United States Patent

Stanevich

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[54] SELECTIVE POSITIONING MECHANISMS FOR PLATENS OR THE LIKE

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[52] **U.S. Cl.** .....**197/114 R,** 197/123

[51] **Int. Cl.** **B41j 19/76**

[58] **Field of Search** 197/114, 121, 122, 123

[56] **References Cited**

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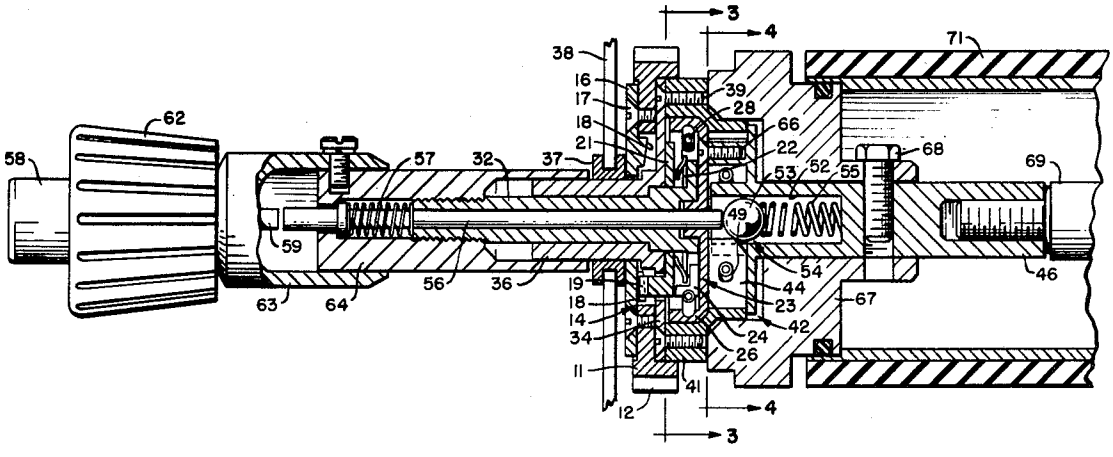
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[57] **ABSTRACT**

A platen rotating assembly for a teletypewriter having positive line-feed permits the platen to be manually rotated either incrementally or freely. A line-feed spur gear is connected to the platen through first and second normally engaged clutches to rotate the platen whenever the spur gear is rotated. When the spur gear is not rotated (1) the platen may be indexed in predetermined increments by manual rotation of a knob operatively connected to the platen and a first clutch controller which selectively permits incremental disengagement of the first clutch through the second clutch while the second clutch remains engaged, or (2) the platen may be freely rotated by (a) manual actuation of a second clutch controller which selectively disengages the second clutch to bypass the first clutch and (b) simultaneous manual rotation of the knob directly to rotate the platen.

