

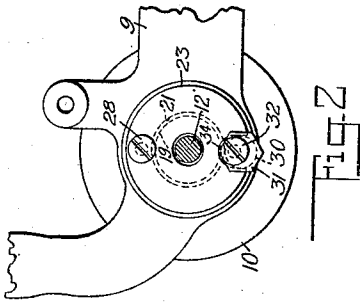
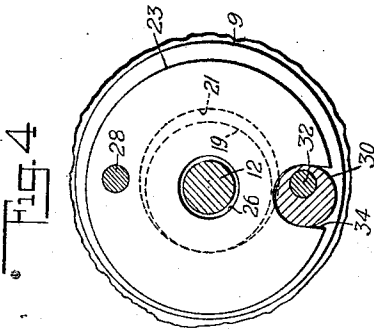
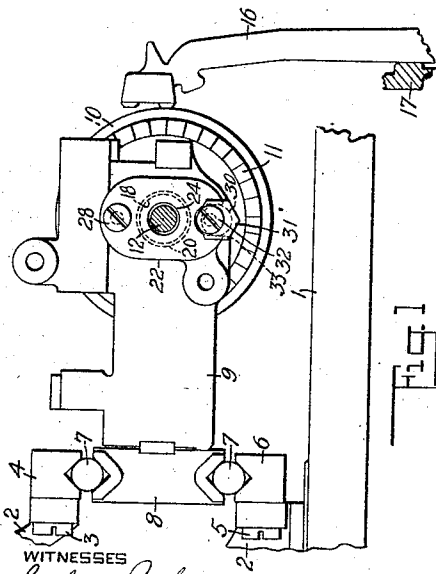
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H. E. BRIDGWATER

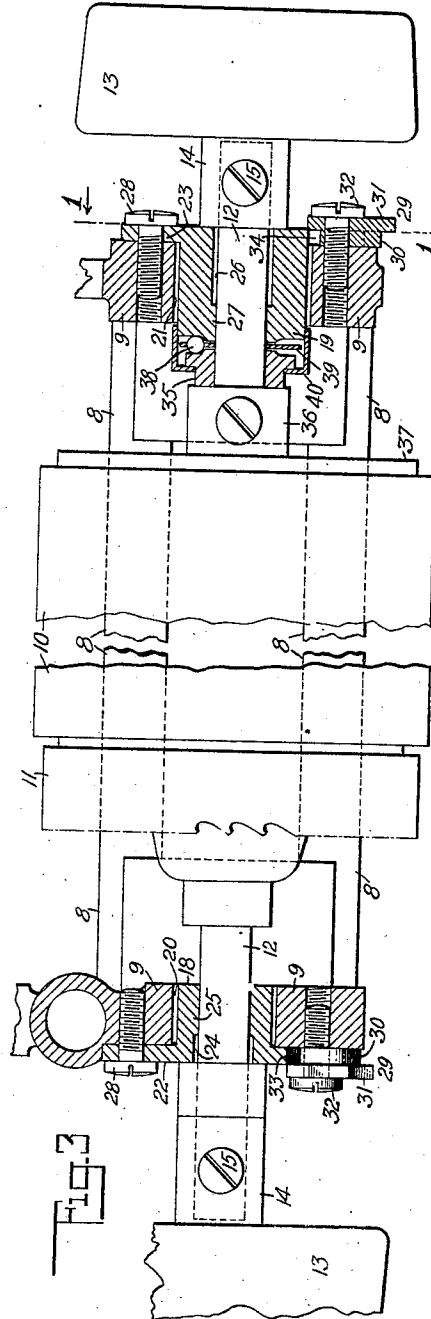
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TYPEWRITING MACHINE

Filed July 21, 1924



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TYPEWRITING MACHINE.

Application filed July 21, 1924. Serial No. 727,165.

To all whom it may concern:

Be it known that I, HERBERT E. BRIDGWATER, a citizen of the United States, and resident of Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Typewriting Machines, of which the following is a specification.

My invention relates to platen adjusting mechanism for typewriting machines and its object is to provide new and improved mechanism of the character stated. Specifically, my invention was designed as an improvement in certain respects on the invention of J. B. Holden disclosed in his application filed Sept. 8, 1923, Sr. No. 661,619.

To the above and other ends which will hereinafter appear, my invention consists in the features of construction, combinations of devices and arrangements of parts hereinafter described and particularly pointed out in the claims.

In the accompanying drawings which illustrate the preferred form of my invention,

Figure 1 is a fragmentary end view of the carriage of a No. 60 Smith Premier typewriting machine to which my invention is shown as applied, the carriage bearing also being shown, as well as one of the type bars.

Figure 2 is a view corresponding to Fig. 1 but taken from the opposite or right-hand end of the platen and carriage.

