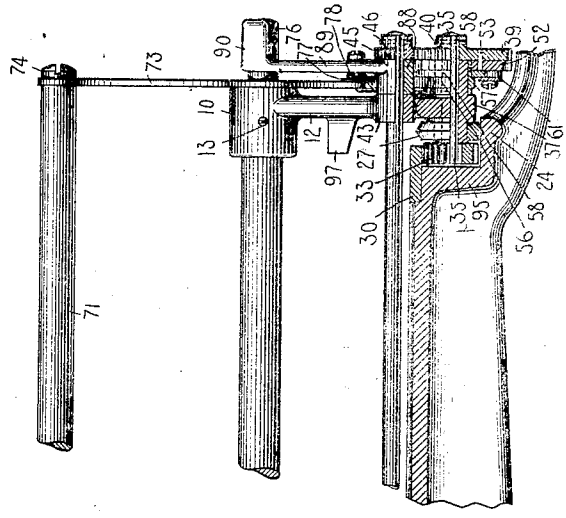


Fig. 4.

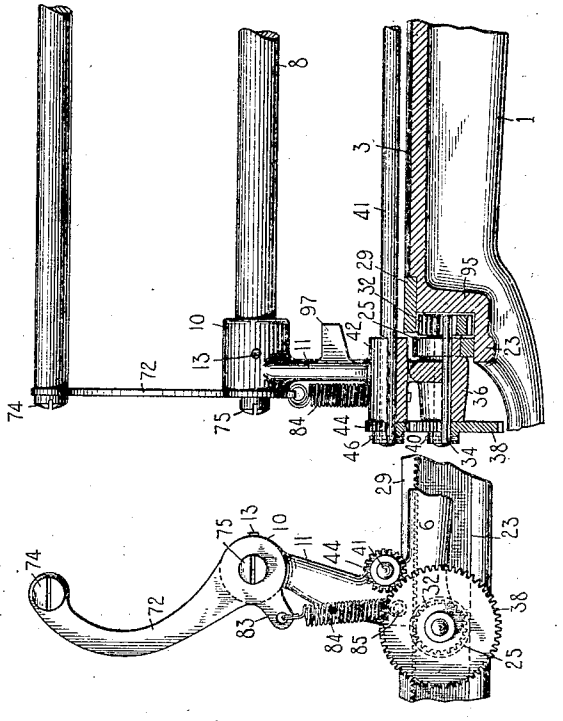


Fig. 3.

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4 SHEETS—SHEET 3.