16 Claims, 5 Drawing Figures



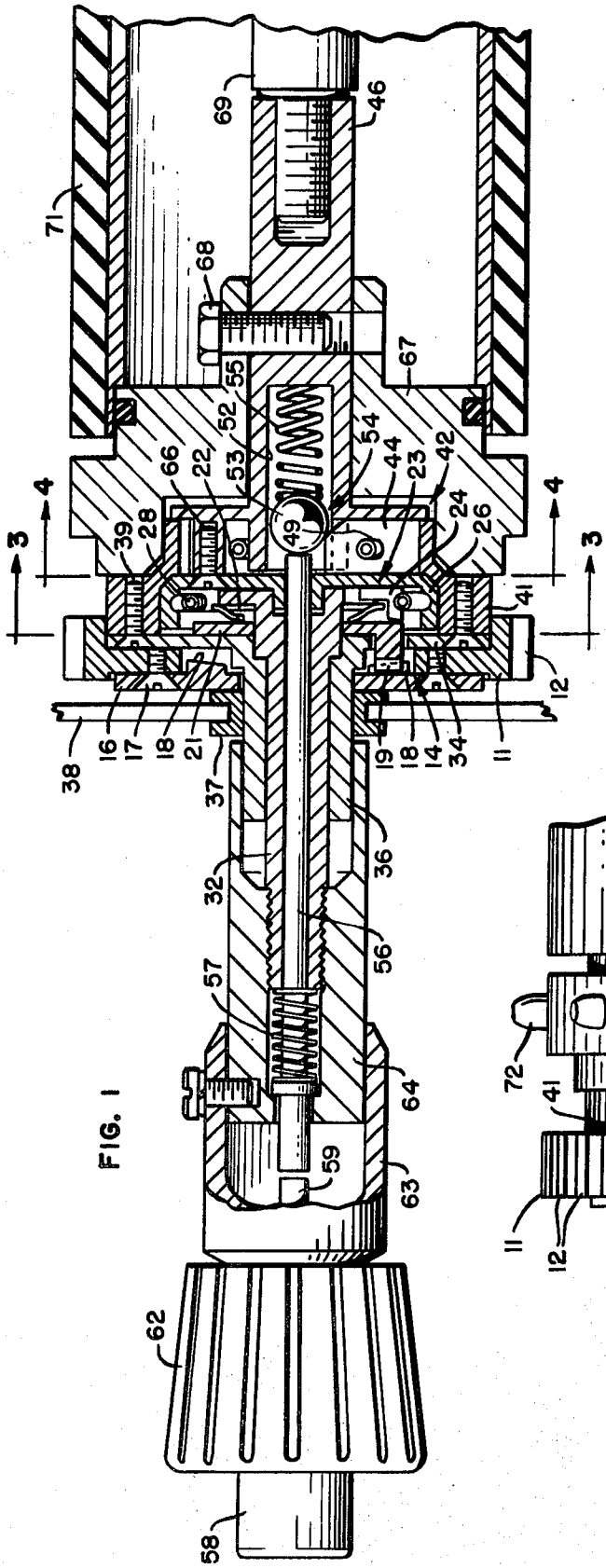


FIG. 1

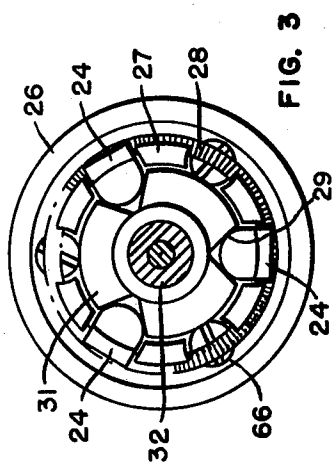


FIG. 3

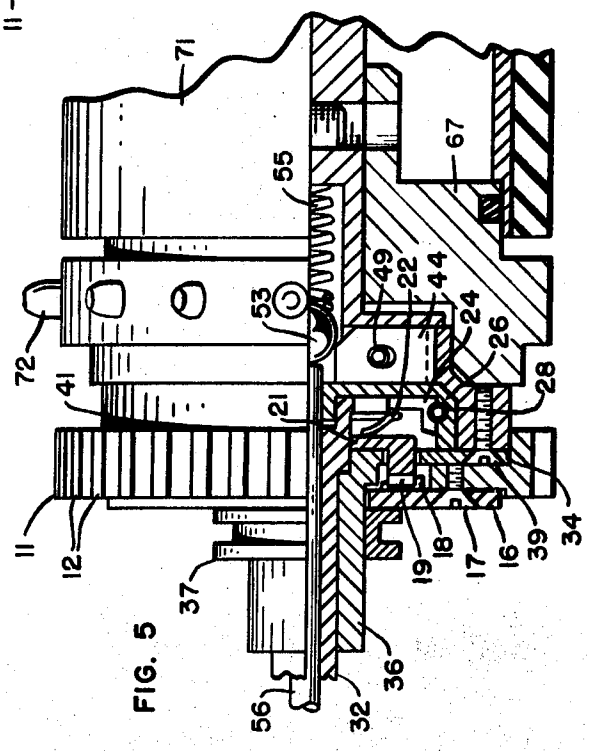


FIG. 5

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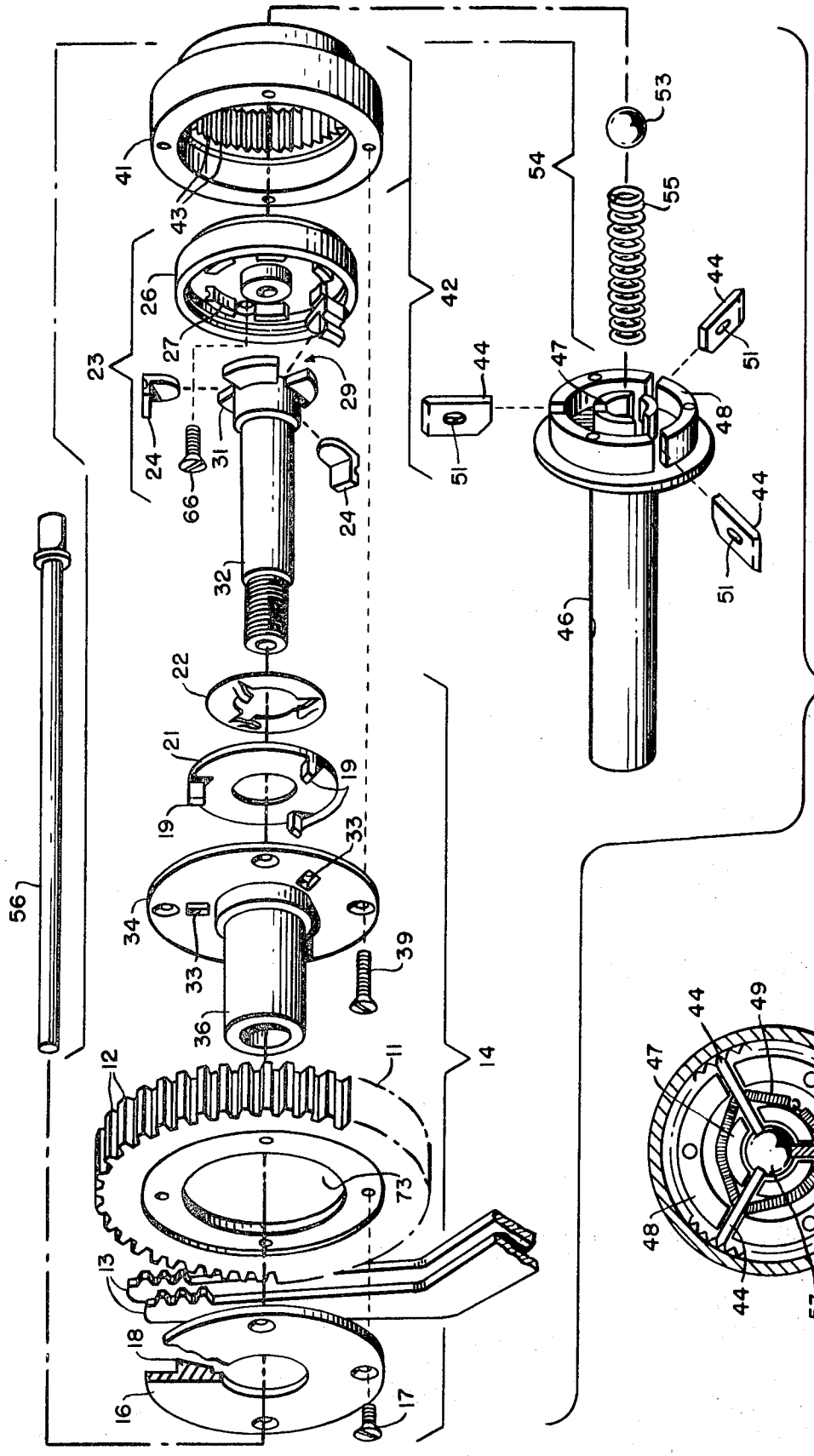

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FIG. 2

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FIG. 4

SELECTIVE POSITIONING MECHANISMS FOR PLATENS OR THE LIKE

BACKGROUND OF THE INVENTION

In teletypewriter machines of the type having positive line-feed such as disclosed in U.S. Pat. No. 2,505,729 to W. J. Zenner, line spacing of the printed information is provided through the utilization of a line-feed gear directly connected to the platen of the machine. The line-feed gear is incrementally rotated by a pair of line-feed pawls which are actuated by the line-feed mechanism of the teletypewriter in response to a coded signal. The line-feed gear is connected such that the gear, and thus the platen, can be rotated only by the line-feed pawls.

Heretofore, it has not been possible to rotate the platen manually either incrementally or arbitrarily (i.e., "soft"-rolling). Any rotation of the platen had to be accomplished through the actuation of the spur gear through the line-feed mechanism by a received or locally generated line-feed signal. Rotation was possible only in one direction and had to take place in predetermined increments.

SUMMARY OF THE INVENTION

An object of this invention is to provide, in conjunction with teletypewriter apparatus of the kind having positive line-feed, auxiliary platen rotating characteristics which can be manually effectuated to produce both incremental and arbitrary rotation.

A further object is to provide such manually effectuated rotational characteristics without disconnecting the line-feed gear from its driving mechanism to preserve interminably the automatic line-feed capability.

A platen controlling mechanism in accordance with certain aspects of the invention includes a pair of selectively engaged motion transmitting devices, a first of which may be driven and a second of which drives the platen. An auxiliary drive is provided for moving the second transmitting device to move the platen and disengage the first transmitting device.

