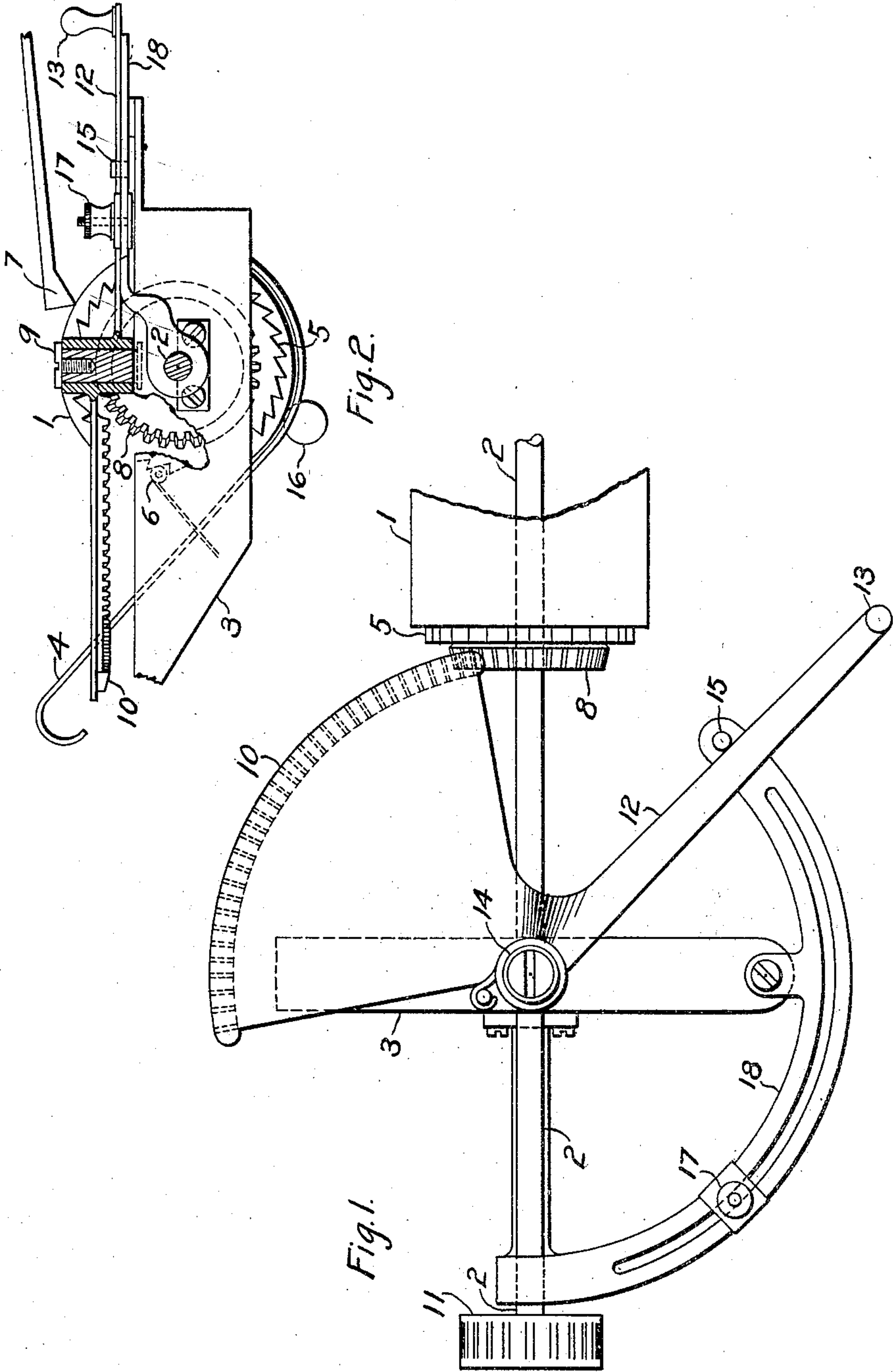


TYPE WRITING MACHINE.

APPLICATION FILED OCT. 19, 1905.

**921,834.**

Patented May 18, 1909.



Witnesses  
Wm J Chipman  
John C. Seifert.

Inventor  
A W Hewitt  
By  
B B Stickney  
Attorney



# UNITED STATES PATENT OFFICE.

ALLIN W. HEWITT, OF BOGOTA, NEW JERSEY, ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

## TYPE-WRITING MACHINE.

No. 921,834.

Specification of Letters Patent.

Patented May 13, 1909.

Application filed October 19, 1905. Serial No. 283,452.