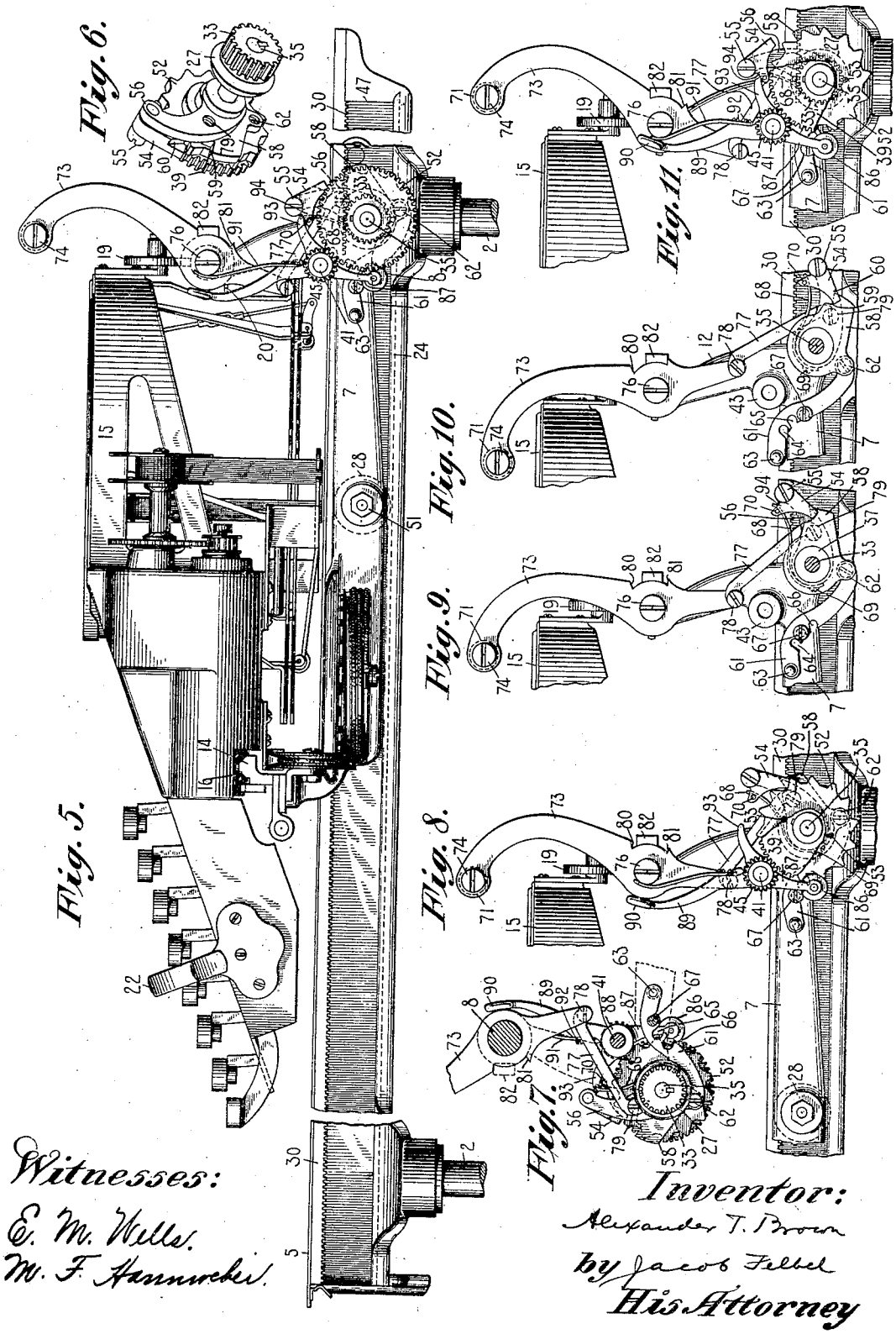


Fig. 5.

Fig. 6.

Fig. 11.

Fig. 10.

Fig. 9.

Fig. 8.

Fig. 7.

Witnesses:

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W. F. Hannecker.

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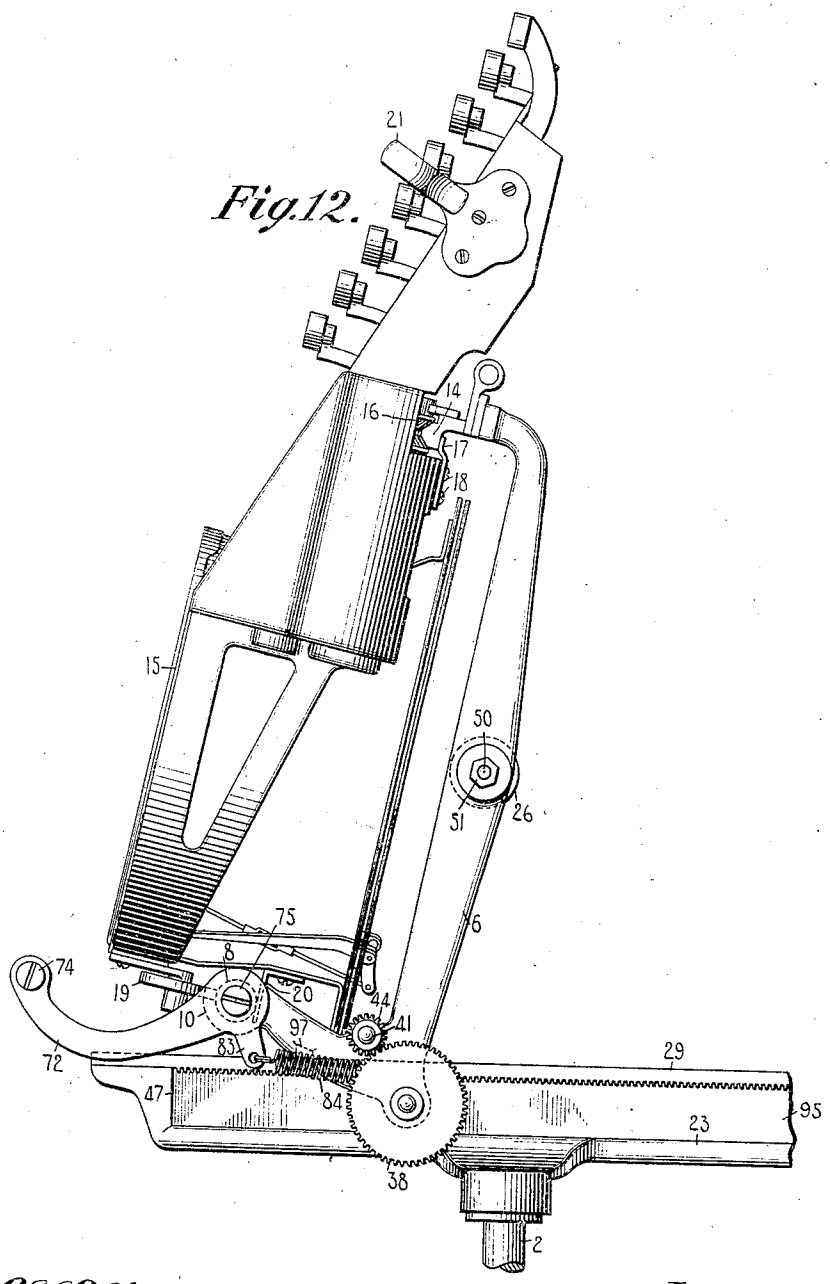
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4 SHEETS—SHEET 4.