In one embodiment of the invention, a platen rotating assembly for a positive line-feed teletypewriter apparatus includes a line-feed spur gear connected to the platen through a first and second normally engaged, selectively disengageable clutches. The arrangement of the clutches provides platen rotation of three kinds: (1) automatic rotation in predetermined increments through the line-feed mechanism of the teletypewriter which may be actuated to rotate the spur gear to transmit the rotary motion of the spur gear through the normally engaged first and second clutches to rotate the platen in corresponding increments; (2) auxiliary manual rotation in predetermined increments by rotation of a knob operatively connected to a first clutch controller which acts to disengage the first clutch while the rotation of the knob is transmitted through the second clutch to rotate the platen; and (3) auxiliary manual rotation in arbitrary increments (i.e., "free" or "soft"-rolling) by simultaneous rotation of the operating knob and actuation of a second clutch controller to disengage the second clutch and bypass the remainder of the assembly to rotate the platen.

The above manual rotational characteristics are provided without disconnecting the line-feed spur gear from the automatic line-feed mechanism so that automatic line-feed capability is never lost.

DESCRIPTION OF THE DRAWING

A more complete understanding of the invention will be obtained from the following detailed description of a specific embodiment thereof, when read in conjunction with the following drawing, wherein:

FIG. 1 is a side view, partly cut-away, of the teletypewriter platen rotating assembly of the invention;

FIG. 2 is an exploded view of the assembly shown in FIG. 1, particularly illustrating the components of a pair of clutches and clutch controllers for imparting manual and automatic rotation to a platen in accordance with the invention;

FIG. 3 is a sectional view taken along the line 3—3 of FIG. 1, particularly illustrating a controller for the first of the clutches used in automatic line-feed operation of the platen;

FIG. 4 is a partial sectional view taken along the line 4—4 of FIG. 1, particularly illustrating the second clutch which is used for automatic line-feed as well as manual free line-feed of the platen; and

FIG. 5 is a half-sectional view similar to FIG. 1, particularly illustrating the association of elements in the first clutch upon the first controller being operated to permit platen rotation independent of the operation of the first clutch.

DETAILED DESCRIPTION

Referring to FIGS. 1 and 2, there is shown a platen rotating assembly for a teletypewriter apparatus arranged for positive line-feed. An annular spur gear 11 having a plurality of circumferentially spaced teeth 12—12 is positively engaged at all times by one of a pair of stepping pawls 13—13, the line-feed pawls of a teletypewriter line-feed mechanism such as disclosed in the afore-identified patent to W. J. Zenner. When pawls 13—13 are actuated by the line-feed mechanism (not shown), they rotate spur gear 11 in increments corresponding to the distance between adjacent teeth 12—12. Pawls 13—13 are the sole means by which the spur gear 11 can be rotated.

Incremental motion of the spur gear 11 is transmitted through a first clutch 14, the driving unit of which consists of a ratchet 16 fastened by screws 17—17 to the spur gear 11 and having a plurality of face teeth 18—18 projecting into an annulus 73 formed in the spur gear 11. Each tooth 18 of the rachet 16 is radially aligned with and corresponds to a tooth 12 of the spur gear 11. Accordingly, each tooth 18 of the ratchet 16 represents one rotative position of the spur gear 11, and, as will be seen, one rotative position of the platen 71 of the teletypewriter (not shown).

The first clutch 14 also includes a driven unit which selectively engages the ratchet teeth 18—18. More specifically, the ratchet teeth 18—18 are engaged by the cuneiform ends of three projections or detents 19—19 of a detent plate 21. The projections 19—19 of plate 21 are urged into engagement with the teeth 18—18 of ratchet 16 by the resilient furcations of a trifurcated leaf spring 22 which bears against plate 21. The driven projections 19—19 are normally prevented from movement away from teeth 18—18 against the bias of spring 22 by a clutch controller 23 having three movable L-shaped blocking lugs 24—24. The lugs 24—24 are slidably disposed within the radial slots of a disc-shaped index hub plate 26 defined by guide sectors 27—27 therein. A helical garter spring 28 normally urges the lugs 24—24 into three deltoid recesses or notches 29—29 formed in a flange 31 on the end of a rotatable tubular shaft 32.

The driven projections 19—19 on the detent plate 21 extend through rectangular apertures 33—33 formed in a flange 34 extending from a rotatable hub 36. The hub 36 is journaled in a bearing 37 mounted in the side frame 38 of the teletypewriter. The flange 34 on hub 36 is secured by screws 39—39 to a rotatable index ratchet 41 which normally acts as a driving unit of a second clutch 42. The index ratchet 41 is formed with a plurality of circumferentially spaced inner teeth 43—43. The teeth 43—43 are normally engaged by a normally driven unit comprising three index pawls 44—44 slidably mounted in an index hub 46 between adjacent ones of two sets of inner and outer guide projections 47—47 and 48—48, respectively, formed within the hub 46.

