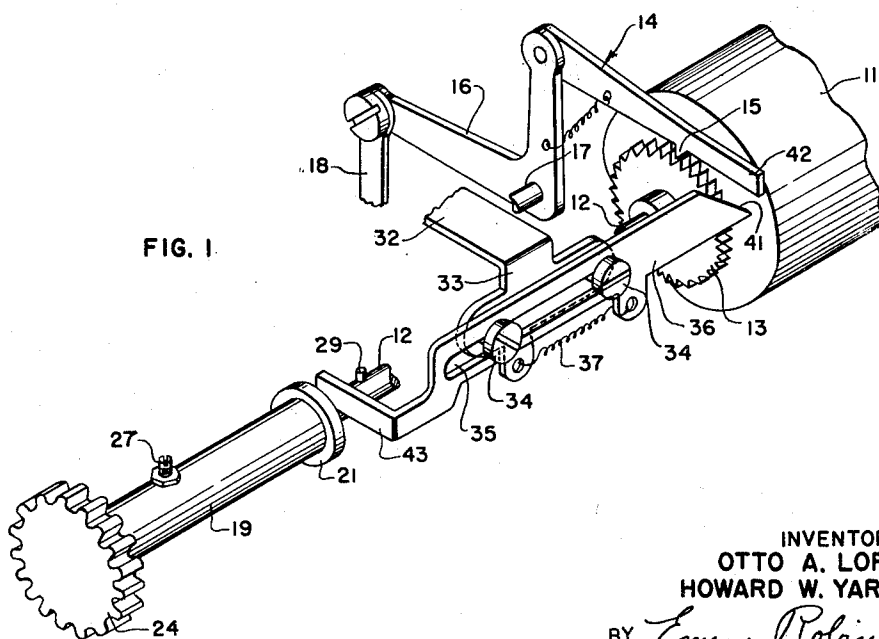
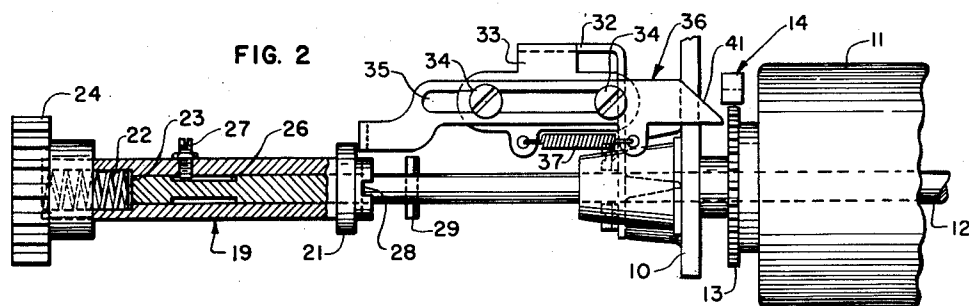
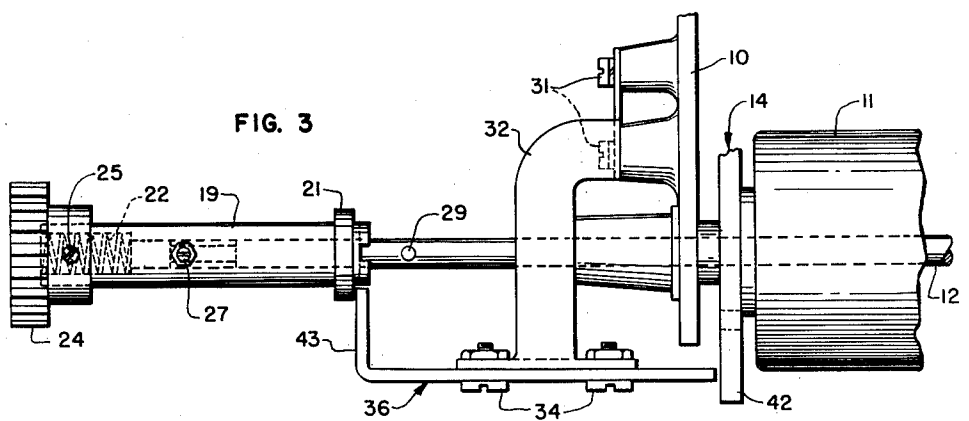


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O. A. LORENZ ET AL
LINE FEED RELEASE MECHANISM

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LINE FEED RELEASE MECHANISM

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1 Claim. (Cl. 197—114)

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This invention pertains to printing telegraph apparatus and more particularly to platen operating arrangements therefor.

In order to prevent injury to the line feed mechanism of a page printer due to an attempt to simultaneously operate the manual and mechanical line feed functions, facilities according to the present invention are provided which automatically disable mechanical line feed during manual line feed operation. Specifically, by pressing the platen knob toward the platen, the line feed pawl will be lifted away from the line feed ratchet, thereby preventing line-feeding in response to line signals while engaging a pin on the platen shaft for manual feeding. Release of pressure on the knob will permit a compression spring to return the knob to normal, disengaging its connection with the platen shaft and re-establishing normal relationship between the line feed pawl and ratchet.

The primary object of the present invention is to provide a dual control device for the platen of a power operated page printer.

Another object of the invention is to provide manual platen rotating instrumentalities which are operable irrespective of the power operated rotating instrumentalities of the platen.

A further object of the invention is to provide a manual platen rotating means which is effective upon operation to disable the automatic line feed instrumentalities of a page printer.

Other objects and features of the invention will be apparent from the following description of an illustrative embodiment thereof, taken in conjunction with the accompanying drawing, in which:

Fig. 1 is a perspective view of the dual platen rotating arrangement according to the present invention;

Fig. 2 is a front elevational view of the mechanism shown in Fig. 1, and

Fig. 3 is a top view of said arrangement.

