July 11, 1933. A. G. F. KUROWSKI 1,917,943

TYPEWRITING MACHINE

Filed Dec. 30, 1926

FIG. 1.

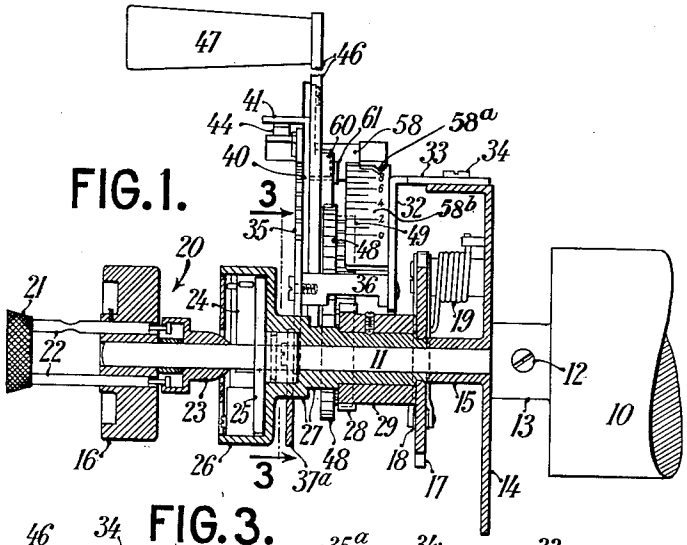


FIG. 2.

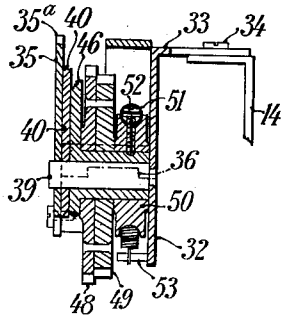


FIG. 3.

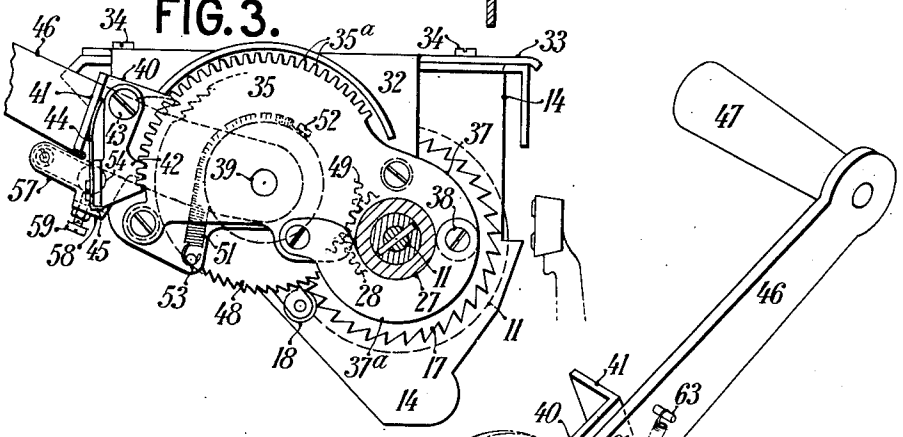


FIG. 4.

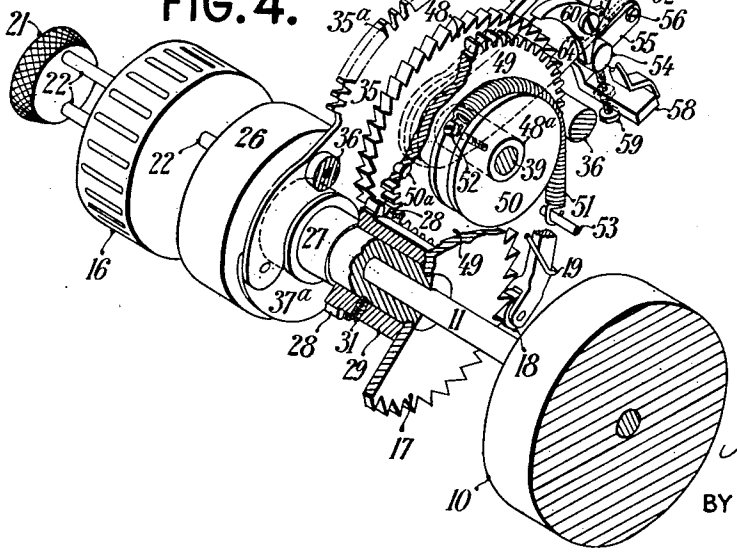
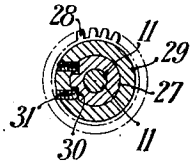


FIG. 5.