As shown in FIGS. 1 and 4, the pawls 44—44 are urged from clutching engagement away from teeth 43—43 on index ratchet 41 toward the central axis of the index hub 46 by the action of a helical garter spring 49. The spring 49 is disposed in an annular guideway defined by the projections 47—47 and 48—48 of index hub 46 and passes through an aperture 51 formed in each pawl 44. Disposed in an axial recess 52 formed in index hub 46 is a ball 53 of a second controller 54 which is forced by a helical spring 55 into camming engagement with pawls 44—44 to drive the pawls 44—44 outwardly against the

urging of garter spring 49 into clutching engagement with teeth 43—43 on index ratchet 41. The ball 53 may be forced against the action of spring 55 by a rod 56 slidably positioned within the tubular shaft 32. The rod 56 is normally urged away from the ball 53 by a helical compression spring 57. The rod 56 may be moved against the ball 53 by the manual depression of a push button 58 having a projection 59 thereon which engages and moves the rod 56 against the action of spring 57 and spring 55 through ball 53. The rod 56, the ball 53 and the spring 55 comprise the second controller 54 for the second clutch 42. The push button 58 is disposed slidably within a knob 62 secured through a coupler 63 to a hollow shaft 64. The shaft 64 is internally threaded and is fastened onto a threaded section of tubular shaft 32. With this arrangement, the second clutch 42 may be disengaged by the controller 54 by depressing the push button 58 to axially shift the rod 56 and move the ball 53 from the pawls 44—44, whereupon the garter spring 49 acts on the walls of apertures 51—51 to retract the pawls 44—44 from engagement with the teeth 43—43 of the driving index ratchet 41.

The normally driven index hub 46 is secured to the flange of controller index hub plate 26 by screws 66—66. The index pawls 44—44 are slidable within the index hub 46 and are constrained to rotate therewith and with hub plate 26 by the inner and outer guide members 47—47 and 48—48 on the index hub 46. The index hub 46 is also secured to a platen hub 67 by a bolt 68.

Threaded to the index hub 46 at one end and secured to a second platen hub (not shown) at the other end is a threaded shaft 69 which positions the platen hubs to support a cylindrical platen tube 71. As shown in FIG. 5 only, each platen hub 67 may be provided with a plurality of circumferentially spaced retractable sprocket feed pins 72—72 for engaging guide holes which may be spaced along the edges of a roll of paper in the teletypewriter and for guiding the paper around the platen tube 71 for cooperation with the printer mechanism of the teletypewriter.

OPERATION

1. Automatic (Positive Line-Feed)

Reference is made once again to FIGS. 1 and 2. Upon receipt by the teletypewriter of an incoming or locally generated line-feed signal, the stepping pawls 13—13 are actuated to rotate spur gear 11. The motion of spur gear 11 is transmitted through the normally engaged clutches 14 and 42 to impart rotary movement to the platen 71.

The motion thus imparted to platen 71 may be traced from spur gear 11 through the driving ratchet 16 to projections 19—19 on the detent plate 21 to rotate detent plate 21. The projections 19—19 on plate 21 act on the walls of apertures 33—33 in the flange 34 of index ratchet hub 36 to rotate hub 36. The hub 36 is secured to and rotates the index ratchet 41, the normally driving unit of clutch 42. The teeth 43—43 of the index ratchet 41, being normally engaged by slidable pawls 44—44 will transmit the rotary motion of the index ratchet 41 to the pawls 44—44 and index hub 46, the normally driven unit of clutch 42.

Rotation of index hub 46 rotates the platen hub 67 secured thereto and thus rotates platen 71; therefore, the rotation of spur gear 11 results in the rotation of plate 71. The mechanism thus described is always set for positive line-feed operation when clutches 14 and 42 are in their normally engaged conditions. In this mode of operation, the entire mechanism rotates with the spur gear 11 as a single unit since rotation of index hub 46 also rotates hub plate 26 secured thereto as well as lugs 24—24 and tubular shaft 32 (FIG. 3) and knob shaft 64 with knob 62 coupled thereto.

2. Manual

a. Predetermined Increments (Indexing)

When stepping pawls 13—13 are not actuated, they serve to hold spur gear 11 against movement. It is possible, however, using the mechanism previously described, as an auxiliary train of motion to index the platen 71, i.e., rotate the platen manually through knob 62 in the same increments as were achieved by rotation of the platen 71 automatically through pawls 13—13 and spur gear 11. This is accomplished through the selective disengagement of the first clutch 14 through the clutch controller 23 while the second clutch 42 remains normally engaged.

