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TYPEWRITING MACHINE

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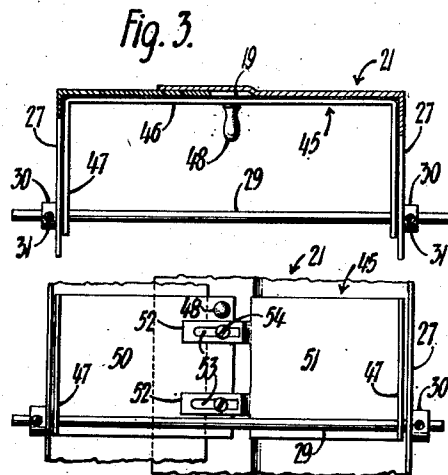
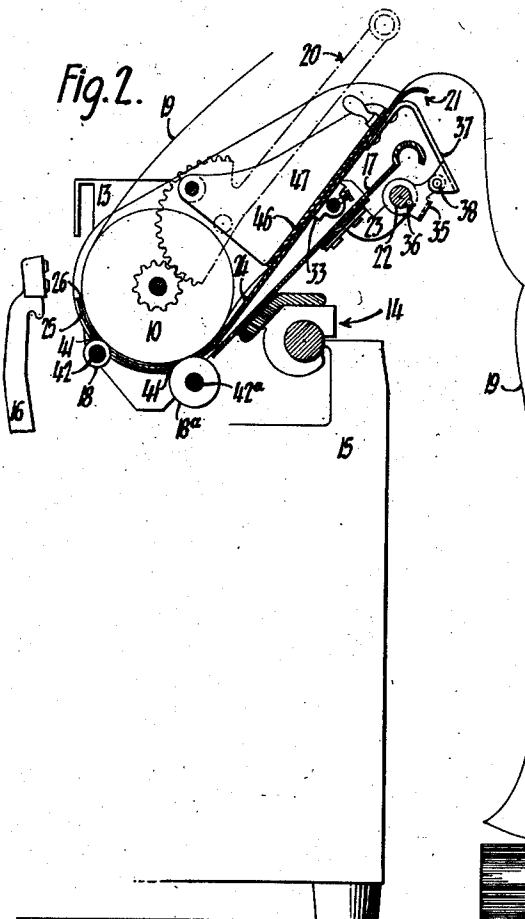
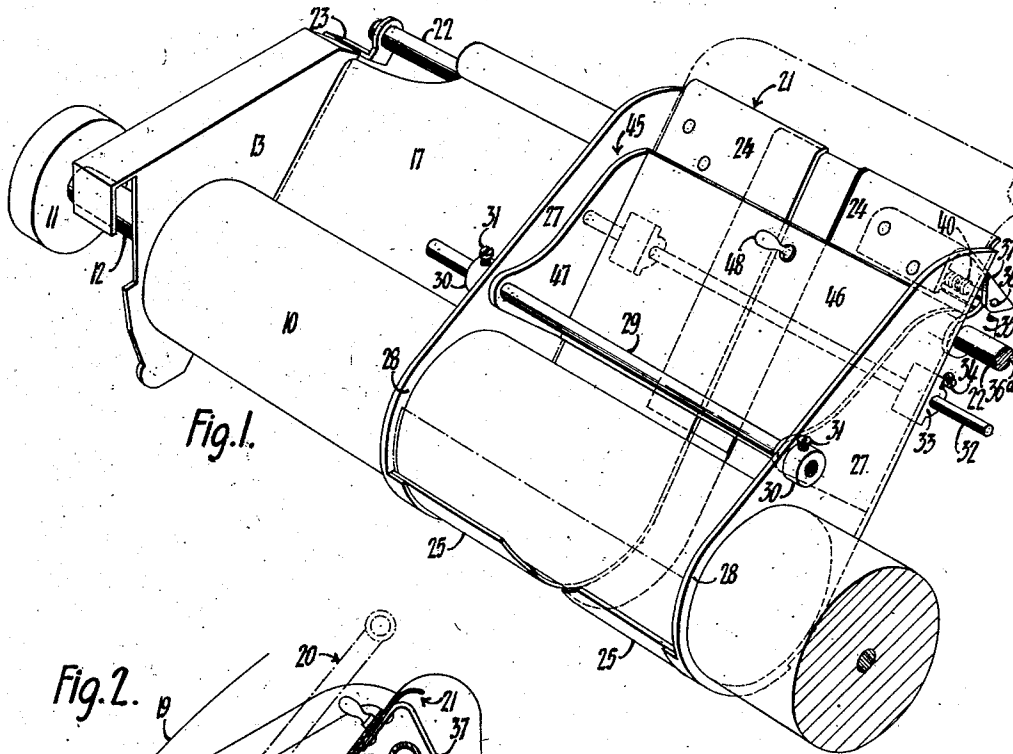


Fig. 4.

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TYPEWRITING MACHINE

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2 Claims. (Cl. 197-133)

This invention relates to means for facilitating the introduction of bills or other forms in a typewriting machine, and guiding them around the platen to the printing point.

5 In certain forms of commercial typewriting machines, in which a succession of standard-sized bill forms or other work-sheets form a folded web, it is customary to use a paper-chute, by means of which the edges of the web are
10 confined between side gages, so that the web may be carried around the platen in proper alignment, without the necessity of manipulation. Generally, continuous-web billing forms are used in this type of work, said forms feeding out of a
15 detached receptacle which does not move with the machine carriage.