Having reference to the drawings wherein like reference characters refer to like parts throughout the several views, the present invention is shown as applied to a page printer of the type disclosed in U. S. Patent 1,904,164 granted April 18, 1933 to S. Morton et al., which patent is incorporated herein by reference. Only a sufficient portion of the mechanism shown in said patent is disclosed herein to permit a ready understanding of the present invention. Platen 11 is rotatably supported on a shaft 12 suitably carried in the side frames 10 of the printer. Integral with the platen 11 is a line feed ratchet

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wheel 13, and cooperating with said ratchet wheel is a line feed pawl 14 having a tooth 15 for engaging the peripheral teeth of the ratchet wheel.

Pawl 14 is pivotally articulated to the extremity of the vertical arm of a line feed bell crank 16 which is supported rotatably on a rod 17 suitably positioned in the apparatus. To the extremity of the horizontal arm of bell crank 16 is pivotally connected the upper end of the line feed operating link 18. The bell crank 16 and link 18 are comparable to the bell crank 249 and link 246, respectively, shown in Fig. 7 of the aforementioned Morton et al. patent, and are operated in response to a line feed code signal as described in said patent.

The shaft 12 to which the platen 11 is fixed is extended beyond the left side frame 10 to carry or support certain of the instrumentalities comprising the manual platen rotating portion of the mechanism according to the present invention. Slidably mounted on the end portion of the shaft 12 is a sleeve member or reciprocator 19 which is provided with an integral flange 21. Sleeve 19 is counterbored to receive a compression spring 22 (Figs. 2 and 3) adapted to be compressed between a washer 23 bearing against the end of the shaft 12 and a knob or cap 24 fitted over one end of the sleeve 19 and secured thereto by a set screw 25.

Shaft 12 is provided near its end with a wide peripheral groove 26 which receives the inwardly projected end of an adjustable screw 27 suitably carried in the wall of the sleeve 19. The inner end of the sleeve 19 adjacent the flange 21 is provided with a plurality of diametrically aligned grooves 28 (in the present embodiment spaced 90° apart) which cooperate with a pin 29 extending transversely and diametrically through the shaft 12, in such a manner that the grooves 21 are adapted to engage the protruding or projecting ends of the pin 29 to provide a positive clutch means between sleeve 19 and shaft 12, as will hereinafter appear.

Secured to the frame 10 by means of screws 31 is a bracket 32, having a depending flange 33 carrying a pair of horizontally aligned stud screws 34. Supported by studs 34 for slidable movement thereon through the medium of a slot 35 is a camming instrumentality 36 which is normally urged leftwardly (as viewed in Fig. 2) by a spring 37 extended between spring supports integral with said instrumentality and said depending flange.

Instrumentality 36 is conformed at one end with

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a camming surface 41 which coacts with the extension 42 of the pawl 14. The opposite end of the instrumentality 36 is formed with a laterally extending portion 43 which cooperates with the flange 21 of the sleeve 19.

In the operation of the device according to the present invention, the platen is normally rotated automatically during the execution of each line feed function in a step-by-step manner by the pawl 14 through the actuation of bell crank 16 by the link 18 as described in the aforementioned patent. It sometimes becomes necessary to rotate the platen 11 manually to adjust the paper or for some other reason while the printer is operating automatically in response to received code signals. The device according to the invention is designed to achieve this result by simultaneously enabling manual operation and disabling automatic operation. To effect this result it is merely necessary to grasp the knob 24 and press toward the platen 11 to thereby slide the reciprocator 19 against the action of spring 22 to permit the clutch slots 28 to engage the clutch pin 29. During this process the flange 21 engages the lateral portion 43 of camming instrumentality 36 and causes the instrumentality 36 to slide on the studs 34 thus bringing the camming surface 41 into action to raise the extension 42 of pawl 14 thereby disengaging the tooth 15 from the ratchet wheel 13 to disable the line feed mechanism. Thereafter the pawl 14 merely slides ineffectively on the instrumentality 36, and by means of the clutching engagement of reciprocator 19 and shaft 12 (through pin 29 and slot 28) the platen 11 may readily be rotated manually in either direction. Then, upon removing the hand from the knob 24, all the parts of the device will return to the normal position shown in Fig. 1 through the action of their respective springs.

Although a specific embodiment of the invention has been illustrated and described, the invention is not intended to be limited thereto, but only as indicated by the scope of the appended claim.

What is claimed is:

In a telegraph printer, a platen, a shaft for

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said platen, a line feed mechanism for rotating said platen and said shaft comprising a ratchet wheel and a pawl means cooperable with said ratchet wheel, said pawl means provided with an overhanging portion, signal controlled power driven means for actuating said line feed mechanism, a sleeve carried on an extended portion of said shaft adjacent said ratchet wheel, an adjustable screw mounted in the wall of said sleeve, said shaft provided with a wide peripheral groove to receive the inwardly projecting end of said screw, whereby the slidable movement of said sleeve on said shaft is limited, a cap covering one end of said sleeve, a compression spring disposed in the bore of said sleeve between said cap and the end of said shaft, a pin extending transversely through said shaft and disposed a predetermined distance from the other end of said sleeve and adapted under predetermined operating conditions to cooperate with aligned grooves in the adjacent end of said sleeve, a flange integral with said sleeve, and a pawl disengaging means slidably supported between said platen and said sleeve, said pawl disengaging means comprising a lateral projection cooperable with said flange and a camming means adapted to cooperate with said overhanging portion, whereby upon predetermined manipulation of said sleeve said camming means is caused to coact with said overhanging portion to disengage said pawl means from said ratchet wheel to facilitate manual operation of said platen irrespective of the continued operation of said pawl means by said power driven means.

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