If spur gear 11 is held against movement by pawls 13—13 in their unactuated condition and knob 62 is rotated, the knob shaft 64 and the tubular shaft 32 threaded therein are also rotated. As shaft 32 is rotated, the cam walls of notches 29 formed in flange 31, acting through lugs 24—24 exert initial forces on the walls of alternate guide sectors 27—27. The shape of lugs 24—24, the tension on garter spring 28, and the inertia of hub plate 26 together with the parts of the mechanism secured to or movable therewith, are such that they preclude the immediate transmission of rotary motion from shaft 32 to hub plate 26 (see FIG. 3). Thus, as the shaft 32 is initially rotated, the cam walls of notches 29—29 thereon and the guide sectors 27—27 exert forces on lugs 24—24, camming the lugs 24—24 outwardly against the action of garter spring 28 to unblock the projections 19—19 to permit the disengagement of clutch 14. The lugs 24—24 do not move completely from within the notches 29—29, so that rotation of shaft 32 is transmitted to hub plate 26. This action characterizes the operation of clutch controller 23.

As shown in FIG. 5, the actuation of clutch controller 23 also forces the lugs 24—24 into frictional contact with the inside rim of index hub plate 26. The hub plate 26 thereafter rotates with the tubular shaft 32.

Rotation of hub plate 26 causes rotation of index hub 46 secured thereto. Since the index hub 46 is secured to the platen hub 67, the platen 71 rotates with the index hub 46 and the index hub plate 26. It is thus seen that platen 71 rotates with hub plate 26.

Rotation of the index hub 46 also causes rotation of pawls 44—44 constrained to move therewith between guide members 47—47 and 48—48. The pawls 44—44 in normal engagement with the teeth 43—43 of the index ratchet 41 now become the driving unit of the clutch 42 and the normally driving unit of clutch 42, the index ratchet 41, becomes the driven unit.

Rotation of index ratchet 41 rotates the index ratchet hub 36 secured thereto. As ratchet hub 36 thus rotates, the inner walls of apertures 33—33 in the flange 34 thereon will engage the projections 19—19 on detent plate 21. As shown in FIG. 5, the lugs 24—24 have now been cammed against the inside rim of hub plate 26 and no longer block the projections 19—19 from substantially axial movement away from teeth 18—18 on the ratchet 16.

Movement of projections 19—19 of detent plate 21 out of engagement with teeth 18—18 of ratchet 16 occurs because the ratchet and the spur gear 11 are held stationary by the non-operated feed pawls 13—13. The axial movement of projections 19—19 to disengage clutch 14 is accomplished by the camming action of teeth 18—18 of ratchet 16 against projections 19—19 of plate 21 urged thereagainst by spring 22. The projections 19—19 on detent plate 21 will thus be permitted to ride over and successively engage the successively formed teeth 18—18 on the ratchet 16.

The platen 71 may thus be rotated in increments corresponding to integer multiplies of the distance between adjacent teeth 18—18 on ratchet 16. Since, as mentioned above, the teeth 18—18 on ratchet 16 correspond to teeth 12—12 on spur gear 11, the platen 71 may be thus manually rotated in increments corresponding to integer multiples of the distance between adjacent teeth 12—12 on spur gear 11. The person manually rotating the knob 62 will feel the projections 19—19 riding over the teeth 18—18 and then will be apprised of each incremental advance of the platen 71.

b. Arbitrary Increments ("Soft"-Rolling)

The platen 71 may be rotated manually in increments less than the distance between adjacent teeth 12—12 of spur gear

11 while the latter is held against movement by the unactuated feed pawls 13—13 by selectively disengaging the second clutch 42 through the second clutch controller 54. This can be accomplished by depressing push button 58 and rotating knob 62 while push button 58 is depressed.

Depression of push button 58 operates clutch controller 54. Upon the depression of push button 58, projection 59 thereon moves into contact with rod 56, forcing the rod 56 and ball 53 against spring 55 and the force exerted thereby, compressing spring 55. Compression of spring 55 permits movement of ball 53 away from pawls 44—44 and further into the recess 52 formed in index hub 46. Upon movement of ball 53 away from pawls 44—44, the garter spring 49 acting on the walls of apertures 51—51 draws pawls 44—44 toward the central axis of index hub 46 out of engagement with teeth 43—43 of the index ratchet 41.

