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TYPEWRITING MACHINE

Original Filed June 17, 1939

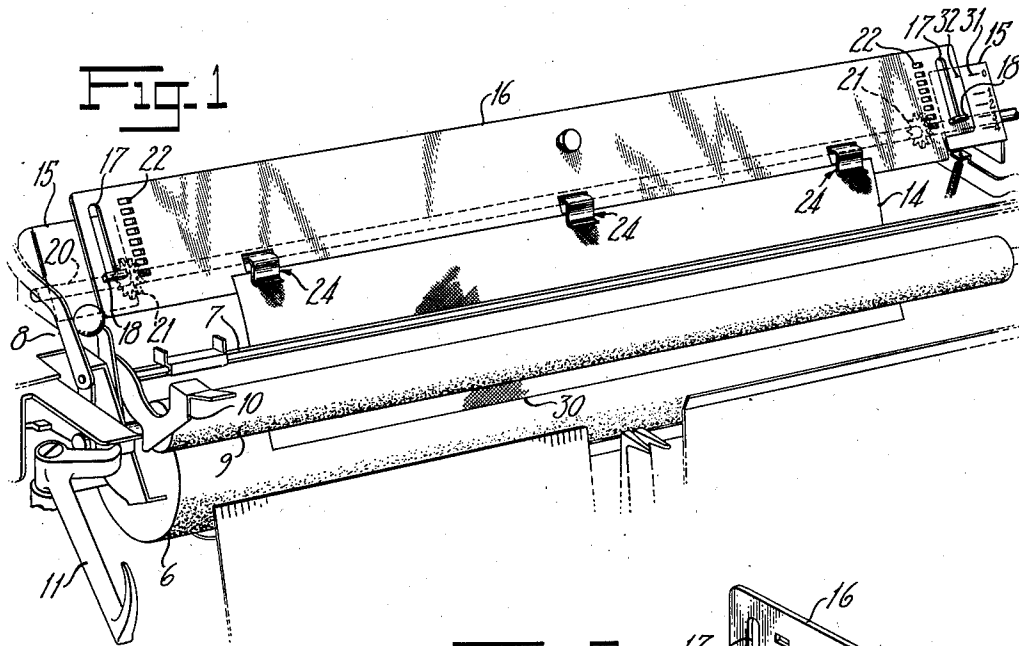


Fig. 2

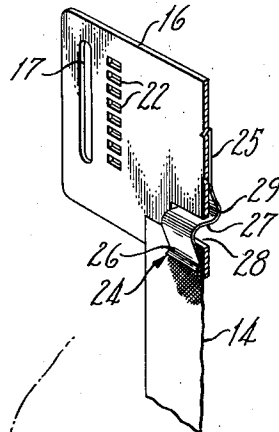
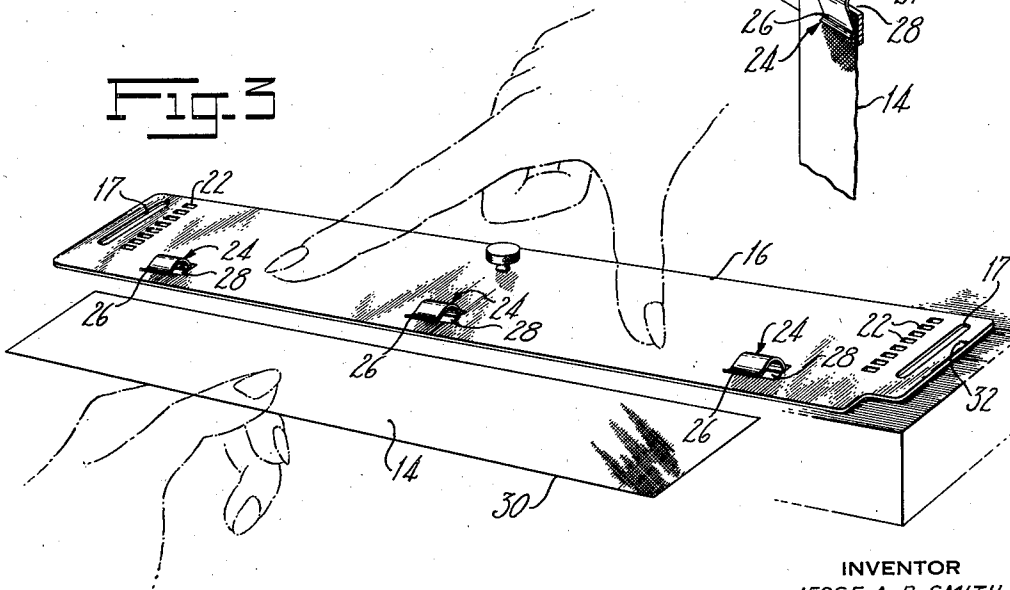