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Patented July 11, 1933

1,917,943

UNITED STATES PATENT OFFICE

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TYPEWRITING MACHINE

Application filed December 30, 1926. Serial No. 157,912.

This invention relates to a platen-sweep for quickly and accurately feeding work-sheets into a typewriting machine, and positioning the first line thereon at the typing position of the platen.

The present invention may be regarded as an improvement on the construction of my pending application filed June 28, 1926, Serial No. 118,996 (now Patent No. 1,752,491, dated April 1, 1930), where a lever-actuated platen-rotating mechanism or platen-sweep mechanism is assembled at the right-hand end of the carriage and connected to the platen-shaft, whereby a comparatively short sweep of the lever will rotate the platen and work-sheet forwardly a predetermined extent. Thus, by a continuous sweeping movement of the hand, the insertion of a work-sheet, having a printed or otherwise spaced-off heading and a fixed printing position for the first-line entry, may be quickly accomplished with mechanical accuracy and without taxing the mind of the operator further than to properly position the sheet at the rear of the platen.

With a platen-sweeping mechanism of this character it is essential that the teeth of the ratchet-wheel be accurately timed to the teeth of the line-spaced wheel. The Underwood typewriting machine employs a platen-releasing spacing mechanism at the left-hand end of the platen operative through clutch-members to connect or disconnect the line-space wheel to the platen-shaft fixed to the platen. When the clutch-members are released, the line-space wheel is held by its detent-roller, and it will be understood, that, where the platen-sweeping mechanism is assembled at one end of the platen-frame and the platen-releasing mechanism at the opposite end of the platen-frame, the shifting of the platen, when released from the line-space wheel, will throw the teeth of the platen-sweeping ratchet-wheel, fixed to the platen-shaft, out of registry with the teeth of the line-spaced wheel, and irregular line-spacing will result through the action of the detent-roller upon the line-space wheel and platen when the clutch-members are restored. Hence, after any typing operation requiring a fractional setting of the line-space position of the work-sheet, it is necessary to first retime the two ratchet-members at opposite ends of the platen to operate in unison, which is a difficult adjustment for the untrained operator.

By the sheet-inserting mechanism employed upon the Underwood typewriter, the work-sheets are to be swept around the platen by means of a long handle, which is connected by movement-multiplying means to drive a pinion which is fixed upon the shaft upon which the platen is also fixed. The handle has a pawl, whereby a ratchet-wheel is driven, and the movement-multiplying train drives the platen at higher speed, but to an exact predetermined extent at every stroke. The line-space wheel has teeth whose angular pitch is as much greater than the pitch of said ratchet-wheel teeth as the angular speed of the one is greater than the speed of the other. The handle-stops, the pawl, the ratchet, the movement-multiplying train and the line-space wheel are all co-ordinated, so that the strokes of the platen shall be exactly uniform.

A feature of the present invention is provision for effecting minute rotative readjustments of the platen, at will, relatively to the platen-sweep mechanism, without disordering the co-ordinated parts and therefore without diminishing the accuracy with which the work-sheet is brought to its printing position.

To carry out my invention, the drive-lever and its train may be taken out of its usual position near the right-hand end of the platen, and may drive a clutch-drum at the left-hand end of the platen. The entire driving train therefore will remain stationary during the rotative readjustment of the platen, effected while the clutch is released. No disturbance of the position or operation of the sheet-inserting mechanism therefore arises through rotative readjustment of the platen relatively to the movement-multiplying drive-wheel, but the operation of the platen-sweep mechanism upon the platen is exact at all readjustments of the platen relatively to the drive-wheel.

