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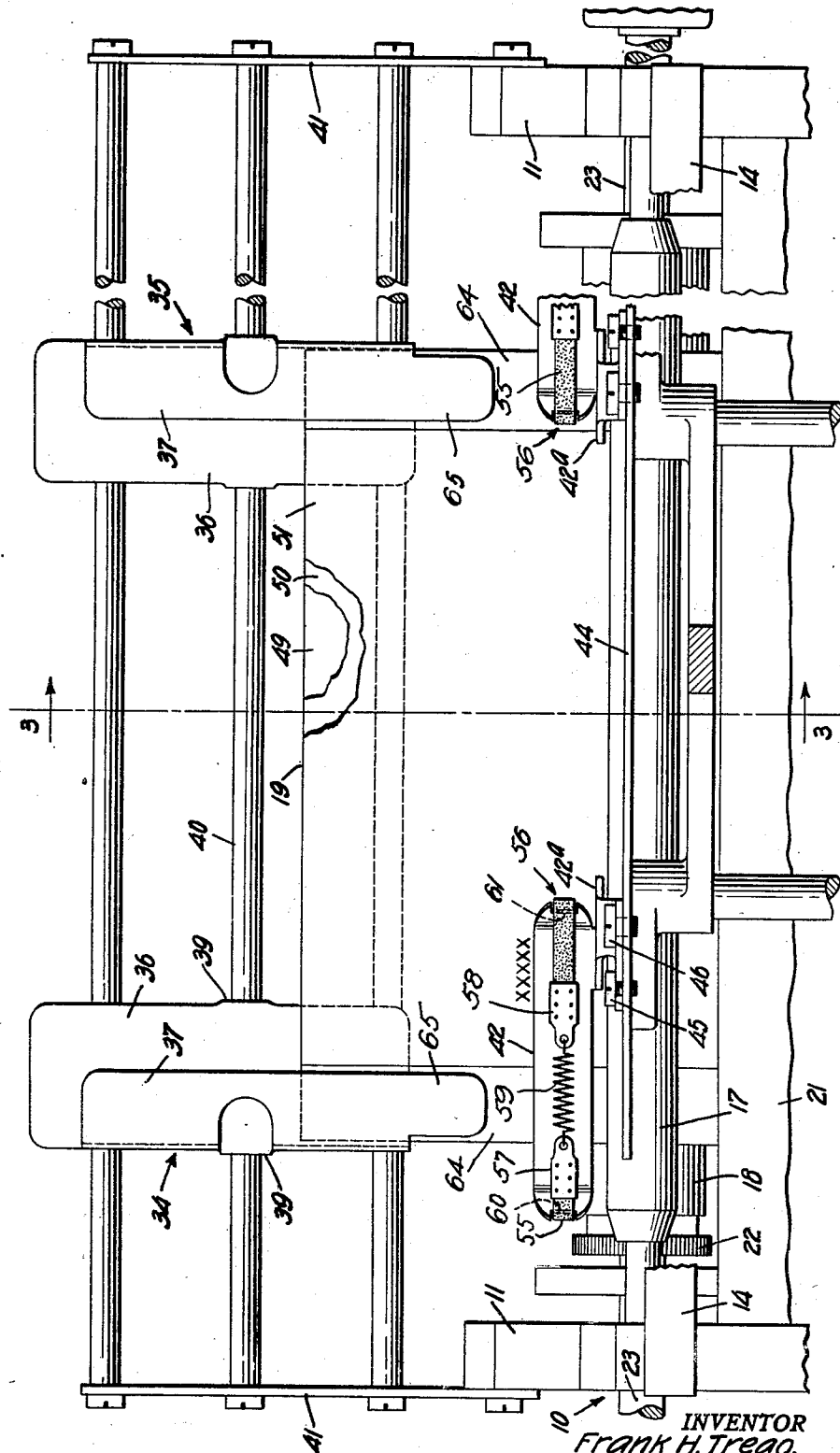
1,929,449

WORK SHEET GUIDING MEANS

Filed Nov. 26, 1929

3 Sheets-Sheet 1

Fig. 1.