*To all whom it may concern:*

Be it known that I, ALLIN W. HEWITT, a citizen of the United States, residing in Bogota, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to means for rotating the platens of typewriting machines through relatively long arcs first backwardly then forwardly, the first movement to bring the platen into position for insertion of the bill and the return motion to bring the first line of writing on the bill to the printing point.

The invention is adapted for writing bills and other documents where it is desired to preserve carbon copies of several such documents on a single long record sheet.

In accordance with my invention the platen may be rotated line by line by means of the usual line-space devices, and may also at any time be freely rotated either backwardly or forwardly to any desired extent; but when it is desired to give the platen the peculiar backward and forward movements required in billing, the handle is grasped, and by a single stroke two gears are caused to engage and rotate the platen backwardly. Then the new bill is inserted, and by means of a return stroke of said handle, the platen is turned forwardly to its initial position, thereby bringing the first line of writing on the bill to the printing point and avoiding waste of space upon the long record sheet, which remains in the machine.

Figure 1 is a plan, and Fig. 2 is a sectional end elevation of front strike writing machine of the "Underwood" class with my improvements applied thereto.

A cylindrical platen 1 is revolvably mounted upon an axle 2, mounted at its ends in a platen frame comprising the usual end bars 3 connected by a plate or paper-shelf 4. The types strike upon the front side of the platen. The latter is provided with a line space wheel 5, having a detent 6, and operated step by step by the usual line-spacing devices 7.

Mounted upon the platen axle and secured to the platen is a bevel pinion 8. Swinging horizontally on a vertical stud 9 fixed upon the platen frame, is a partial bevel gear or sector 10, in rear of the pinion 8 and nor-

mally out of mesh therewith, so that the platen may be advanced by the line-spacing devices, or rotated in either direction by its hand wheels 11 independently of said gear 10. Extending upwardly from the latter is an arm 12, having upon its front end a finger piece or handle 13. The arm 12 is held in normal position by a spring 14, which presses said arm against a fixed stop 15.

In operation, the usual long record sheet and short bill head are introduced together, and rolled forwardly around the platen, and the first bill is written in the usual manner. Then the bill may be withdrawn without disturbing the position of the record sheet in the platen; the pressure rolls 16 being usually released for this purpose. Then by grasping the handle 13 and swinging it to the left at Fig. 1, that is, in the same direction as the letter spacing movement of the platen, the gear 10 is swung endwise into mesh with the pinion 8, and thereby the platen is rotated backwardly until the arm 12 is arrested by a stop 17 which is adjustable along a slotted bar 18, the latter curved concentrically with the axis 9 of the sector. The gears and platen remain in this position while a fresh bill is inserted, and then the handle 13 is swung to the right, thereby rotating the platen forwardly to its normal position; and at the same time the platen carriage may be returned by said handle 13 to begin a new line of writing. The spring 14, it will be understood, maintains the arm 12 against the stop 15, so that the gear 10 may not interfere with the usual movements of the platen, said spring being too weak to rotate the platen. The pinion 8 should have the same number of teeth as the wheel 5, as such arrangement insures that the pinion teeth when at rest shall always (owing to the action of spring check 6 on wheel 5) occupy similar positions relatively to the first tooth on the gear 10, and hence the latter may always engage properly with the pinion.

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

Having thus described my invention, I claim:

1. The combination with a platen, and a set of single-line spacing devices therefor, of a pinion connected to the platen, and means for rotating the platen first backwardly and then forwardly, through arcs greatly in ex-



cess of its line-spacing movement, said rotary means including a rack having ends and normally out of mesh with said pinion but movable endwise to cause one of said ends to  
5 mesh with said pinion.

2. The combination with a revoluble platen, and a set of single-line spacing devices therefor, of a pinion connected to the platen, and a curved driving-gear having  
10 ends and normally out of mesh with said pinion and immovable in axial direction but revoluble upon its own axis to bring one of its ends into engagement with said pinion, and capable of rotating the platen through  
15 an arc greatly in excess of its line-spacing movement.

3. The combination with a revoluble platen and a set of single-line spacing devices therefor, of a bevel pinion connected to  
20 the platen, a mutilated bevel gear immovable in axial direction and normally out of mesh with said pinion but revoluble into engagement therewith, and capable of rotating the platen through an arc greatly in excess  
25 of its line-spacing movement upon said gear.

4. The combination with a revoluble platen and a set of single-line spacing devices therefor, of a bevel pinion connected to the platen, a mutilated bevel gear immov-  
30 able in axial direction and normally out of engagement with the pinion, and a handle connected to said bevel gear to both turn the gear into engagement with the pinion and rotate the platen backwardly by a single  
35 stroke of the handle.