Fig. 12.



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Inventor:

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UNITED STATES PATENT OFFICE.

ALEXANDER T. BROWN, OF SYRACUSE, NEW YORK.

TYPE-WRITING MACHINE.

No. 862,536. Specification of Letters Patent. Patented Aug. 6, 1907.

Application filed November 11, 1904. Serial No. 232,303.

To all whom it may concern:

Be it known that I, ALEXANDER T. BROWN, a citizen of the United States, and a resident of Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to typewriting machines and has for its object to provide an improved line-space mechanism for such machines.

My invention is more especially designed for use in typewriting machines employing a flat platen, such as most book typewriting machines, but some of the features thereof are also applicable to typewriters of other sorts.

My invention consists in certain features of construction and combinations and arrangements of parts which will be fully set forth herein and particularly pointed out in the claims.

In the accompanying drawings, in which like numerals indicate like parts in the several views, Figure 1 is a top plan view of a typewriting machine embodying my invention. Fig. 2 is a front elevation of the same. Fig. 3 is a detail view in end elevation as seen from the left of Fig. 2. Fig. 4 is a front elevation, partly in section, of a portion of my mechanism. Fig. 5 is an elevation showing the right-hand end of the machine. Fig. 6 is an isometric detail view of the line space ratchet and associated parts. Fig. 7 is a view of the right-hand feed pinion and the pawl and ratchet mechanism associated therewith, looking from the left, parts of the framework of the machine being shown in section. Figs. 8, 9, 10 and 11 are detail views of the line-space feed-mechanism looking towards the left, the parts being shown in different positions in the different figures; and Fig. 12 is a left-hand end elevation showing the line space frame and the printing mechanism tilted up to expose the surface of the platen.

In the particular embodiment of my invention illustrated in the drawings, the printing mechanism is supported by a carriage which is adapted to move from left to right for letter spacing across a supplemental carriage or line-space frame, which in turn is adapted to be moved up and down the page for line spacing; but some of the features of my invention are also applicable to machines in which the line-space movement is imparted to the platen itself.

In the present instance, the platen frame 1 is supported on posts 2 and the flat top of said platen frame is covered with a sheet or sheets 3 of rubber or other suitable material upon which the paper to be written upon is laid. A rod 4 is mounted on the platen frame and has pivoted thereto a paper clamp 5 which need not be more particularly described as it forms no part of the present invention. As best shown in Fig. 1, the supplemental carriage or line space frame has the general form of a rectangle, and comprises two end pieces 6 and 7 rigidly connected together by bars 8 and 9. The bar 8 is shown as a round rod fitting in hubs or enlargements 10 formed on the upwardly extending branches 11 and 12 of the end bars 6 and 7 respectively, and secured in said enlargements by pins 13 passing through said enlargements and said rod. A V-shaped rail 14 (Fig. 5) is carried by or formed upon the bar 9, and the carriage 15 is provided with grooved rollers 16 which run on said rail, The rollers 16 are prevented from becoming disengaged from the rail 14 by lugs 17 which project from the carriage under the rail. These lugs, as shown in Fig. 12, may be plates of metal fastened to the framework of the carriage by screws 18. The back end of the carriage is supported by a roller 19 engaging the top of the rod 8; and a lug 20, best shown in Fig. 12, projecting from the framework of the carriage, extends under said rod to prevent said roller 19 from becoming displaced. The carriage 15 is provided with handles 21 and 22 secured to the framework thereof, whereby said carriage may be moved by the hand of the operator. The carriage and the printing mechanism carried thereby need not be more particularly described as the precise construction thereof is immaterial so far as the present invention is concerned. The platen, carriage and printing mechanism shown in the drawings form the subject-matter of other applications co-pending herewith.

