

W. D. FRICKS.
 VARIABLE LINE SPACING MECHANISM FOR TYPE WRITERS.
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986,916.

Patented Mar. 14, 1911.

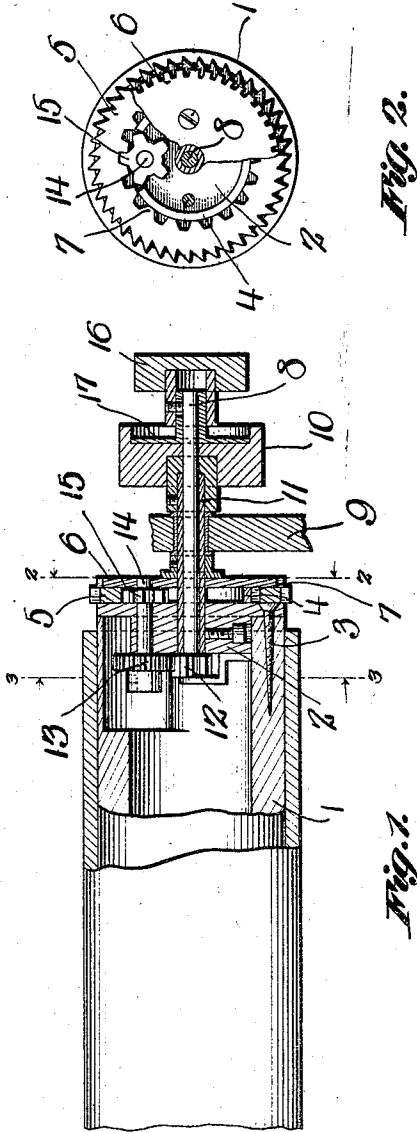


Fig. 2.

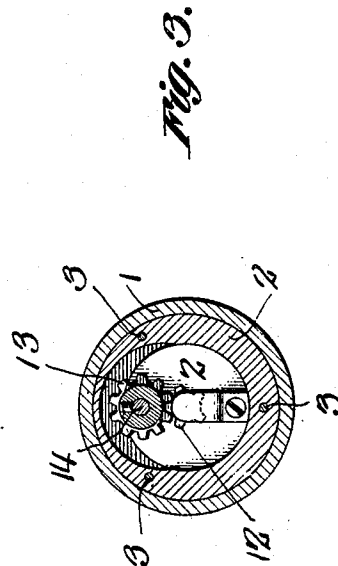


Fig. 3.

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UNITED STATES PATENT OFFICE.

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VARIABLE-LINE-SPACING MECHANISM FOR TYPE-WRITERS.

936,916.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM D. FRICKS, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented new and useful Improvements in Variable-Line-Spacing Mechanism for Type-Writers, of which the following is a specification.

The purpose of the present invention is to supply a novel mechanism for adjusting the platen of typewriters so as to properly position paper particularly when making corrections or it is otherwise required to adjust paper to a required line. Also when a letter is partly written and has been taken out for any purpose and it is desired to readjust the same in the machine, to commence where the work was left off, same can be adjusted by this mechanism and the first line with the regular space will be identically the same distance as the line previous.

A further purpose of the invention is to devise a line spacing mechanism which may be applied to any style or make of type-writing machine without requiring special construction either of the platen, its supporting frame or cooperating parts.

For a full understanding of the invention, and the merits thereof, reference is to be had to the following description and the drawings hereto attached in which corresponding and like parts are indicated in the several views of the drawing and referred to in the description by the same reference characters.

The invention consists of the novel features, details of construction and combinations of parts which hereinafter will be more particularly set forth, illustrated in the accompanying drawings and pointed out in the appended claims.

Referring to the drawings forming a part of the specifications: Figure 1 is a detail view of the end portion of a platen for typewriter machines provided with variable line spacing mechanism constructed in accordance with the present invention, an end portion of the platen and the line spacing mechanism being in section. Fig. 2 is a section on the line 2-2 of Fig. 1 looking in the direction of the arrows, parts being broken away. Fig. 3 is a section on the line 3-3 of Fig. 1 looking to the right as indicated by the arrows.

The numeral 1 designates the platen of a typewriter machine which may be of usual

construction. A head 2 is secured to one end of the platen and has a portion fitted therein and a portion overlapping the end of the platen and secured thereto by means of screws or like fastenings 3. A flange 4 is provided upon the outer face of the head 2 and forms a support for the line-spacing ratchet ring 5 which is provided upon its outer edge with the usual ratchet teeth for cooperation with the line spacing pawl and the detent of the typewriter, said parts being well understood and not illustrated. A cap plate 6 is secured to the head 2 and retains the line-spacing ratchet ring 5 in proper position. The inner edge of the line-spacing ring 5 is provided with cogs or teeth 7 preferably of square form so as to obtain a bearing upon the annular flange 4. The platen head 2 is fast to the platen so as to turn therewith but the line-spacing ring 5 is relatively loose thereby admitting of relative movement between the platen and line-spacing ring which is essential to the efficiency of the invention.