5. The combination with an endwise movable platen frame, a platen mounted thereon, and a set of single-line spacing devices, of a bevel pinion secured to the platen, a mutil-  
40 ated and axially immovable bevel gear mounted upon the platen frame and normally out of engagement with the pinion, and a handle connected to said bevel gear to cause the latter to move into engagement  
45 with and rotate the pinion by a movement of the handle in the same direction as the letter-spacing movement of the platen frame.

6. The combination with a platen, and a set of single-line spacing devices therefor, of  
50 a pinion connected to the platen, means for rotating the platen first backwardly and then forwardly, through arcs greatly in excess of its line-spacing movement, said rotary means including a rack having ends and normally  
55 out of mesh with said pinion but movable endwise to bring one of said ends into engagement with said pinion; and stops for limiting both the forward and backward movements of the platen effected by said rack.

7. The combination with a platen, and a set of single-line spacing devices therefor, of  
60 a pinion connected to the platen, means for rotating the platen first backwardly and then forwardly, through arcs greatly in excess of its line-spacing movement, said rotary means

including a rack normally out of mesh with said pinion but movable endwise into engagement therewith; and a spring for returning the rack and platen together to normal position.

8. The combination with a platen, and a set of single-line spacing devices therefor, of a pinion connected to the platen, a rack hav-  
ing ends and normally out of mesh with said pinion but movable endwise to bring one of  
75 its ends into engagement with the pinion, to rotate the platen first backwardly and then forwardly through an arc greatly in excess of the line spacing movement of the platen; a stop for determining the normal position of  
80 the rack, and an adjustable stop for determining the extent to which the platen is rotated backwardly by said rack.

9. The combination with a revoluble platen and a set of single-line spacing devices  
85 therefor, of a pinion connected to the platen, and an axially immovable mutilated gear normally out of mesh with said pinion but normally in line with said pinion and revoluble into engagement therewith to rotate  
90 the platen both backwardly and forwardly through arcs greatly in excess of the line-spacing movement of the platen; and relatively adjustable stops for limiting the initial and return strokes of said gear.

10. The combination with a revoluble platen and a set of single-line spacing de-  
vices therefor, of a bevel pinion connected to the platen, a bevel gear normally out of en-  
100 gagement with the pinion, and a handle connected to said bevel gear to both turn the gear into engagement with the pinion and rotate the platen backwardly by a single stroke of the handle; an adjustable stop for  
105 limiting the initial movement of said gear and platen, a stop for determining the normal position of the gear, and a spring connected to the bevel gear.

11. The combination with a platen, a platen frame, and a set of single-line spacing  
110 devices, of a pinion secured to the platen, a horizontally moving but axially immovable sector mounted upon the platen frame and having a handle and normally disengaged from said pinion but revoluble to bring one  
115 of its ends into mesh with said pinion, said handle secured to said sector and projecting forwardly therefrom, a spring for the handle and sector, a stop for determining the extent of their initial strokes, a curved bar along  
120 which said stop may be adjusted, and a stop for determining the normal positions of said sector and handle.

12. The combination with a revoluble platen and a set of single-line spacing devices  
125 therefor, of a toothed wheel connected to the platen, means normally disengaged from said toothed wheel but engageable therewith to rotate the same to cause the platen to turn  
130 backwardly through an arc greatly in excess



of the line spacing movement of the platen, and a handle for turning said rotating means, said rotating means being movable from normal position into engagement with said toothed wheel by the same stroke of the handle that causes said rotating means to rotate the toothed wheel.

13. The combination with a revoluble platen and a set of single-line spacing devices therefor, of a toothed wheel connected to the platen, means normally disengaged from said toothed wheel but engageable therewith to rotate the same to cause the platen to turn backwardly through an arc greatly in excess of the line spacing movement of the platen, a handle for turning said rotating means, said rotating means being movable from normal position into engagement with said toothed wheel by the same stroke of the handle that causes said rotating means to rotate the toothed wheel, and relatively adjustable stops for limiting the forward and backward movements of said platen effected by said handle.

14. The combination with a revoluble platen and a set of single-line spacing devices therefor, of a pinion connected to the platen, an axially immovable sector in rear of said pinion and normally disengaged therefrom, and movable horizontally to bring one of its ends into engagement with said pinion to rotate the platen first backwardly and then forwardly through an arc greatly in excess of the line-spacing movement of the platen, a handle extending forwardly from said sector, and relatively adjustable stops for said handle and sector.

15. A line spacing device for typewriters embracing a pinion which turns with the platen, and a movable rack member mounted to intermesh with said pinion during both backward and forward movement of the platen, the rack member mounted to move out of mesh with said pinion at the conclusion of the forward turning movement of the platen, to permit the latter to be line-spaced independently of the rack member.