Two rails or tracks 23 and 24 are secured to or formed upon the left and right-hand edges of the platen frame respectively and are depressed below the level of the printing surface. Two rollers 25 and 26 (Fig. 1) journaled on the frame piece 6 travel on the rail 23, and two rollers 27 and 28 journaled on the frame piece 7 travel on the rail 24. The rail 23 and the rollers 25 and 26 which run thereon are flat but the rail 24 is grooved and the rollers 27 and 28, which engage the same, are formed to fit in said grooved track to guide the line space frame. Rack bars 29 and 30 are secured to the platen frame along the left and right hand edges thereof respectively, by screws 31. The rack bars 29 and 30 preferably have their upper surfaces flush with the surface of the platen, and their teeth formed on their under sides. Said teeth are engaged by pinions 32 and 33 (Figs. 1 and 4) fixed to short shafts 34 and 35 respectively, journaled in bearings 36 and 37 formed in the end bars 6 and 7 respectively of the line space frame. The rollers 25 and 27 are journaled on the outsides of the elongated bearings 36 and 37, respectively. Gears 38 and 39 are fixed to the outer ends of the shafts 34 and 35 by pins 40 passing through the hubs of said gear wheels and through said shafts. A shaft 41 journaled at one end in a bearing 42 formed in the end

piece 6 and at the other end in a bearing 43 formed in the end piece 7, has rigidly secured at its ends pinions 44 and 45 engaging the gear wheels 38 and 39 respectively. The pinions 44 and 45 are rigidly fixed on the shaft 41 by pins 46 passing through the hubs of said pinions and through said shaft. It will be perceived that the gears 38 and 39 and the pinions 44 and 45 constitute a train of gearing adapted to cause the feed pinions 32 and 33 to turn in unison and thus to assure a parallel motion to the line space frame across the platen.

It will be observed by reference to Figs. 1 and 4, for example, that the tracks 23 and 24 project further beyond the edge of the platen than the rack bars 29 and 30 and that the pinions 32 and 33 run in a sort of groove from which they cannot escape. The tracks and rack bars may extend some distance back of the platen as shown and the grooves referred to are terminated at their rear ends by end walls 47 (Figs. 5 and 12). The forward travel of the line space frame may be limited in any suitable manner, as, for example, by a plate 48 (Fig. 1) fastened to the front edge of the platen frame by screws 49 and extending into the path of the roller 26. The rollers 26 and 28 are journaled on shouldered screws 50, Fig. 12, threaded into the frame pieces 6 and 7 respectively and secured by lock nuts 51. It will, of course, be understood that the rollers 25, 26, 27 and 28 are designed merely to lessen the friction and that if preferred, said rollers might be dispensed with and the line space frame be made to slide on the tracks 23 and 24.