The centrally disposed longitudinal shaft 8 is mounted in the end bar 9 of the platen frame and is provided near its outer end with the finger piece 10 for turning the platen to properly space the writing. The finger piece 10 is loose upon the shaft 8 and is connected to a sleeve 11 mounted upon the shaft 8 and secured at its inner end to the platen head 2. The shaft 8 is provided at its inner end with a pinion 12 which is in mesh with a gear wheel 13 fast to the inner end of a longitudinal shaft 14 mounted in the platen head 2 and the cap plate 6. The shaft 14 is provided at its outer end with a pinion 15 fast thereto and having its cogs in mesh with the teeth or cogs 7 of the line-spacing ring 5. The shafts 8 and 14 are parallel. A finger piece 16 is secured to the outer end of the shaft 8 so as to turn therewith. A friction clutch 17 is provided between the finger pieces 10 and 16 to prevent relative movement thereof under ordinary conditions thereby preventing displacement of the line-spacing mechanism and insuring a uniform spacing of the writing. The friction clutch 17 is fast to the shaft 8 and finger-piece 16 and comprises a hub portion and a disk portion, the latter engaging frictionally with the finger piece 10.

From the foregoing it will be understood that the line spacing ring 5 is held from

turning backward by the usual detent and is adapted to be moved forward by the line spacing pawl when it is required to turn the platen for properly spacing the writing.

5 Should it be required to move the platen, a comparatively small distance to bring the writing into proper alinement, it is only necessary to grasp the finger-piece 16 and turn the same either to the right or to the

10 left as may be required independent of the regular platen knob or finger-piece 10 doing away with the usual custom of pushing in the regular platen knob or push button, of other inventions, and holding same in that

15 position until turned to the desired writing line; this is obviated by my invention. This movement is transmitted by means of the shaft 8 and gearing 12, 13 and 15 to the line-spacing ring 5 and inasmuch as said ring 5

20 is held stationary, the platen is moved by a reactionary operation of the power transmitting gearing as will be readily understood. After the platen has been moved to properly

25 align the writing, the spacing of the ring is effected by the usual line spacing pawl co-operating with the ratchet ring 5.

From the foregoing description, taken in connection with the accompanying drawing, the advantages of the construction and of the

30 method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention, together with the device which I now consider to be the best embodiment thereof, I

35 desire to have it understood that the device shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claims appended

40 hereto.

Having thus described the invention, what is claimed is—

1. In combination with the platen of a typewriting machine, and a line spacing ratchet element mounted loosely thereon, a

45 finger-piece having connection with the platen for turning the same freely, a second finger piece, a friction clutch between the two finger pieces to prevent relative movement

50 thereof, and connecting means between said second finger piece and line spacing ratchet element to admit of movement of the platen to effect variable line spacing.

2. In combination with the platen of a

55 typewriting machine and a line spacing ratchet element mounted loosely thereon, a shaft in line with the axis of the platen and

provided with a finger piece, a second shaft mounted upon the platen parallel with the axial shaft and spaced therefrom, gearing

60 between the two shafts, other gearing between said second shaft and the line spacing ratchet element, a second finger piece connected with the platen for moving the same

65 positively, and a clutch for connecting the two finger pieces.

3. In combination, a typewriter platen, a shaft in line with the axis thereof and provided with a finger-piece, a sleeve mounted upon said shaft and likewise provided with

70 a finger piece, means between the sleeve and shaft for preventing relative movement thereof, a second shaft spaced from and mounted parallel with the axial shaft and

75 geared thereto, a line spacing ratchet element mounted loosely upon the platen and gearing between said line-spacing element and said second shaft.

4. In variable line spacing mechanism for typewriters, the combination of a head,

80 spaced shafts mounted upon the head in parallel relation, the one coinciding with the axis of the head, the other being arranged to one side of the axis of the platen to which

85 said head is to be secured, gearing between the two shafts, a line spacing ratchet element mounted loosely upon the head, gearing between said line spacing element and the shaft

90 mounted to one side of the center of the head, a third shaft connected with the head and concentric with the axial shaft and rotatable independently thereof, and a clutch for connecting the two concentric shafts.

5. In variable line spacing mechanism for typewriter platens, the combination of a

95 head provided with a flange, a line spacing ratchet ring mounted upon said flange, a cap plate secured to the head and adapted to retain the line spacing ratchet ring in place, a shaft mounted centrally of the head, a second

100 shaft mounted to one side of the center of the head, gearing between the two shafts, other gearing between said second shaft and the line spacing ratchet ring, a sleeve fast to the head and mounted upon the centrally

105 disposed shaft, finger pieces secured respectively to said sleeve and center shaft, and a friction clutch between the two finger pieces.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM D. FRICKS.

Witnesses:

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