Preferably the same clutch-drum is connected to both the platen-driving pinion and the line-space wheel, thereby economizing space, weight and cost, and also adapting the invention to use with parts of the standard Underwood mechanism for clutching the platen to the line-space wheel.

One feature of the present invention includes the assembly of a combined platen-sweeping and platen-clutching mechanism upon the same end of the platen, the toothed ratchet-wheels of the platen-sweeping and the line-spacing being permanently timed and both wheels connectible to the platen-shaft through the clutch-mechanism. When a work-sheet requires a fractional spacing of a line, the platen may be independently rotated by its finger-wheels, and the usual detent-roller, by engaging the line-space-wheel teeth, holds the platen-sweeping ratchet stationary until the platen-clutch is restored. This combining of the two platen-rotating mechanisms, especially by placing them at the same end of the platen, permits that the platen may be operated independently of the platen-sweep without getting out of registry therewith, and removes any possibility of a line setting or platen-readjusting movement interfering in any manner to cause inaccurate positioning of the sheet at the printing line by the platen-sweeping mechanism.

The line-space-wheel may be permanently secured to one member of the platen-clutch, and through the operation of the clutch may render said wheel operative or inoperative to drive the platen-shaft; the platen-sweeping mechanism operates to drive a pinion through an angular distance, the pinion being adjustably assembled to the line-space wheel to bring the teeth thereof into effective registry with the teeth of the line-space wheel, the adjusting means being effective to permanently locate said pinion and wheel in the proper adjusted positions, to enable the pinion to become a driving element to rotate the line-space wheel, the platen-shaft and the platen. The driving pinion is at all times in operative train with the driving gear that is secured to a toothed one-way ratchet-wheel engageable by a hand-driven pawl; the driving pawl is mounted upon the sweep-actuating lever, and normally is raised from the ratchet-teeth to permit of a free rotation of said wheel when the platen is rotated in any manner other than by the sweep-lever; the pawl is pivotally hung upon the sweep-lever and engageable with an adjustable back stop which is operative to determine the normal position of the pawl relative to the teeth of the ratchet-wheel for the purpose of correcting any variations in the manufacture and assembly of the parts, to insure an accurate initial engagement of the pawl with the teeth of the driving ratchet-wheel; and the sweep-lever is swingable between an adjustable back stop and a fixed forward stop, the position of the back stop being settable to an index-reading indicating a surface travel of the platen necessary to carry a work-sheet from the rear of the platen to the first-line position for typing. This combined platen-sweeping and line-correcting mechanism is assembled as a complete unit upon the platen-shaft, passes into finished stock as a unit of manufacture, and is quickly assembled to a typewriting machine carriage as a unit instead of tieing up a machine at the assemblers bench for hours while the separate parts are being assembled piece by piece to the carriage-frame; and this assembled unit can be transported and can readily be applied to machines in use by any repair man and without necessitating the removal of the machine from an office to the repair shop.

Other features and advantages will hereinafter appear.

In the accompanying drawing,

Figure 1 is a cross-sectional view showing the combined platen-sweep and platen-clutching mechanisms applied to the same end of the platen of an Underwood typewriting machine.

Figure 2 is a cross-sectional view through the fulcrum-stud of the platen-sweep handle.

Figure 3 is an end view of the typewriter-carriage with the platen-clutch removed at the plane of the line 3—3, Figure 1.

Figure 4 is a perspective view of the combined mechanisms, some of the platen-sweeping mechanism being broken away and shown in section to illustrate the manner of maintaining some of the parts properly timed to each other.

Figure 5 is a detail sectional view showing the manner of adjusting the line-spacing wheel relatively to the pinion driven by the platen-sweep handle.

The platen 10 is secured to the platen-shaft 11 by screws 12 threaded through hubs 13 that locate the platen between carriage-ends 14 provided with bearings 15 for the platen-shaft. Each end of the platen-shaft 11 may be provided with finger-wheels 16 for manually rotating the platen in either direction, or the platen may be rotated forwardly by the usual line-spacing mechanism, disclosed in the patent to Cook, dated July 1, 1913, No. 1,066,083, that operates to actuate a line-space wheel 17, usually secured to the platen-shaft 11. A detent-roller 18, urged by a spring 19, engages the teeth of the wheel 17 to determine a line-space position on the platen.