With clutch 42 thus disengaged, rotation of knob 62 causes rotation of coupler 63, knob shaft 64 and tubular shaft 32 threaded thereon. Rotation of tubular shaft 32 causes lugs 24—24 to be cammed outwardly into frictional engagement with the inside rim of index hub plate 26. While the lugs 24—24 are moving outwardly, they are also being rotated to impart rotation to plate 26 and index hub 46 secured thereto. Rotation of index hub 46 in turn results in the rotation of platen hub 67 and platen 71.

Since clutch 42 is disengaged, no motion is transmitted to the remainder of the mechanism including detent plate 21 and ratchet 16. Through the clutch controller 23 has been incidentally actuated it has no effect in this mode of operation, since it merely acts to unlock clutch 14 and the condition of clutch 14 is of no consequence as it is effectively by-passed by actuation of clutch controller 54. The platen 71 may thus be rotated in two directions in any desired amount. Thus, manual rotation of knob 62 while push button 58 is depressed results in "soft-roll" platen rotation.

The platen rotating mechanism thus described provides a manual control for indexing or "soft"-rolling a teletypewriter platen roller where the platen is positively connected to a line-feed spur gear in a teletypewriter apparatus having positive line-feed. The platen rotating characteristics thus imparted to such apparatus are achieved without disengaging the line-feed spur gear from the line-feed mechanism of the apparatus.

What is claimed is:

1. In a mechanism for controlling the movement of a platen:
first and second selectively engageable motion transmitting devices, each having an input unit, and an output unit engaged with the input unit for transmitting motion;
means for connecting the output unit of the first motion transmitting device to the input unit of the second motion transmitting device;
means for imparting motion to the first motion transmitting device to drive the second motion transmitting device;
means for imparting motion of the second motion transmitting device to the platen;
an auxiliary drive means for moving the second motion transmitting device independently of the first motion transmitting device, to move the platen; and
means operated by the auxiliary drive means for effectively disengaging the output unit of the first motion transmitting device from the input unit of the first motion transmitting device.

2. In a mechanism for moving a platen of a teletypewriter machine:
a first clutch having a normally engaged driving unit and a driven unit;
a second clutch having a normally engaged driving unit connected to the driven unit of the first clutch and a driven unit;
means for connecting the platen to the driven unit of the second clutch;
means responsive to a signal for driving said driving unit of the first clutch to impart movement through the first and second clutches to move the platen;
auxiliary means for imparting movement through the second clutch to move the platen; and
means operated by said auxiliary means for disengaging said first clutch.

3. In a mechanism as defined in claim 2:
a controller means for imparting the movement of the second clutch to the driven unit of the first clutch.

4. In a mechanism as defined in claim 2:
means for disengaging the second clutch while imparting movement of the auxiliary means to the platen.

5. In a motion transmitting device:
a first clutch having a first driving unit and a first driven unit;
blocking means slidably mounted for engaging and holding the first driven unit in engagement with the first driving unit;
a second clutch having a second driving unit connected to the first driven unit, and an output driven unit;
means for rotating the first driving unit of the first clutch to transmit motion through the first driven unit, the second driving unit and the output driven unit;
an auxiliary drive means for rotating the output driven unit; and
means, rendered effective upon operation of the auxiliary drive means, for sliding the blocking means to move from holding engagement with the first driven unit.

6. In an apparatus for driving a platen;
a clutch having a driving unit and a driven unit;
means for engaging and holding said driven unit in engagement with said driving unit to transmit movement from said driving unit to said driven unit;
means for applying the movement transmitted from said driving unit to said driven unit to the platen to drive the platen;
means selectively operable in one of a plurality of directions for driving the platen independently of the clutch; and
means responsive to the operation of said independent driving means in any of the plurality of directions, for moving said engaging and holding means from holding engagement with said driven unit.

7. In an apparatus as defined in claim 6, the combination wherein:
said engaging and holding means comprises a plurality of slidably mounted stops; and
said means for moving said engaging and holding means comprises a plurality of cams moved by said independent driving means for sliding said engaging and holding means from engagement with the clutch driven unit.

8. In an apparatus as defined in claim 6; the combination wherein the engaging and holding means comprises:
resilient means for urging the driven unit into engagement with the driving unit.

9. In an apparatus as defined in claim 6, wherein said clutch is a first clutch, the combination further comprising:
a second clutch for transmitting the motion of the first clutch to said platen; and
means for disengaging the second clutch while said independent driving means rotates the platen.