In order to impart a step-by-step feed to the line space carriage, I have provided a pawl and ratchet mechanism for operating the train of gearing which includes the feed pinions 32 and 33. To this end a ratchet wheel 52 is fixed to the gear 39 by pins 53 (Fig. 4) passing through said gear wheel and said ratchet wheel. A pawl 54 (Fig. 6) adapted to engage said ratchet wheel, is pivoted on a shouldered and headed screw 55 threaded into a pawl carrying arm 56 journaled on the outside of the sleeve 37 inside of which the shaft 35 is journaled. As shown in Fig. 4, the pawl arm 56 projects from a sleeve 57 which is journaled on the sleeve 37 and extends within the ratchet wheel 52, thus forming a bearing for said ratchet wheel. A plate 58 (Fig. 6) is journaled on the sleeve 57 between the ratchet wheel 52 and the arm 56, and said plate 58 is formed with a shoulder 59 adapted to be engaged by a shoulder 60 formed on one side of the pawl 54 to limit the motion of said pawl. The form of the shoulders 59 and 60 is such as to jamb the pawl 54 against the ratchet wheel and thus prevent overthrow of said ratchet wheel. A link 61 (Figs. 8 and 11) is pivoted to the plate 58 at 62 and said link is provided with a handle 63 by manipulation of which the position of the plate 58 may be adjusted. Three notches 64, 65 and 66, are formed in the link 61 and are adapted to engage a pin or headed screw 67 projecting from the side of the frame piece 7 to retain the link 61 in either of its three positions for single, double or triple line spacing. The different positions in which the plate 58 arrests the pawl 54 when the pin 67 is engaged by one or another of the notches 64, 65 and 66 are shown respectively in Figs. 8, 9 and 10. The pawl 54 is pressed into engagement with the ratchet wheel 52 by a spring 68 fixed to the arm 56 by a screw 69 and engaging a pin 70 projecting from said pawl 54. The handle for operating the pawl-carrying arm 56 is a yoke-bar 71 (Fig. 2) rigidly secured to arms 72 and 73 by screws 74. The arms 72 and 73 and the bar 71 constitute a yoke-shaped frame pivoted to the line space frame on headed screws 75 and 76 threaded into portions of said line space frame. As shown in the present case, said screws are threaded into the ends of the bar 8 above described, and the handle bar 71 thus extends entirely across the machine so that it may be readily grasped by either hand of the operator. The arm 73 is extended downward from its pivot 76 and is connected with the arm 56 by a link 77 pivoted to the arm 73 at 78 and to the arm 56 at 79 (Figs. 6 and 7). Motion of the arm 73 is limited in both directions by shoulders 80 and 81 of said arm (Fig. 9) engaging a lug 82 projecting from the enlargement 10 of the upwardly extending portion 12 of the end piece 7. The arm 72 has projecting therefrom an arm 83, and a coiled spring 84 is connected at one end to said arm 83 and at the other end to a pin 85 projecting from the end piece 6. The spring 84 holds the yoke-frame in its normal position. A detent roller 86 is journaled in the end of an arm 87 pivoted to the line space frame. In the present instance, the arm 87 is provided with a hub 88 which is pivoted on the shaft 41 (Fig. 4). An arm 89 rises from said hub 88 and is formed with a handle or thumb-piece 90. A spring 91 (Figs. 8 and 11) is secured to said arm 89 by screws 92, and said spring engages the head of the screw 76 which is elongated for the purpose. The spring 91 normally presses the detent roller 86 into engagement with the ratchet wheel 52 with which said detent roller coöperates in the usual manner. The detent roller can be moved out of engagement with said ratchet wheel by pressing on the handle 90. The hub 88 is also provided with a backwardly extending arm 93 extending into the path of a tail 94 which projects forwardly from the pawl 54. The construction is such that when the parts are in their normal position, shown in Figs. 5, 6 and 7, the arm 93 raises the pawl 54 slightly away from the ratchet wheel 52 but when said pawl is operated by the handle bar 71, it moves out of engagement with the said arm 93 and into engagement with the ratchet wheel immediately at the beginning of its operation. When it is desired to move the line space frame for a considerable distance forward or to move the frame backward, both the detent roller 86 and the pawl 54 may be entirely disengaged from the ratchet wheel 52 by pressing the thumb piece 90 back to the position shown in Fig. 11. Furthermore, the carriage may be grasped by the hand of the operator and forced either backward or forward, in which case the roller 86 will be vibrated back and forth by the teeth of the ratchet wheel 52, and during such vibration the arm 93, engaging the projection 94, will move the pawl 54 in such a manner that as each tooth of the ratchet approaches said pawl, the pawl will be raised in time to let the tooth escape past the pawl. It will thus be seen that the line space frame can be moved in either of three different ways; it can be moved down the page step-by-step by operating the handle bar 71, or it can be moved easily by pressing on the thumb piece 90 and thus freeing the ratchet wheel from its pawl and detent; or the carriage can be moved by the exertion of sufficient force without manipulating said thumb piece. The strength of the spring 91 is suffi-

cient to force the roller 86 firmly into the space between two of the teeth of the ratchet wheel and to thus keep the line space frame always in proper register.