The platen-shaft 11 extends leftward of the carriage-end 14 to carry a platen-clutch 20, very similar to the construction shown in the patent to Helmond, dated August 17, 1915, No. 1,150,366, and shown attached to

the end of the carriage. This Helmond clutch-mechanism includes a finger-button 21 secured to the ends of two rods 22 slidable through a finger-wheel 16 to actuate a cam-member 23 slidable along the platen-shaft to expand clutch-arms 24 assembled upon the face of a disk 25 secured to the platen-shaft 11. The expansion of the clutch-arms 24 provides for a gripping engagement with the inner peripheral face of a drum 26 and effectively causes both disk 25 and the drum to rotate with the platen-shaft. The drum 26 includes a long sleeve-section 27 to provide a free bearing for the drum upon the platen-shaft, and the inner end of the sleeve is secured to the line-space wheel 17, so that both wheel and drum will rotate together and rotate with the shaft 11 when the platen clutch-members are in clutching engagement. The extra length of the sleeve 27 provides for the assembly of a pinion 28 and its hub 29 upon a shouldered-down section of the sleeve to prevent end motion of the pinion though permitting the pinion to rotate upon the sleeve.

Preferably the pinion 28 and the line-space wheel have the same number of teeth, though this is not essential. It is essential, however, that provision be made whereby the pinion 28 may be adjusted around the sleeve 27 so as to time the teeth of the pinion to the teeth of the line-space wheel. One manner of accomplishing this adjustment is shown at Figure 5, where a section of the sleeve is straddle-milled to form flat faces 30 for the reception of a pair of set screws 31 threaded through the hub 29 of the pinion 28. It is apparent that the threading in of one screw and the withdrawal of the other screw will cause a slight rotation of the pinion about the stationary sleeve 27, and rotate the teeth of the pinion relatively to the teeth of the line-space wheel 17, and that when the adjustment of the pinion by one screw 31 is correct, the other screw may be threaded home and the joint effect of both screws is to permanently lock the adjusted pinion to the sleeve.

The platen-sweeping mechanism is assembled within a framework including an inner side frame 32 having a bent-over top section to form a foot 33 that may be secured to the carriage-end 14 by screws 34 that were formerly used to secure a cover-plate, and an outer side frame 35, both side frames being secured together by spacing posts 36. Viewing Figure 3, it will be seen that the side frame 35 terminates in a tail-piece 37, the free end of which is secured to a yoke 37^a that passes under the sleeve 27 with the rear end overlapping the main body of the frame and both ends of the yoke secured to the frame by screws 38. This construction not only reinforces the frame but provides a means for adjusting the frame over and around the sleeve 27 of an assembled drum and line-space wheel.

The side frames 32 and 35 are further tied together by a stud 39 upon which are mounted the various rotating parts that co-operate to drive the pinion 28. These parts include an arm or carrier 40 loosely mounted upon the stud 39 to bear against the inner face of the side frame 35 with the free end projecting above the frame and bent outwardly at right angles to form a shelf 41 to overhang the frame. Between the shelf 41 and the edge of the frame 35 a dog 42 is pivotally hung upon a screw 43 threaded into the carrier 40, and provided with a flat spring 44 bearing against the shelf 41 to throw the free end of the dog against the edge of the frame 35. The free end of the dog 42 is formed with teeth that are operative to interlock with teeth 35^a cut in the edge of the frame 35, said edge being concentric with the stud 39. The dog 42 is formed with an ear 45 by which the dog may be lifted out of engagement with the teeth 35^a and the carrier 40 rotated about the stud 39 in either direction and then locked in position through the re-engagement of the dog with the teeth 35^a for purposes presently to appear.