Figure 3 is a fragmentary front view partly in section of the platen and associate parts.

Figure 4 is a vertical sectional view taken on the section line 1—1 in Fig. 3 and looking in the direction of the arrows at said line.

As appears from Figure 1, the top plate 1 of the machine supports a pair of brackets fragmentarily shown herein and designated as 2, the brackets being spaced apart and disposed one near each end of the machine, and being curved or goose-necked as in the Smith Premier #60 machine. Secured to the upper end portions of the brackets 2 by screws 3 is a stationary guide rail 4, the lower portions of the brackets having secured to them by screws 5 a guide rail 6. Two guide rails 4 and 6 are parallel and formed with oppositely faced V-grooves

which receive antifriction rollers 7. Said rollers likewise co-operate with V-shaped grooves formed in the top and bottom faces of a slide bar 8 comprised in a traveling platen carriage or frame which further includes end bars 9 extending forward from the ends of the bar 8. The carriage supports a rotary cylindrical platen 10 provided with a line-space ratchet wheel 11 and having axle portions or members 12 which project from the ends of the platen and are adjustably supported on the end bars 9 of the carriage. The projecting ends of the axle members 12 receive finger wheels 13 having hubs 14 which are secured by set screws 15 to said axle portions. The usual line spacing devices cooperate with the ratchet wheel for turning the platen step-by-step. A set of type bars are employed that are pivoted below the platen and arranged to co-operate with the front face thereof, one of said type bars 16 being shown in Figure 1. As will be observed from this figure, the type bar when in printing position is in contact with a stationary abutment or anvil 17 which limits its bodily movement in printing direction.

Preferably, the end bars 9 and the platen 10 are adapted to be moved or swung slightly downward or upward, pivoting on the rear bar 8, so as slightly to raise or lower the printing face of the platen for purposes of adjustment by means such as disclosed in the aforesaid application of Holden.

My present invention is particularly concerned with the provision of means for adjusting the platen in a horizontal direction or fore-and-aft of the machine, such adjustment being primarily for the purpose of bringing the printing face of the platen into correct co-operative relation with the anvil or striking abutment 17. The fore-and-aft adjusting means comprises two bearing members or sleeves 18 and 19 arranged at opposite ends of the platen, the body portion of the sleeve 18 being loosely received in an opening indicated at 20 in the left-hand end bar 9 and the sleeve 19 being received in a similar opening 21 in the right-hand end bar 9. The left-hand sleeve 18 is provided with a flange 22 which is oval in shape and is disposed outside of and contiguous to the outer face of the left-hand end bar 9. The flange 23 of the right-hand bearing

member or sleeve 19 is circular and is similarly disposed outside of the right-hand end bar 9. The flange 22 is made in an oval shape for the purpose of avoiding interference with other parts. The two bearing members are sleeves 18 and 19 are bored out to receive the axle portions 12 of the platen, the left-hand sleeve being counter-bored as indicated at 24 so that the bearing portion 25 of said sleeve is comparatively narrow, thus reducing friction in the bearing and also facilitating alignment. Similarly the sleeve 19 is counter-bored as indicated at 26 so as to provide a comparatively narrow bearing proper 27, so as to reduce friction as well as promoting ready alignment. The bearing members are sleeves 18 and 19 are movably mounted on the end bars 9, being hung or suspended from screw pivots 28 which pass freely through the upper portions of the respective flanges 22 and 23 and are threaded into the end bars. The heads of the screw pivots 28 prevent outward displacement of the sleeves but are so adjusted so as not to interfere with pivotal or swinging movements of the sleeves or bearing members on their axes 28. Means are provided for holding the bearing members or sleeves in set positions and for varying the set positions so as to alter the position of the platen and adjust it properly to receive the type impressions. Said means in the present instance comprises a pair of eccentric devices 29, one co-operating with each of the sleeves 18 and 19. Each eccentric device 29 is composed of an eccentric engaging portion 30 and a polygonal head 31, the head being preferably hexagonal. The eccentric devices are supported each on a screw pivot 32 which is threaded into the lower portion of the end bar 9 of the carriage below the associate sleeve and diametrically opposite the pivot screw 28; considered relatively to the platen. The flanges 22 and 23 of the sleeves are formed with cutouts or slot-ways 33 and 34 in which the eccentric portions 30 of the devices 29 are received and adapted to play. Although it does not appear in the drawing, the thickness of the eccentric 30 is slightly less than the thickness of the slotted portion of the flange in which it fits. Consequently when the screw 32 is tightened, it exerts a binding action through the head 31 of the eccentric on the said flange and on the sleeve of which it is a part as well as on the eccentric device 29, thus fixing or holding the parts, namely, the bearing member or sleeves and the associate eccentric, in fixed relationship with the end bar 9. As a result the platen which bears in and is supported by the sleeve is fixed relatively to the carriage. It will be apparent that by loosening the screws 32 and applying a wrench or other suitable tool to the eccentric head 31, the eccentric device 29 may readily be turned