It will be observed that in moving the line space carriage step-by-step down the page, the handle bar 71 is pulled in the direction in which it is desired that the carriage shall move, which thus tends to reduce the friction of the parts; and that any overthrow of the carriage, when it is drawn by said handle bar 71, is positively prevented by the engagement of the shoulder 60 of the pawl 54 with the shoulder 59 of the plate 58.

The line-space frame is sufficiently guided in its ordinary movement up and down the page by the grooved rail 24. In case any unusual force be applied to said frame in a right or left hand direction, the pinions 32 and 33 will encounter the web portion 95 of the platen frame, and lugs 96 (Fig. 2), projecting from the frame pieces 6 and 7 near their forward ends, will encounter the edges of the rack bars 29 and 30, and any displacement of the line space frame would thus be prevented.

It will be observed that the forward rollers 26 and 28 do not run under the rack bars. The forward part of the line space frame is thus left free to be lifted from its printing position and to be tilted back into the position shown in Fig. 12, in order to expose the paper for the purpose of making erasures or for any other purpose. Lugs 97, Figs. 2 and 12, project inwardly from the upright portions 11 and 12 of the end pieces 6 and 7 in such a position that when the frame is tilted backward in the manner described, said lugs engage the upper surfaces of the rack bars 29 and 30 and form a support for the frame. When the frame is tilted to this position the lugs 20 and 17, together with the V-shaped formation of the track 14, prevent the carriage 15 from becoming displaced from the line space frame. The engagement of the pinions 32 and 33 with the rack bars prevents the line space frame from becoming displaced up or down the platen when said frame is tilted, any rotation of said pinions being prevented by the detent 86. It will be seen that the frame can be tilted back in this manner at any point in its travel up and down the platen, and that when the frame is returned to the horizontal, it will resume the exact position over the platen that it had before it was tilted. The arrangement is such that at every point in its travel the line space frame is in effect pivotally connected to the platen frame. The handles 21 and 22 form a convenient means for manipulating the carriage for this purpose.

It will be observed that the tracks 23 and 24 and the rack bars extend some distance back of the platen, so that when it is desired to adjust the paper on the platen, the line space frame may be rolled toward the back of the machine and be tilted back into the position shown in Fig. 12. The paper clamp 5 may then be raised from the platen and the paper changed.

It is new, so far as I am aware, to provide a typewriter frame with means whereby it may travel along a track of any description and may also be tilted about the track itself without danger of becoming displaced from or along said track; in other words, to provide a connection between a frame and a rail or a track, which connection affords a motion of translation along said track and also constitutes in effect a true pivotal connection with said track affording a pivotal motion about said track in the same general direction as the motion of translation. It is also new, so far as I am aware, to have the feed pinions engage the rack bars on the underside thereof. This arrangement has many advantages which will be readily apparent to those skilled in the art. It is much easier to keep the racks clean when arranged in this manner and said racks are also out of the way so that there is no danger of the operator's hand or clothing coming into contact with them.

It will be observed that in the ordinary use of the present machine the operator has no occasion to separate the parts thereof. In order to reach the paper to make corrections it is only necessary to grasp one of the handles 21 or 22 and tilt the frame back until it rests on the lugs 97. In order to change the paper the frame is moved to the back of the platen, tilted back out of the way and the operator has both hands free to arrange the paper and the paper clamp on the platen.

In the particular form of platen here illustrated, it is intended that the book shall rest beneath the platen and that two leaves shall be drawn up through a slot under the paper clamp 5 and that one leaf shall extend to the left and the other to the right of said clamp. This being the case, in writing on either page the carriage 15 would be always at either the left-hand or the right-hand side of said paper clamp. As the books on which these machines are used are frequently large, such platens are in practice of considerable width from right to left and in this connection the long line-space handle bar 71, extending entirely across the machine, is especially convenient; but I do not intend my claims on this feature to be limited to such a machine. So far as I am aware, it is new in any style of typewriting machine to provide a handle bar of such character extending across the machine in this manner. There are also features of construction in the pawl and ratchet mechanism, the novelty of which is not confined to machines of this type but which I believe to be new in typewriting machines generally.

Various changes in the details of construction and arrangement may be made without departing from the gist of my several improvements.