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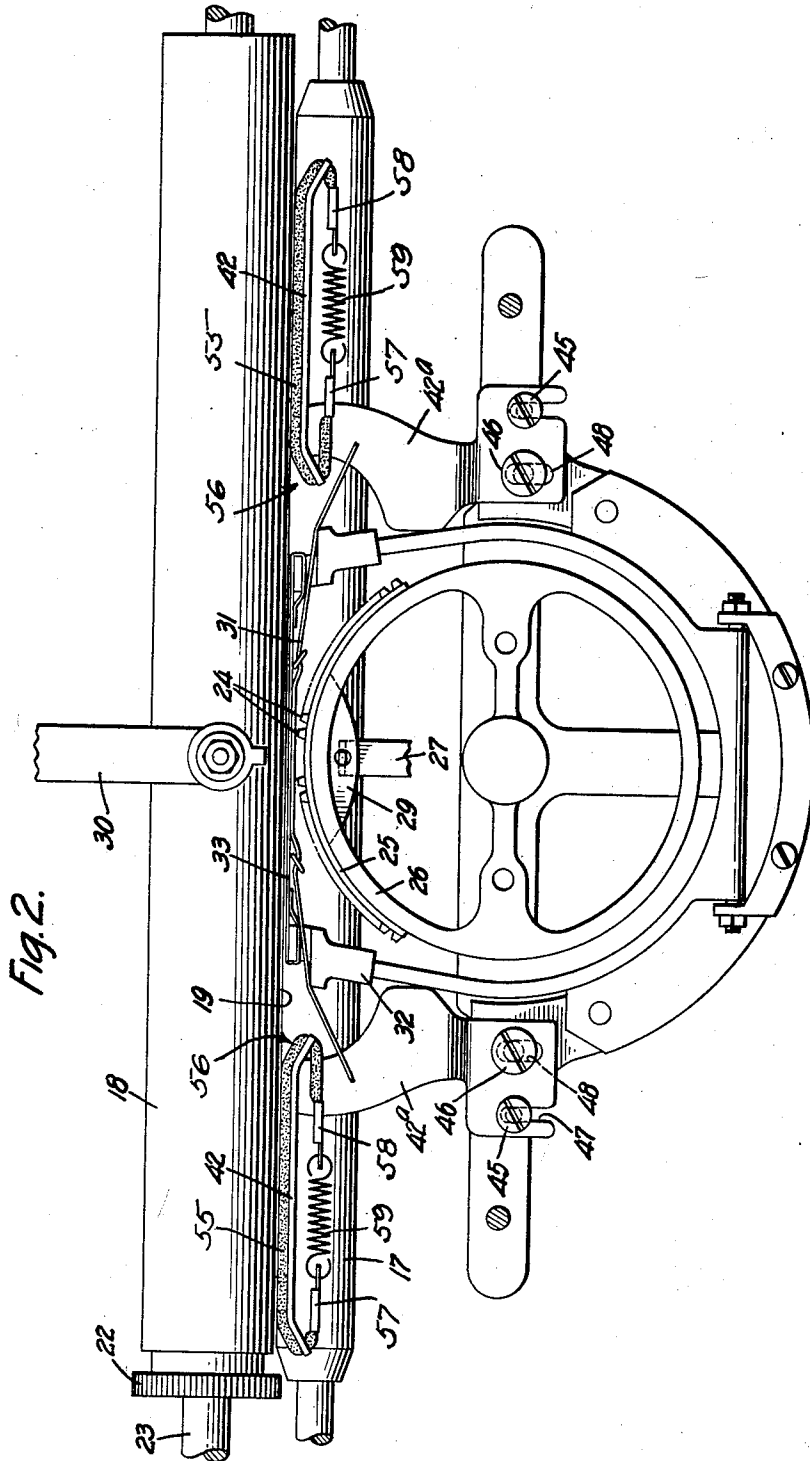
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3 Sheets-Sheet 2



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WORK SHEET GUIDING MEANS

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Application November 26, 1929
Serial No. 409,798

7 Claims. (Cl. 197—127)

This invention relates to typewriting machines and more particularly to improvements in work-sheet guiding means.

It has been proposed to partially prepare a sheet in a typewriting machine which is to be subsequently used as a master sheet in a method, known as "Rotaprinting", to produce copies on paper. The work-sheet is composed of a paper body coated on one face with a thin layer of aluminum, or other suitable metal; the metal surface being coated with a suitable chemical composition which is sensitive to touch. After typing, the sheet is chemically treated so that ink when applied to the surface, in a Rotaprint machine, adheres only to that part of the surface which has been disturbed as by the type of the typewriting machine.