16. A line spacing device for typewriters comprising a gear pinion connected to the platen and a rack member mounted to intermesh with the said pinion to effect an initial stroke of the platen, and to pass out of mesh with the pinion at the return stroke of the platen, to permit the latter to be line-spaced independently of the rack member.

17. A line spacing device for typewriters comprising a pinion which turns with the platen, a rack member adapted to intermesh with the gear pinion, which is thrown out of mesh with the gear pinion in the forward turning movement of the platen and when so thrown out of mesh is held yieldingly in position free from engagement with the gear pinion.

18. A line spacing device for typewriters

comprising a gear pinion which turns with the platen, a rack-member adapted to intermesh with the gear pinion and which has backward and forward endwise movement to carry said gear teeth into and out of mesh with the pinion, said rack member being arranged to be thrown out of intermeshing relation to the gear pinion by the forward turning movement of the platen, and means associated with said rack member for determining the extent of movement of said rack member.

19. A line spacing device for typewriters comprising a gear pinion which turns with the platen, a rack member adapted to intermesh with the gear pinion and which has backward and forward endwise movement to carry said gear teeth into and out of mesh with the pinion, said rack member being arranged to be thrown out of intermeshing relation with the gear pinion by the forward turning movement of the platen, and an adjustable stop for limiting the movement of said rack member.

20. A line spacing device for typewriters comprising a gear pinion connected to the platen and a rack member mounted to intermesh with the said pinion to effect an initial stroke of the platen, and to pass out of mesh with the pinion at the return stroke of the platen, to permit the latter to be line-spaced independently of the rack member, and a spring to hold said rack member in normal position.

21. A platen-reciprocating device for typewriters embracing a pinion which turns with the platen, and a normally disengaged rack-member which is mounted to rotate into mesh with said pinion, to effect both backward and forward turning movement of the platen.

22. A line-spacing device for typewriters embracing a normally disengaged movable gear which is mounted to rotate in one direction into engagement with a platen gear to turn with the platen, and to be thrown out of engagement with said platen gear at the end of the return movement of the platen.

23. A line spacing device for typewriters embracing a pinion which turns with the platen shaft, a normally disengaged movable rack-member mounted to move endwise into mesh with the said pinion and to be carried out of mesh with said pinion at the return movement of the platen.

24. A line spacing device for typewriters comprising a gear pinion which turns with the platen, and a rack-member having gear teeth adapted to intermesh with the pinion and which has backward and forward movement in the direction of the line of gear-teeth thereon through a distance permitting the gear teeth to pass out of mesh with and to become disengaged from the gear pinion in the movement of said rack-member.



25. A line spacing device for typewriters comprising a gear pinion which turns with the platen and a rack-member mounted to intermesh with said gear pinion and which  
5 has movement in the direction of the line of gear-teeth thereon through a distance permitting it to pass forwardly into and backwardly out of mesh with the gear-pinion, and means holding said rack member in position for reengagement with the said gear  
10 pinion in the backward turning movement of the platen.

26. A line spacing device for typewriters comprising a gear pinion which turns with  
15 the platen, an oscillating gear segment mounted to intermesh with said pinion, having backward and forward movement about its center of oscillation through a distance sufficient to carry said gear-teeth forwardly  
20 into and backwardly out of mesh with the pinion and means yieldingly holding said gear segment out of mesh with the pinion.

27. A line spacing device for typewriters comprising a gear pinion which turns with  
25 the platen, an oscillating gear segment adapted to intermesh with said pinion and which has backward and forward movement about its center of oscillation through a distance

sufficient to carry said gear teeth forwardly into and backwardly out of mesh with the  
30 pinion, and means holding the said gear segment in position with one of its ends in contact with said pinion and in readiness to intermesh therewith.

28. A platen-reciprocating device for typewriters comprising a toothed pinion which  
35 turns with the platen, an oscillatory toothed gear segment adapted to intermesh with said pinion to turn the same both backwardly and forwardly, and means holding said gear segment  
40 in position with one of its ends in proximity to said pinion and in readiness to move endwise therewith.

29. A line spacing device for typewriters comprising a gear pinion which turns with  
45 the platen, an oscillating gear segment mounted to intermesh with said gear pinion and which has backward and forward movement about its center of oscillation through a distance sufficient to carry said gear-teeth  
50 into and out of mesh with the pinion, and a spring applied to said gear segment.

ALLIN W. HEWITT.

Witnesses:

B. C. STICKNEY,  
KITTIE FRANKFORT.