Fig. 3



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TYPEWRITING MACHINE

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Original application June 17, 1939, Serial No.
279,695. Divided and this application June 27,
1939, Serial No. 281,407

6 Claims. (Cl. 197—126)

This invention relates to carbon-sheet holding-and-feeding devices of typewriting machines, and has reference more particularly to devices of this character adapted for momentarily inserting a supplemental carbon sheet at the printing line of the platen to produce type impressions of different color than had by the regular carbon.

An object of this invention is to provide an improved carbon-sheet holding-and-feeding device of substantially simplified construction, reliably operative to feed or retract a carbon sheet to or from the printing line of the machine.

Another object is to provide a carbon-sheet carrier, adapted for use in conjunction with the holding-and-feeding device, having improved means of simple, economical construction for releasably securing a carbon sheet thereto; the arrangement being such that a carbon sheet may be securely installed or removed for replacement with facility.

In its more specific aspect, the invention provides an improved carbon-sheet holding-and-feeding device having a plate-like carbon-sheet carrier adapted for instant and convenient removal from the machine and having a series of spring clips cooperative with the carrier plate to securely grip a carbon sheet thereto; the spring clips and the carrier plate being so organized as to facilitate simultaneous release of the clips to install a new carbon sheet, by a simple pressure manipulation upon the surface of a desk.

Other objects and advantages will hereinafter appear.

The embodiment of the invention illustrated and forming the subject matter of the present application is similar in part to that shown in my copending application Serial No. 279,695, filed June 17, 1939, of which this is a divisional application.

In the drawing,

Figure 1 is a perspective view of the platen carriage and related portions of a typewriter embodying the invention.

Figure 2 is a fragmentary perspective view, partly in transverse section, of the carbon-sheet carrier removed from the machine, and

Figure 3 is a perspective view of the carbon-sheet carrier in position on a desk top, illustrating the manner of installing a carbon sheet thereon.

A front-strike typewriter is illustrated, on the carriage of which is rotatably mounted a cylindrical platen 6 along which a feeder and splitter

bar 7 is disposed, just above the printing line on the platen and spaced slightly from the periphery thereof. The bar 7 is fixedly mounted at its ends on brackets 8, one of which is shown, forming upward extensions at each end portion of the carriage. A feed roll 9 is spring-pressed against the feeder bar 7 by means including a hook arm 10 having releasable engagement with the feed roll shaft, permitting swinging the feed roll away from the bar 7 to facilitate inserting a work sheet into the machine. A conventional selective line-space mechanism is employed which includes a usual line-space and carriage-return lever 11, the line-space mechanism being adapted to rotate the platen. A driving connection between the platen 6 and the feed roll 9, not shown, is provided so that the feed roll is rotated in line spacing by manual actuation of the lever 11.

The invention has particular application to typewriting machines adapted for the typing of reduplicative master sheets, wherein the type striking the work sheet at the front of the platen imparts a record on the rear face of the work sheet, this record being produced by transfer from a carbon sheet or web having its transfer face confronting the back of the work sheet. In machines of this character, as illustrated more fully in the said copending application, a carbon web, coated with a transfer medium particularly adapted for the typing of reduplicative master sheets, is supplied from suitable spools arranged above the platen and is directed around the platen, between the latter and the splitter bar 7 to issue upwardly and rearwardly to one of the mentioned spools. A work sheet forming the reduplicative master sheet is directed around the platen and between the feed roll 9 and the front face of the splitter bar 7, to be fed in line-spacing by rotation of the feed roll in cooperation with the bar 7.

The organization thus far briefly described embodies the mechanism by which a carbon web and a work sheet are fed around the platen for typing a master sheet in a uniform carbon color; the type impressions being made on the back surface of the work sheet and imparted thereto by transfer of the carbon from the web at each type impression, the type striking the front face of the work sheet.