A sweep-lever 46, having a handle 47, is assembled upon the stud 39 to bear against the face of the carrier 40 and provided with a hub or sleeve 48^a that extends over the stud to abut the face of the frame 32 to permit the lever 46 to have a free rotary movement upon the stud without end play. Upon the sleeve 48^a a saw-toothed ratchet-wheel 48 is assembled against the face of the lever 46. Next to the wheel 48 there is a gear 49 mounted to rotate upon the sleeve 48^a and joined to said wheel 48 by rivets 50^a so that both will rotate in unison, the gear 49 being in train with the pinion 28. The space upon the sleeve 48^a between the gear 49 and the frame 32 is filled by a disk 50 having a peripheral groove to seat a long spiral spring 51 having one end attached to a set screw 52 that secures the disk to the sleeve 48^a, and the other end thereof anchored to a pin 53 in the side frame 32.

The description up to this point permits of the lever being swung forwardly to rotate upon the stud 39 and rotate the disk 50 to expand the spring 51, and upon the release of the handle 47 said spring 51 will restore the lever 46 to a normal position against a back stop. This back stop takes the form of a stud 54 secured to the end of an arm 55 pivotally mounted upon a screw 56 threaded into an extension 57 of the arm 40. To render the back stop position of the lever adjustable for purposes of timing the engagement of a pawl with a tooth of the ratchet-wheel, the extension 57 is formed with an ear 58 to support a stop-

screw and check-nut 59, the screw bearing against the stud 54. To convey motion from the lever 46 to the ratchet-wheel 48, a pawl 60 may be pivoted at the side of the lever 46 to overhang the ratchet-teeth, as upon a screw 61, and spring-pressed in the direction of the teeth by a spring 62 between the pawl and a pin 63 on the lever 46. The pawl 60 may be formed with a tail 64 that also abuts the stud 54 to vibrate the pawl against the spring 62 and lift the pawl out of engagement with the ratchet-teeth at the normal position of the lever 46, so as not to interfere with the free rotary movement of the ratchet 48 when the platen is rotated by hand and the pinion 28 becomes a driving element.

To indicate the position of the stop 54, which determines the extent of sweep of the platen, a forwardly-extending pointer 58^a is provided and is attached to the ear 58 and plays over an arcuate scale 58^b secured to the side frame 32, as shown in Figure 1.

It will be understood that the carrier 40 is first positioned relatively to the frame side 35 to position the back-stop stud 54 and determine the normal position of the lever 46 according to the extent of rotation required by the platen to present a work-sheet to the printing line; that the initial forward movement of the lever 46, away from the stop stud 54, releases the pawl 60 to the action of its spring 62 which vibrates said pawl into engagement with the ratchet 48; that the continuation of the forward movement of the lever 46 rotates the gear 49 which in turn causes a reverse rotation of the platen until the forward sweep of the lever brings the pawl 60 under the post 36 when the pawl becomes wedged between said post and ratchet-wheel 48, which arrests the lever and prevents overthrow of the platen and parts; that when the lever 46 has reached the end of its forward stroke and the platen movement has ceased, the parts are so adjusted and timed that the detent-roller 18 will accurately nest between two adjoining teeth of the line-space wheel 17; that should the platen-clutch be released for any purpose in the midst of a typing operation, when the clutch is restored and the platen rotated by the lever 46, the unitary construction of the line-space wheel and the pinion prevents any disarrangement in the timing of the parts to the line-space detent-roller 18; that the several parts may be assembled upon a platen-shaft and within the two frame sides and become an assembled unit of manufacture; and that this unit assembled by experts in the art may be shipped to distant locations and assembled to a machine by unskilled hands.

It will be further noted that the platen-sweeping device includes three co-operating mechanisms, viz., a platen-clutch mechanism, a line-space mechanism effective through the platen-clutch mechanism, and a platen-sweep mechanism operative at one stroke through the line-space and clutch mechanisms to sweep a long heading of a work-sheet around the platen to the first typing line; and that these mechanisms are assembled mainly in a single unit outside one end of the carriage.