The mechanism for affording motion of the carriage 15 transversely of the machine, some of which is shown in the present case, is more fully disclosed and is claimed in my pending application Serial No. 232,301 filed of even date herewith. The platen frame 1 and the parts immediately associated therewith, as well as the paper clamp 5, are more fully set forth and are claimed in my pending application Serial No. 232,302, filed of even date herewith. The ribbon mechanism, parts of which are shown in the drawings, is more fully disclosed and is claimed in my pending application Serial No. 239,642, filed January 4th, 1905.

What I claim as new and desire to secure by Letters Patent, is:—

1. The combination of a flat platen, a line-space frame adapted to travel across said platen, and rails for said line-space frame fixedly connected to said platen below the surface thereof.

2. The combination of a flat platen having rails extending along opposite edges thereof and below the surface thereof, and a carriage having rollers engaging said rails.

3. The combination of a platen, a line-space frame adapted to travel across said platen, rails supporting said line-space frame and fixedly connected to said platen, one or more racks fixedly connected to said platen, and one or more pinions carried by said line-space frame and engaging said racks.

4. The combination of a platen, rails fixedly connected to said platen, a line-space frame supported by and adapted to travel on said rails across said platen, racks fixedly connected to said platen, and pinions carried by said line space frame and engaging said racks and held by said rails in engagement with said racks.

5. The combination of a carriage; pinions carried by said carriage; racks engaged by said pinions; means for causing said pinions to turn together to afford a motion of translation of said carriage along said racks; and rails supporting said carriage and arranged to prevent said pinions from becoming disengaged from said racks.

6. The combination with a flat platen, of rack bars extending along opposite edges thereof and having rack teeth on their under sides below the surface of the platen; a carriage having pinions engaging said rack teeth; and means for causing said pinions to turn together.

7. The combination of a flat platen; racks projecting beyond the opposite edges of said platen; rails beneath said racks but out of the vertical planes thereof; and a carriage adapted to travel on said rails and having pinions engaging beneath said racks.

8. The combination with a frame and a carriage, of means for imparting a motion of translation of said carriage across said frame, said means also constituting a pivotal connection between said carriage and frame whereby said carriage may be tilted about a pivotal axis at right angles to the line of its motion of translation across said frame, at any point in its travel across said frame.

9. The combination with a flat platen, racks extending along opposite edges of said platen, and rails below said racks but out of the vertical planes thereof, of a carriage engaging said rails and having pinions engaging said racks beneath the same, the construction being such that said carriage is supported by said rails and may be tilted about said pinions.

10. The combination of two parallel tracks and a frame having a pivotal connection with said tracks, said pivotal connection also affording a motion of translation of said frame along said tracks and coöperating directly with said frame and with said tracks.

11. The combination of a platen; a line space frame adapted to travel across said platen; tracks for said line space frame fixedly connected to said platen; and a connection coöperating directly with said line space frame and said tracks and adapted to afford a motion of translation of said line space frame along said tracks, and also a pivotal motion in the same general direction as said motion of translation.

12. In a typewriting machine, the combination of a relatively stationary frame, a carriage, means for moving said carriage across said frame, said means including pinions engaging racks carried by said frame, said racks and pinions being adapted to serve as a pivotal connection between said carriage and frame.

13. In a typewriting machine, the combination of a relatively stationary frame having racks; a carriage having pinions engaging said racks to cause all parts of said carriage to move equal amounts across said frame; and means for holding said pinions in mesh with said racks whereby said carriage may be tilted about said pinions.

14. In a typewriting machine, the combination of a relatively stationary frame; a carriage adapted to move across said frame; a pinion and a roller co-axially mounted on said carriage, said pinion engaging the under side of a rack bar carried by said frame and said roller engaging the upper side of a rail also carried by said frame.

15. In a typewriting machine, the combination of a relatively stationary frame; a rack bar carried by said frame; a rail beneath said rack bar but projecting beyond the same; a carriage having a pinion between said rack bar and rail and engaging the former and carriage supporting means engaging said rail.

16. In a typewriting machine, the combination of a flat platen; rack bars projecting beyond two of the edges of said platen and directed away from the printing face thereof, rails beneath said rack bars; a carriage having pinions engaging beneath said rack bars, and carriage supporting means engaging said rails.

17. In a typewriting machine, the combination of line space mechanism and a handle for actuating said mechanism, said handle having the form of a yoke-shaped frame extending across the machine and moving when operated in the direction of motion of said line space frame.