In typing some master reduplicative sheets, it is desired to have certain of the typed lines, for example, the heading, formed in a different color of carbon than that regularly provided by the carbon web. For this purpose, a supple-

mental carbon sheet 14 having a transfer surface at the front thereof of different color than the carbon web, is provided; the carbon sheet 14 being insertable into the line of typing at the will of the typist by means now to be described. The carbon sheet 14 is disposed between the carbon web issuing upwardly from the platen and the back of the splitter bar 7, so that in effect when the carbon sheet 14 is fed to the printing line, same confronts and thus takes the place of the carbon web, to transfer type impressions of a different color on the back of the reduplicative sheet.

Guide lugs 15 extend inwardly toward each other from each of the brackets 8, the guiding faces of the lugs being coplanar. A plate-like carbon-sheet carrier 16 is slidably and removably carried on the lugs 15 by means of guide slots 17 adjacent each end of the carrier, through which rotatable T-shaped buttons 18 mounted on the brackets extend with the button head normally overlying marginal portions of the guide slot 17. By rotating each button 18 so that its head is aligned with the guide slot 17, the carrier 16 may be conveniently removed from the machine. It is desired that the carrier 16 be formed of a substantially flat plate presenting particularly an even rear face, for reasons hereinafter manifest.

In order to feed or retract the carbon sheet 14 to or from the printing line in a parallel motion, the carrier 16 upon which the carbon sheet is secured is manually actuated toward or from the printing line by means including a feed shaft 20 journaled in the brackets 8 and having a crank, not shown, at one end thereof, the shaft carrying corresponding gears 21 in mesh with racks adjacent each end of the carrier 16, which racks are each formed by a series of aligned perforations 22 therein. Rotation of the shaft 20, through the gears 21, causes a corresponding movement at each end of the carrier 16 to feed the carbon sheet 14 to the printing line. The formation of each gear rack by the perforations 22 obviates the need of the conventional rack and thus avoids having projecting structure on the rear face of the carrier plate 16.

The carrier plate 16 includes conveniently releasable means for securing the carbon sheet 14 thereto. Along the lower margin of the carrier plate 16 a series of spring clips 24 are arranged. Each clip is preferably fabricated of a ribbon-like strip of spring metal bent into a generally zigzag or offset form so as to provide at one end a substantially straight attaching portion 25 and at the opposite end a jaw 26, between which is a connecting intermediate portion 27. The carrier plate 16 has a series of apertures 28 along the carbon-sheet-securing margin in which the intermediate portion 27 of the spring clips 24 are disposed, the attaching portion 25 of the clip being secured as by spot-welding or other suitable means to the back face of the plate 16. It will be noted that the contiguous part of the attaching portion 25 adjoining the intermediate portion 27 has an offset bend to provide a hump or appendage 29 projecting outwardly from the back of the plate 16. The free edge of the jaw 26 is rolled outwardly to afford a smooth gripping surface for the carbon sheet and facilitate inserting same. Each clip 24 is so formed in its initial setting that the inherent resilience of the clip causes the jaw 26 thereof to be pressed against the front face of the plate 16 to grip the carbon sheet.

When it is desired to install or replace the car-

bon sheet 14 on the carrier plate 16, the latter is removed from the machine as previously described, and is laid flatwise on a desk top with the even rear face downward, as illustrated in Figure 3.

The spring clips 24 are simultaneously released, that is, the jaws 26 are opened by manually imparting a downward pressure on the plate 16. In that the rear face of plate 16 is free of projections other than the humps, pressure on the plate with the humps 29 of each spring clip engaging the desk top causes the clips to be simultaneously flexed and the jaws 26 thereof are sprung away from the plate. The carbon sheet 14 may thus be readily inserted between the series of spring clips 24 and the confronting face of the plate 16 while maintaining manual pressure on the plate, upon release of which the clips 24 spring into secure engagement with the carbon sheet 14.