An object of the invention is to prevent accidental disturbing of the sensitized surface of the work-sheet, as by scratching, while the work-sheet is being fed in the typewriting machine.

To this end the guiding means, including the line-guides, are provided each with a covering of soft, non-scratching material which contacts with the sensitized surface of the work-sheet to prevent scratching by said guiding means and the ribbon vibrator.

In carrying out the invention I provide on each line-guide a strip of leather such as chamois, which strip forms part of a resilient band detachably mounted on the line-guide; the latter being provided with notches at its ends to assist in locating and holding the band in position. The upper edge of the chamois strip is located somewhat below the upper edge of the line-guide to prevent smudging of the typing at the printing line.

Features and advantages will hereinafter appear.

In the drawings,

Fig. 1 is a front elevation of the upper portion of the machine showing the invention applied thereto;

Fig. 2 is a top plan view of Fig. 1, some of the parts being omitted;

Fig. 3 is a vertical section taken on the line 3—3 of Fig. 1;

Fig. 4 is a detail sectional side view, on a larger scale, showing the relation of the novel guide and the work-sheet;

Fig. 5 is a detail view of the detachable element of the line guide; and

Fig. 6 is a transverse section taken on the line 6—6 of Fig. 5.

Similar reference characters represent similar parts throughout the several views.

The invention is herein illustrated as applied to a Varsity writing machine which includes a carriage 10 having end portions 11 secured to each other by bars 12, 13 and 14. The carriage is sup-

ported upon a rail 15, secured to the main frame, not shown, to travel back and forth thereon through the medium of anti-friction rollers or balls 16.

The carriage is provided with rollers 17 and 18 to feed a work-sheet 19 upwardly from a container 21 to the printing instrumentalities; means including a ratchet wheel 22, secured to a shaft 23 of the feed roller 18, being provided to line-space the work-sheet.

The printing instrumentalities include types 24 on a shuttle 25 supported on an anvil 26 in the usual manner and operable by a lever 27, connected to a fin 29 of said shuttle, to set the desired type at the printing point. After the selected type is positioned, a printing hammer 30 is actuated to co-operate with the selected type to print on the interposed work-sheet 19.

An ink ribbon 31 located between the type shuttle and the work-sheet, is normally below the printing line, but is carried to the printing point at each printing operation by a ribbon vibrator 32 which is operated in the usual manner. The usual ribbon guard 33 is also supported on the ribbon vibrator; said guard being provided with the usual aperture, not shown, through which the printing hammer cooperates with the type.

The work-sheet may be guided, above the printing line, by means including side-guides 34 and 35 which, in some respects, may be similar to those shown in my application, Ser. No. 399,733, filed Oct. 15, 1929. Each guide includes a body part 36 from the side edge of which is bent a portion 37 to form with the body part, a groove 38 in which the work sheet is guided. Each guide further includes two ears 39 extending rearwardly therefrom and embracing a supporting rod 40 carried by two brackets or arms 41 secured to the ends 11 of the carriage.

Two line-guides 42 are provided, one at each side of the printing point, the upper edge of each registering with the bottom edge of the characters printed on the writing line, as indicated in Fig. 1. Each line guide has an arm 42a extending to a plate 44 secured to the machine frame; each arm 42a being secured to said plate by screws 45 and 46 extending through slots 47 and 48 respectively in the arm 42a.

The work-sheet 19 is composed of a sheet of paper, (Fig. 1) coated with a thin layer 50 of aluminum or any other suitable metal; the aluminum being coated with a thin film 51 of chemical preparation to form a sensitized surface. After the sheet is typed, it is chemically treated so that the ink, when subsequently applied to the sheet, adheres only to the portions of the surface which have been disturbed or affected by the types.

If the sensitized surface of the work-sheet is accidentally disturbed, as by scratching, by the

guiding means in the machine, while being typed, these scratches are reproduced on the copies made from the finished master sheet. I have made provision to prevent scratching of the work-sheet.

To this end I mount on each line-guide 42 a strip 55 of leather, such as chamois, or like material, to engage the sensitized surface of the sheet. For convenience in assembling and for other reasons the strip 55 may form part of a band 56 having metal ears 57 and 58 fastened to the ends of the strip 55, between which metal ends is connected a spring 59 to thus make the band resilient so that it may be slipped over the guide 42 and into notches 60 and 61, formed in the ends of said guide, where the band is held in place. It will be understood that the spring 59 keeps the strip 55 stretched tightly across the face of the line indicator or paper guide 42.