10. In an apparatus as defined in claim 9, the combination wherein said second clutch includes a toothed member a plurality of pawls, first spring means for urging the pawls from engagement with the toothed member, and second spring means movably mounted to engage the pawls for overcoming the effect of the first spring means to urge the pawls into engagement with the toothed member; and wherein said second clutch disengaging means includes: a push rod slidably mounted within said independent driving means for moving said second spring means from engagement with the pawls to render said first spring means effective to disengage said pawls from the toothed member.

11. A mechanism for positioning a platen, which comprises:
a clutch having a driving unit including a plurality of spaced positioning teeth and a driven unit normally engaging said teeth;

means for holding the driving unit of said clutch from movement;

a rotatable clutch controller connected to the platen for rotating the platen and for selectively controlling the disengagement of said driven unit from said driving unit to permit relative movement between said driven unit and said driving unit; and

means operated by rotation of said clutch controller to rotate the platen for selectively and successively disengaging and engaging said driven unit with the teeth of said driving unit as said platen is rotated to successively position the platen in accordance with the spaced between said positioning teeth.

12. In a mechanism for rotatively positioning a cylindrical platen about a central axis:

a spur gear mounted for rotary movement about the central axis and having a plurality of circumferentially spaced peripheral teeth indicative of the number of rotative positions of the platen;

a ratchet secured to said spur gear and rotatable therewith and having a plurality of circumferentially spaced radial teeth corresponding to and normally aligned with the teeth of said spur gear;

a normally engaged clutch having an input unit, and having an output unit connected to the platen;

detent means connected to the input unit of said clutch and mounted for rotary movement;

means for urging the detent means to engage the teeth of said ratchet to transmit motion from said spur gear through said clutch to the platen; and

auxiliary means for selectively disengaging the detent means from said ratchet while imparting rotary motion to said output unit of said clutch to rotate the platen independently of said spur gear.

13. A mechanism for rotating a platen, which comprises:

a first clutch having a driving unit including a plurality of positioning elements and a driven unit engaging said positioning elements;

a second clutch having a driving unit and a driven unit in engagement therewith;

means for connecting the driven unit of said first clutch to the driving unit of said second clutch;

rotatable means connected to the platen;

means for connecting the driven unit of said second clutch to said rotatable means;

primary means for imparting movement to the driving unit of said first clutch to rotate said rotatable means and the platen through said first and second clutches;

means positively engaging said primary means for actuating said primary means;

auxiliary means including a first clutch controller for directly imparting movement to said rotatable means, the platen and the driven unit of said second clutch and for selectively disengaging said driven unit of said first clutch from said positioning elements and rotating the driven unit of said first clutch independently of the positively engaged primary means; and

a second clutch controller for disengaging the driven unit of said second clutch from the driving unit of said second clutch to render said auxiliary means effective to impart free rotational movement to said rotatable means and the platen.

14. A mechanism as defined in claim **13**, which further comprises means for mounting the driven unit of the first clutch to move axially into and out of engagement with the driving unit of the first clutch, and wherein said first clutch controller includes:

a cylindrical hub connected to said rotatable means;

a rotatable shaft having a flange disposed within said hub, said flange having a plurality of camming notches formed therein;

a plurality of movable lugs disposed for camming engagement within said notches and spaced from the inside cylindrical surface of said hub;

resilient means for urging said lugs against said notches and in alignment with the driven unit of said first clutch to block the axial disengagement of said driven unit of said first clutch from the driving unit of said first clutch; and

guide means within said hub and spanning said lugs for guiding said lugs for movement against the inside cylindrical surface of said hub when said shaft is rotated and said lugs are cammed against the urging of said resilient means to unblock the driven unit of said first clutch and to transmit rotary movement of said shaft to said hub and said rotatable means to drive said platen.

15. A mechanism for rotating a platen in response to two selectively operated motion inputs which comprises:

a first selectively engageable motion transmitting device having a first input unit and a first output unit;

means for holding said first output unit normally engaged with the first input unit;

a second selectively engageable motion transmitting device having a second input unit driven by the first output unit, and having a second output unit connected to the platen;

a first rotary motion input means for applying motion through the first input unit, the first output unit, the second input unit and the second output unit to positively drive the platen;

a second rotary motion input means for applying motion to the second output unit to drive the platen and for driving the second input unit and first output unit;

means operated by said second rotary motion input means for moving said holding means from said first output unit; and

spring means rendered effective upon operation of said second motion input means for urging the first output unit into engagement with the first input unit while said first output unit is moved relative to said first input unit.

16. A mechanism as defined in claim **15** including:

means for disengaging the second input and output units to drive the platen without driving said second input unit and said first output unit.

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