This combined mechanism is particularly desirable for typing upon bank-checks, the date, the payee's name and the amount in both words and numerals, the blank checks printed upon a web and rolled up or fan-folded at weakened lines which separate the checks. The first check is inserted to the first line to be typed thereon, which usually is a date-line, and should this printed line-position not correctly align with the usual Underwood line-finder, the platen-clutch is released and then restored after the line-position is corrected in the usual manner. After the date-line is typed the check is line-spaced to the position for typing the payee's name and again line-spaced to the amount-line where the typing of the amount completes the typing of the check, the line-spacing of the platen idly rotating the pinion 28, gear 49 and its ratchet 48. The platen-sweep mechanism having been previously adjusted to the work at hand, the forward stroke of the sweep-handle 47 removes the completed check and correctly advances the next blank check to the date-line.

The forward feeding of the checks is limited by the fixed stop 36, and the handle 47, when released, is restored to normal position against a stop 54 by the spring 51, while the platen, line-space wheel and ratchet-wheel 48 are held stationary by the detent-roller 18. In work of this character the line-space mechanism and platen-sweep mechanism are both employed to feed the work-sheet forwardly, but in other classes of work, as, for example, in typing a single line on invoices that are printed in web-form, the platen-sweep lever is the only form of work-sheet-feeding employed.

The placing of the platen-sweep lever at the same end of the carriage as the line-space lever enables the operator to execute both forms of platen-feed with the same hand, which is an advantage.

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

Having thus described my invention, I claim:

1. In a typewriting machine, in combination with a platen having an axle, a line-space mechanism therefor including a ratchet-wheel, and a clutch normally connecting said line-space mechanism with said platen, said ratchet-wheel being rigidly mounted on

a spacing sleeve of said clutch, a platen-sweep for rotating the platen through a predetermined distance greater than a line-space, including a manually-driven element and a gear-wheel rigid therewith and mounted eccentrically of the platen-axle, and a pinion in mesh with said gear-wheel and adjustably fixed upon the sleeve and between the clutch and said ratchet-wheel for driving the platen.

2. In a typewriting machine having a rotatable platen, the combination of a line-space ratchet wheel and a hub therefor, a pinion on the hub normally rigid therewith, platen-sweep mechanism and platen-clutch mechanism connected directly and adjustably to said hub, the line-space ratchet wheel being effective through the hub and the clutch-mechanism to rotate the platen, and the platen-sweep mechanism being directly connected to the pinion, the hub, and through the hub to the clutch-mechanism to positively rotate the platen in a fixed direction and the platen when unclutched being rotatable independently of both the line-space mechanism and the sweep mechanism.

3. In a typewriting machine having a carriage and a rotatable platen, the combination of a line-space mechanism having a toothed wheel, a hub and a pinion on the hub, a platen-clutch mechanism and a platen-sweep mechanism, all arranged for co-operation at one end of the platen and exteriorly of the platen, the line-space mechanism being effective through the clutch-mechanism to rotate the platen in a line-space direction, the platen-sweep mechanism including a movement-multiplying train of gears operatively connected to rotate the pinion and clutch-mechanism, a one-way ratchet-wheel to rotate the train of gears, a manual sweep-lever, a pawl on said lever and engageable with the ratchet-wheel, and two stops to determine the extent of sweep for said lever, one stop operable to check the forward sweep of said lever at a permanent position, and the other stop movable about the axis of the lever to adjustably fix a normal back-stop position for the sweep-lever, the angular pitch of the teeth of the line-space wheel being greater than the pitch of the ratchet-wheel teeth, in proportion to the difference in speed of said wheels.

4. In a typewriting machine having a rotatable platen and a platen-shaft, the combination of means for driving the platen-shaft to rotate the platen to insert a long work-sheet to a typing line, said platen-rotating means including two clutch-members, one member secured to the shaft and the other member loose upon the shaft and formed with a sleeve, manual means for bringing both clutch-members into clutching engagement to cause the sleeve to drive the platen-shaft, a line-space wheel permanently secured to said sleeve to rotate the shaft and platen line-space distances, a pinion secured to the sleeve, and a manually-rotated gear permanently in train with the pinion to drive the sleeved clutch-member and rotate the platen through distances greater than a line-space.