18. In a typewriting machine, the combination of a line space frame, a pivoted yoke frame extending across the machine and a line space mechanism operatively connected to said yoke frame at one end thereof, said yoke frame moving when operated in the direction of motion of said line space frame.

19. The combination of a platen; a line-space frame; pawl and ratchet mechanism for moving said line-space frame across said platen; and a yoke-shaped frame for operating said pawl and ratchet mechanism, said yoke-shaped frame moving when operated in the direction of motion of said line space frame.

20. In a typewriting machine, the combination with line-space mechanism, of a handle bar for said mechanism extending across the machine and movable fore and aft of the machine.

21. In a typewriting machine, the combination of a platen; a line-space frame; mechanism for moving said line-space frame across said platen; and a line-space handle bar on said frame extending across the machine and moving when operated in the direction of motion of said line space frame.

22. The combination of a platen, a line-space carriage, a pivoted arm, a pawl mounted on said pivoted arm and engaging a ratchet to actuate said carriage; an operating lever; and a link pivoted to said operating lever and to said pawl carrying arm.

23. The combination of a line-space ratchet wheel; an operating pawl for said ratchet wheel carried by a pivoted arm; an adjustable member for arresting said pawl; said pawl arm and said adjustable member being pivoted co-axially with said ratchet wheel; and a handle pivoted to said adjustable member.

24. The combination with a line-space ratchet wheel; of an operating pawl for said wheel; an arm pivoted co-axially with said ratchet wheel and carrying said pawl; an arresting member for said pawl pivoted on the same axis as said pawl arm and ratchet wheel; a handle pivoted to said arresting member; and means coöperating with said handle for retaining said arresting member in adjusted position.

25. The combination of a flat platen having a rack; a line-space frame having a pinion engaging said rack; a ratchet wheel for controlling said pinion; an operating pawl for said ratchet wheel; a spring pressed detent carried by said frame and engaging said ratchet; and an arm connected to said detent and adapted to move said pawl out of engagement with said ratchet.

26. The combination of a flat platen having a rack; a line-space frame having a pinion engaging said rack; a ratchet wheel for controlling said pinion; a pawl for operating said ratchet wheel; an arresting member for said pawl pivoted co-axially with said ratchet wheel; a link pivoted to said arresting member for adjusting the same; and means for holding said link in the different positions to which it may be adjusted.

27. The combination of a line space ratchet wheel; an operating pawl for said ratchet wheel carried by a pawl arm pivoted co-axially with said ratchet wheel; an arresting member for said pawl also pivoted co-axially with said ratchet wheel and adapted to jam said pawl against said ratchet wheel to prevent overthrow of the latter; a notched link connected with said arresting member; and a fixed abutment coöperating with the notches of said link to hold said arresting member in different adjusted positions.

28. The combination of a flat platen, a carriage adapted to travel across said platen, means for controlling the motion of said carriage across said platen, said means

being adapted to afford a continuous motion of said carriage across said platen for any distance; a handle for imparting a step-by-step motion of said carriage across said platen, and means for preventing overthrow when said carriage is moved step-by-step.

29. The combination of racks; a line-space frame having pinions engaging said racks; gears connected to said pinions; and a shaft having pinions engaging said gears whereby said first-mentioned pinions are constrained to turn in unison.

30. The combination of a flat platen; rack bars connected to opposite edges of said platen and having rack teeth on the under side thereof; a line space frame having pinions engaging said rack bars beneath the same; gears connected to said pinions; and a shaft extending across said platen and having pinions engaging said gears.

31. The combination of a flat platen; rack bars connected to the opposite edges of said platen and having rack teeth on the under sides thereof; a line space frame having pinions engaging said rack teeth; gears connected to said pinions; a shaft extending across said platen and having pinions engaging said gears; and pawl and ratchet mechanism for controlling said pinions.

32. The combination of a flat platen; rack bars connected to the opposite edges of said platen and having rack teeth on the under sides thereof; a line space frame having pinions engaging said rack teeth; gears connected to said pinions; a shaft extending across said platen and having pinions engaging said gears; a ratchet wheel connected to one of said pinions; a pawl coöperating with said ratchet wheel; and a handle for controlling said pawl, said handle having the form of a yoke bar extending across the machine.

Signed at the borough of Manhattan, city of New York, in the county of New York, and State of New York, this 9th day of November A. D. 1904.

ALEXANDER T. BROWN.

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