The strips 55 are detachably supported so that they may be readily removed from the line-guides 42 when the machine is to be used for ordinary letter writing, etc. When the strips 55 are removed the guides 42 may be adjusted closer to the work-sheet 19, the slots 47 and 48 in the arms 42a being provided to permit this adjustment and to properly adjust said line-guides after the strips are put back on.

By an inspection of Fig. 4 it will be noticed that the strip 55 is located below each upper edge of the guide 42 which edge, it will be remembered, registers with the bottom of the printing line. This is done to prevent smudging of the disturbed surface, or in other words, the typed matter, on the work-sheet, by said strip.

To secure the metal ends 57 and 58 to the strip 55 each may be provided with a pair of ears 62 (Figs. 5 and 6) folded over the end of the strip. Pointed portions 63 may be pressed into the chamois 44 to aid in holding each metal end thereon.

To insert the work-sheet into the machine it may be almost completely rolled up and the rolled portion inserted into the container 21, the unrolled end extending between the released feed rolls. The feed rollers may then be operated to grip the work-sheet and it may then be fed upwardly thereby. The work-sheet is provided with unsensitized side portions 64 which pass up in the guides 34 and 35.

To assist in holding the work-sheet 19 back from the ribbon vibrator, especially when the side edges thereof pass beyond the inner ends of the line-guides 42, during the travel of the carriage, the portions 37 of the side-guides 34 and 35 are provided with extensions 65 reaching downwardly, close to the printing line. Quick drying ink is used on the ribbon 31 to prevent smudging of the typed surface of the work-sheet, by handling, after it is removed from the machine.

The hammer 30 may be spring operated and is under the control of the key levers (not shown) as in my application, Serial No. 399,734, filed Oct. 15, 1929, thus producing uniform printing on the work-sheet with a result that the printing on the copies, made from the master sheet, is also uniform.

Having thus described the invention I do not desire to be limited to the specific embodiment thereof as shown in the drawings, there being variations which fall within the scope of the appended claims.

I claim:—

1. In a typewriting machine, a line-guide having notches at its ends, and a resilient band including a strip of leather mounted in said notches.

2. In a typewriting machine, a line-guide having notches at its ends, a strip of leather supported in said notches, metal elements secured to the ends of said strip, and a spring connecting said metal elements to form a stretched band on said line-guide.

3. In a typewriting machine, the combination of printing means, means to feed a sensitized work-sheet relatively to the printing means, means including a line-guide to guide said work-sheet, said line-guide having notches in its opposite ends, and a resilient band of non-scratching material mounted on said guide in said notches to bear against the sensitized face of the work-sheet.

4. In a typewriting machine, the combination of printing means, means to feed a sensitized work-sheet relatively to the printing means, a stationary line-guide to guide the work-sheet, and a strip of non-scratching material on said guide, said strip being adapted to engage the sensitized surface of the work-sheet, the upper edge of said strip being located below the upper edge of the line-guide to prevent smudging of the printing on the work-sheet by said strip.

5. In a typewriting machine, the combination of printing instrumentalities, feed rollers on said carriage, said feed rollers being located below the printing point and by which a work-sheet may be fed upwardly to the printing point of the printing instrumentalities, stationary line guides one at each side of the printing point, a ribbon vibrator between said line guides, the line guides assisting to hold the work-sheet away from the ribbon vibrator to prevent rubbing of said ribbon vibrator against the work-sheet, and two vertically disposed paper guides one at each side of the work-sheet each paper guide including a rear member, a front member, said members being joined at their outer side edges thus forming vertically disposed channels with their open ends extending inwardly, the side edges of the work-sheet extending into said channels, the front member of each guide extending below the lower edge of the rear member and close to the printing line so as to keep the work-sheet from contacting with the ribbon vibrator after the work-sheet has moved out of engagement with the line guide.

6. In a typewriting machine, the combination of a main frame, a carriage supported to travel thereon, and a work-sheet guide on the main frame having notches in its ends for the purpose of supporting a detachable element thereon.

7. In a typewriting machine, the combination of a main frame, a carriage having a sensitized work-sheet arranged to travel on the main frame, a horizontally disposed line guide rigid on the main frame, the upper edge of said guide registering with the lower edge of the printing line, an element of non-scratching material on said guide, and means at the ends of said guide to position said element on the guide so that its upper edge is located below the upper edge of the guide.

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