5. In a typewriting machine having a platen rotatable by a platen-shaft, the combination of means for driving the platen-shaft to rotate the platen for inserting a work-sheet having a long heading, said platen-rotating means including two clutch-members, one member secured to the shaft and the other member loose upon the shaft and formed with a sleeve, manual means for bringing both clutch-members into clutching engagement to cause the sleeve to drive the platen-shaft, a line-space wheel permanently secured to said sleeve to rotate the platen line-space distances, a pinion on the sleeve, screws carried by the pinion and engageable with the sleeve to minutely adjust the sleeve and the pinion to each other, a manually driven gear permanently in train with the pinion to drive the sleeved clutch-member to rotate the platen through distances greater than a line-space, and a sweep lever to drive the gear.

6. In a typewriting machine having a platen rotatable by a platen-shaft, the combination of means for driving the platen-shaft to rotate the platen for inserting a work-sheet having a long heading, said platen-rotating means including two clutch-members, one member secured to the shaft and the other member loose upon the shaft and formed with a sleeve, manual means for bringing both clutch-members into clutching engagement to cause the sleeve to drive the platen-shaft, a line-space wheel permanently secured to said sleeve to rotate the platen line space distances, a pinion, means for minutely adjusting the pinion upon the sleeve, a gear always in train with the pinion, a ratchet-toothed wheel secured to the gear, a sweep-lever, a pawl upon said lever operative to engage the ratchet wheel for a one-way drive to rotate the platen through an arc greater than a line-space, and a spring to restore said lever and disengage the pawl while the platen is stationary.

7. In a typewriting machine having a rotatable platen and a platen-shaft, the combination of means for driving the platen-shaft to rotate the platen and insert a long heading of a work-sheet to the typing line, said platen-rotating means including clutch-members, one member secured to the shaft and the other member loose upon the shaft and formed with a sleeve, manual means for bringing both clutch-members into clutching engagement to cause the sleeve to drive the platen-shaft, a toothed line-space wheel permanently secured to said sleeve, a

pinion mounted upon the sleeve, a larger gear always in train with the pinion, a ratchet-toothed wheel secured to the gear, a sweep-lever, a pawl upon said lever engageable with the ratchet wheel for a one-way drive to rotate the pinion, and a pair of stops to determine the extent of sweep for said lever, both stops engageable with the pawl, the angular pitch of the teeth of the line-space wheel being greater than the pitch of the ratchet-wheel teeth, in proportion to the difference in speed of said wheels.

8. In a typewriting machine having a platen rotatable by a platen-shaft, the combination of a line-spacing mechanism having a line-space wheel rotatable about the platen-shaft, clutch-members operative to connect the line-space wheel to the platen-shaft, a pinion rotatable with the line-space wheel, a gear in train with the pinion, a sweep-lever operative to drive the gear to rotate the pinion and drive the platen, and a pinion rotating and pinion-holding screw for minutely aligning the teeth of the pinion relatively to the teeth of the line-space wheel to prevent displacement of the teeth when the platen is released from the clutch-members.

9. In a typewriting machine having a carriage and a rotatable platen, the combination of a line-space ratchet wheel, a platen-sweep mechanism, including a lever and a single platen-clutch device having a hub, a pinion normally rigid therewith and all arranged for co-operation at one end of the platen and exteriorly of the platen, the sweep-lever being pivoted eccentrically of the platen, means for transmitting motion from said lever to said platen through said hub and pinion, and adjustable means for correcting the relation between said pinion and said line-space ratchet wheel to preserve their timed relation.

10. In a typewriting machine, the combination of a rotative platen, a ratchet-wheel for rotating the platen, a crank, means for automatically establishing a rotary connection between said crank and the ratchet-wheel, a fixed stop to arrest the forward sweep of the crank, an adjustable carrier, a back stop on the carrier settable with the carrier for an approximate initial position for the crank, and adjustable means on the carrier effective to shift the back stop relatively to the carrier for a fine adjustment of the back-stop position to arrest the crank.