back and forth, causing the eccentric 30, co-operating with its associate slot 33 or 34, to correspondingly swing the associate sleeve and thereby alter the bodily position of the platen on the carriage in a fore-and-aft direction. It will be understood that both of the eccentric devices 29 should be freed or released preliminary to such an adjustment, and also that the pivot screws 28 should be slightly loosened so that the platen bearings or sleeves 18 and 19 may turn or swing freely thereon. The openings 20 and 21 in the end bars 9 are of sufficient size to afford the necessary swinging or bodily movements of the two bearing sleeves therein. The mechanical means comprising the eccentric devices 29 are under such control of the adjuster that extremely nice or fine variations of adjustment may be obtained. In Figure 4, the sleeve 19 is shown at its forward limit of movement and it will be understood that by rotating the eccentric 30 to any extent up to half a revolution, the sleeve may be moved correspondingly until the rearward limit of its movement is reached, the adjacent end portion of the platen participating in the movements of the sleeve. In Figure 2 the sleeve and platen are shown about midway between their front and back positions. Since, as stated, the movements of the sleeves correspondingly move the platen which is mounted on them, the printing face of the platen is thus advanced or drawn backward until it has been brought into correct relationship with the contact face of the anvil 17. After adjustment, the binding screws 32 are tightened, as are also the pivot screws 28, thus fixing the sleeves or platen bearings 18 and 19 on the platen frame or carriage, confining the platen to a fixed path of rotation on the axes running through the axle portions 12. It will be apparent that there may be variations in the adjustments of the opposite end portions of the platen, the sleeves 18 and 19 being settable independently of each other. Preferably there is provided in co-operation with the right-hand sleeve 19 an end thrust bearing comprising a ball-race collar 35 which abuts against the outer end of the hub 36 of the right-hand platen head 37. Balls 38 bear on the collar 35 and on the associate sleeve 19, said balls being controlled by a separator 39 and contained within a housing 40. It will be observed that by my invention there is provided a platen, a carriage or platen frame, and platen bearings movable on said carriage in combination with mechanical means for re-setting said bearings to vary their normal relationship with said carriage; that in the present instance the bearings are mounted on pivots and the mechanical means is effective to swing said bearings on their pivots; that devices are pro-

vided that are effective on said means to maintain the platen bearings set in adjusted positions, said devices in the present instance comprising rotary eccentrics which co-operate with openings or slots in the platen bearings or sleeves; and that screws extend through the eccentrics or eccentric devices and are effective to clamp them to the end bars of the platen frame, thereby securing the platen bearings in fixed relationship to the platen frame and confining the platen to a fixed path of rotation until re-adjustments of the parts be effected.

Various changes may be made without departing from my invention.

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

1. In a typewriting machine, the combination of a rotary platen, a carriage on which said platen is mounted, platen bearings pivotally suspended from pivots on the carriage disposed directly above the axis of the platen, and eccentric devices co-operative with said bearings to swing them on their pivots, said devices being arranged directly underneath the axis of the platen.

2. In a front strike typewriting machine, the combination of a rotary platen, a platen carriage comprising end bars through which the axis of the platen passes, an anvil arranged below the platen for the type bars to strike against, one-piece platen bearings, pivots on which said bearings are suspended so that they may swing freely thereon, and eccentric adjusting devices for controlling

and fixing the relationship of said bearings with their pivots.

3. In a typewriting machine, the combination of a platen, a carriage, pivots thereon, bearings for said platen swung from said pivots, and eccentric devices co-operative with said bearings to swing them on their pivots, the pivots and the eccentric devices being located at the opposite ends of lines passing diametrically through the platen axis.

4. In a typewriting machine, the combination of a platen, a carriage comprising end bars, pivots on said end bars, bearing sleeves mounted on said pivots, eccentric devices co-operative with said sleeves to turn them on their pivots, and clamping screws extending through said eccentric devices and effective to clamp them to said end bars.

5. In a typewriting machine, the combination of a platen, a carriage therefor comprising end bars provided with openings, pivots on said end bars, bearing sleeves for said platen, said bearing sleeves being supported from said pivots and projecting loosely into said openings, eccentric devices co-operative with slots in said bearing sleeves and adapted to move said sleeves, and screws for supporting said eccentric devices and clamping them in set relationship with said end bars.

Signed at Syracuse, in the county of Onondaga, and State of New York, this 17 day of July, A. D. 1924.

HERBERT E. BRIDGWATER.