It is to be noted that the carbon sheet 14 is to be of a prescribed width so that when the carrier plate 16 is in place on the machine as shown in Figure 1, the lower longitudinal edge 30 of the sheet 14 will assume a certain position relative to the printing line. To facilitate locating the carbon sheet 14 relatively to the printing line, a scale 31 on one of the lugs 15 is provided; the scale bearing graduations from zero and cooperating with a pointer 32 on the carrier plate 16. The prescribed width of the carbon sheet 14 is to be such that with the plate 16 set at zero of scale 31, the carbon sheet edge 30 is just above the printing line. The successive numerals on the scale indicate progressive positions of the carbon sheet at the printing line, to enable the typist to feed successive margins of the carbon sheet to the printing line to replace used portions thereof.

It will be seen from the foregoing that the invention provides a supplemental carbon-sheet holding-and-feeding device of which the carrier plate 16, the guide lugs 15 with the releasable holding buttons 18, and the gears 21 meshing with the racks 22, constitute a substantially simplified structure capable of economic manufacture and reliably operative to feed or retract the carbon sheet 14 to or from the printing line of the machine. It will also be seen that the invention provides a carbon-sheet carrier of simple, economic construction, as embodied in the plate 16 and the associated spring clips 24 by which a carbon sheet may be securely held, or removed with facility, by a simple pressure manipulation upon the surface of a desk.

Although in this application there is specifically described one embodiment which the invention may assume in practice, it will be understood that same is shown for the purposes of illustration, and that the invention may be modified and embodied in various other forms without departing from its spirit or the scope of the appended claims.

What is claimed is:

1. In a front-strike typewriting machine having a roll platen; a carbon-sheet holding-and-feeding device comprising a substantially flat plate, means mounting and guiding said plate to variably position the carbon sheet relatively to the platen printing line, and means to vary the position of said plate including coaxial gears rotatably mounted at the rear face of said plate and a rack for each of said gears formed of a series of perforations in said plate, said plate including a series of spring clips secured thereto, each of said clips having a corresponding appendage projecting substantially from the rear face of said plate and adapted to cooperate with

a flat surface for concomitantly releasing said clips by manually pressing said plate against the flat surface.

2. In a front-strike typewriting machine having a roll platen; a carbon-sheet holding-and-feeding device comprising a substantially flat plate, guide members carried on the machine for slidably mounting said plate relatively to the platen printing line, said plate having elongate guide slots adjacent each end thereof, T-shaped buttons rotatably mounted on said guide members and cooperating with the slots to releasably hold said plate in operative position on the machine, means to vary the setting of said plate including coaxially aligned gears rotatably mounted on the machine at the rear face of said plate and a rack for each of said gears formed of a series of perforations in said plate, said plate including a series of spring clips secured thereto, each of said clips having a corresponding appendage projecting outwardly from the rear face of said plate and adapted to cooperate with a flat surface for concomitantly releasing said clips by manually pressing said plate against the flat surface.

3. A paper holding device adapted for attachment to a typewriter, comprising, an apertured flat plate having parallelly spaced racks integrally formed therein for differently locating the plate upon the typewriter, a plurality of resilient clamping fingers at one face of the plate, and means at the other face of the plate projecting through said apertures and extending from said fingers, said means being operable by pressing the plate against a flat surface to move said clamping fingers conjointly from said plate to provide for insertion of the paper.

4. A paper holding device for attachment to a

typewriter, comprising, an apertured flat plate having parallelly spaced racks integrally formed therein for differently locating the plate upon the typewriter, and a plurality of clamps supported on said plate having paper clamping portions resiliently bearing on one face of the plate and having appendages projecting through said apertures that are operable by pressing the plate against a flat surface to move said clamps from said plate to provide for insertion of the paper under said clamps.

5. A paper holding device for attachment to a typewriter, comprising, a flat plate having widely spaced parallel rows of perforations for locating it in different positions upon the typewriter, and a plurality of clamping fingers supported on said plate having paper clamping portions resiliently bearing on one face of the plate and having appendages projecting beyond the other face of the plate that are operable by pressing the plate against a flat surface to move said fingers from said plate to provide for insertion of the paper under said fingers.

6. A paper holding device adapted for attachment to a typewriter, comprising, a flat plate having parallelly spaced racks integrally formed therein for differently locating said plate upon the typewriter and having slots extending parallel to said racks for attaching the plate to the typewriter, and a plurality of clamps supported on said plate having paper clamping portions resiliently bearing on one face of the plate and having appendages projecting beyond the other face of the plate that are operable by pressing the plate against a flat surface to move said clamping portions from said plate to provide for insertion of the paper.

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