11. In a typewriting machine, the combination of a rotative platen, a ratchet-wheel for rotating the platen, a crank, means for automatically establishing a rotary connection between said crank and the ratchet-wheel, a fixed stop to arrest the forward sweep of the crank, an adjustable carrier, a back stop on the carrier settable with the carrier for an approximate initial position for the crank, and adjustable means on the carrier effective to shift the back stop relatively to the carrier for a fine adjustment of the back-stop position to arrest the crank, said adjustable means including a screw operable to minutely shift the back stop and a clutch-nut to hold the adjusted position of the screw relatively to the carrier.

12. In a typewriting machine, the combination of a rotative platen, a crank for turning the platen, means for automatically establishing an operative connection and disconnection between the crank and the platen by the movement of the crank, spring-means for restoring the crank to its initial position independently of the platen, and two stop-devices for arresting the crank, one stop-device having a uniformly fixed forward stop position for the crank, and the other stop-device being settable line-space distances for a back-stop position of the crank, said back stop being independently adjustable to intermediately line-space distances to minutely determine the stroke of the crank for a predetermined platen-sweep.

13. In a typewriting machine having a carriage and a shaft-driven platen, the combination of a platen-clutch mechanism having a sleeve and clutchable drum and a line-space mechanism having a line-space wheel, both wheel and drum permanently connected by the sleeve to rotate freely as a unit on the shaft exteriorly of the platen but to drive the platen when the clutch-mechanism is effective, and a work-inserting platen-sweep mechanism including a hand-lever mounted on the carriage, said hand-lever having motion-multiplying connections including a gear and a pinion on said sleeve, to drive said unit and rotate the platen, said pinion being fixed upon the sleeve between the line-space wheel and the drum.

14. In a typewriting machine having a carriage and a shaft-driven platen, the combination of a platen-clutch mechanism having a clutchable drum and a line-space mechanism having a line-space wheel, both wheel and drum permanently connected by a sleeve as a unit to rotate freely on the shaft exteriorly of the platen but to drive the platen when the clutch-mechanism is effective, a work-inserting platen-sweep mechanism including a hand-lever mounted on the carriage, said hand-lever having motion-multiplying connections to drive said unit and rotate the platen a distance greater than a line-space including a gear and a driven pinion, said wheel and said drum being spaced apart to provide a permanent assembly of the pinion upon the sleeve, and threaded means to rockably adjust said pinion upon said sleeve to permanently time

the sweep-mechanism with the line-space mechanism.

15. In a typewriting machine, the combination with a rotative platen, a line-space wheel and a clutch connectible to the line-space wheel to rotate the platen, of a platen-driving mechanism for sweeping the platen for positioning a long work-sheet at the printing line of the platen at one stroke, said sweeping mechanism including a stationary stud parallel with the platen, a sweep-lever having a long bearing hub mounted upon the stud, a ratchet-wheel rotatable upon the hub, a driving gear rotatable with the ratchet-wheel, a lever-restoring rotary spring-carrier fixed upon the hub and which prevents lateral displacement of the ratchet-wheel and gear upon the hub, a carrier on the stud having a stop, a pawl mounted on the sweep-lever and having an interrupted connection with the ratchet-wheel through engagement with the stop, and a pinion permanently rotatable with the line-space wheel and permanently in train with the ratchet-driven gear.

16. In a typewriting machine, the combination with a rotative platen, a line-space wheel and a platen-clutch mounted upon the platen-shaft exteriorly of the platen to rotate the platen, of a spacing sleeve securing both the line-space wheel and the platen-clutch as a spaced-apart permanently assembled unit, and a platen-driving mechanism for sweeping the platen at a single stroke and positioning a long work-sheet heading at the printing line of the platen, said sweeping mechanism including a sweep-lever having a long bearing hub, a ratchet-wheel rotatable upon the hub, a gear rotatable with the ratchet-wheel, a lever-restoring rotary spring-carrier fixed upon the hub to prevent lateral displacement of both ratchet-wheel and gear upon the hub, a carrier having a stop, a pawl mounted upon the sweep-lever and having an interrupted connection with the ratchet-wheel through engagement with the stop, and a pinion mounted upon said spacing sleeve between the line-space wheel and the clutch and permanently in train with the ratchet-driven gear.

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