Prior forms of web-chutes or channels have a serious disadvantage in that when the carriage is moved and arrested suddenly, as when tabulating, or returning the carriage to a new writing-line position, the work-sheet, being fed from a stationary receptacle, skews to one side or the other, no matter how closely confined the edges within the side gages of the web-chute. In
20 other words, the web has a tendency to curl or "pile up" against the side gage at one side or the other and when the platen is turned to bring a new form into printing position, the web feeds angularly and the operator must take time to
25 re-align it. This tendency is especially noticeable when the machine is equipped with a power-driven carriage return, which moves the carriage rapidly back to the new writing position or with paper-feeding means in which by a single stroke
30 of a lever, the platen is rotated sufficiently to advance the work-sheet several inches.

To overcome this disadvantage and assure the proper alignment of the web at all times during operation, this invention discloses a novel paper-chute which combines with the usual side gages and flat introductory paper-shelf, an additional web-confining member in the form of a pivotally mounted, flat plate of substantial area, which extends the full width of the web-chute. The
40 plate is raised clear of the chute when the work-sheet is introduced around the platen and is then returned to operative position, in which it rests, by its own weight, on the work-sheet, thus confining it, particularly at its side margins, be-
45 tween two level surfaces.

As the confining member extends over the full width of the web and co-operates with the chute floor or shelf to confine it closely, the web cannot curl, buckle, skew or pile up against the side
55 gages at the edges during the operation of the

machine, permitting the operator to line-space, or otherwise feed the paper around the platen without further attention.

The confining member presses the work-sheet down upon the flat surface of the paper-chute and smoothes out the cross-folds in the web, and presents it at the printing-point in ideal condition to be typed upon.

The paper-chute may be adjustable for various widths of work-sheet, in which case several sizes of confining members may be provided to suit various standard-width sheets, or the confining member may itself be adjustable to suit the adjusted paper-chute width.

Other features and advantages will hereinafter appear.

In the accompanying drawing,

Figure 1 is a perspective view of the invention as applied to an Underwood typewriting machine. Figure 2 is an end view, partially in section, of the machine of Figure 1, showing the confining plate in operative position.

Figure 3 is a top view, showing the co-operation of the upper plate and the paper-chute with the work-sheet confined between the upper plate, the shelf of the paper chute and the side walls of the chute.

Figure 4 shows a modified, adjustable form of the confining plate.

Referring to the drawing, a revoluble platen 10, having an adjustment knob 11, is fixed to a shaft 12, journaled in side plates 13 (only the left-hand plate is shown) of a platen carriage 14, which is of construction commonly found in Underwood typewriting machines. The carriage is slidably mounted in the machine frame 15, as diagrammatically represented in Figure 2, and is designed to be letter-fed by the usual escapement (not shown) which acts in co-operation with the type-bars 16 as they are swung into printing position at the platen in the familiar manner. The operation of returning the carriage to a new writing-line position may be manual or automatic. The platen carriage may include the usual Underwood paper-table 17 at the rear of the platen, said table connecting the side plates 13.

A set of lower feed-rolls 18, 18^a which bear against the platen 10 in advance of the printing line, may be thrown clear of the platen by familiar means (not shown) to facilitate the insertion of a work-sheet 19, shown in Figure 2 in the form of a long, cross-folded web, feeding continuously out of a suitable stationary receptacle.

The work-sheet 19 may be fed around the

platen by means of the knob 11, the usual line-space mechanism (not shown), or by form-feeding means including a lever and pinion arrangement 20, Figure 2, of the type disclosed in United States Patent No. 1,113,103, to J. J. Cooper, said patent also showing one form of said line-space mechanism.

A paper-chute or work-sheet guide 21 overlies the paper-table 17 and is slidably supported on a rod 22, which is secured behind the table 17 to the side plates 13 by suitable lugs 23. The paper-chute comprises telescoping sections, relatively adjustable lengthwise of the platen to vary the width of the chute to accommodate work-sheets of assorted widths. Each of the sections is formed to have a flat introductory guiding shelf or floor 24, the floors lying in the same plane, said floor extending rearwardly and upwardly from the platen 10, and a curved apron 25 of each section extending forward beneath the platen and upward to within a short distance of the printing line. The curved apron conforms to the curvature of the platen and is spaced from the platen sufficiently to provide a passageway 26, Figure 2, through which the work-sheet 19 may slide freely.

The sections are formed with side walls 27 which form side gages to guide the edges of the work-sheet. The side walls may be integral, upstanding flanges formed at their forward ends to encircle the platen 10 with rims 28 to guide the work-sheet at the front of the platen, as shown in Figure 2. The side gages or walls 27 are shown connected by a transverse rod 29 having collars and set-screws 30, 31 to adjustably fix the relative positions of said sections laterally.

The sections may be additionally supported and adjustably secured against lateral displacement by a rod 32 which passes through supporting bosses 33 secured to the under side of the sections. Set-screws 34 releasably grip the rod 32 to hold the sections at various positions of adjustment.

The paper-chute 21 may be mounted on brackets 35, slidable along the rod 22 and held against free rotation thereon by pins 36 coacting with a groove 36^a formed in the rod and yieldably held therein by means such as a leaf-spring, not shown. Connecting plates 37, each fixed at one end to the floor 24 of each section are pivotally connected to the brackets 35 by pins 38. When the paper-chute is removed from the machine, the brackets 35 are folded within the plates 37 by the action of suitable coiled springs 40.

The aprons 25 may be provided with openings 41, Figure 2, to accommodate the feed-rolls 18, 18^a which may be loosely mounted on their respective shafts 42, 42^a for adjustment along the shafts to follow the adjustment of the paper-chute.

A confining member 45, Figure 1, formed with a smooth, level, bed-plate 46 and preferably integral side walls 47 is struck out of suitable sheet metal, and arranged to be pivotally mounted on the rod 29 within the paper-chute walls 27, as shown in Figures 1 and 3. The depth of the side walls 47, from the center-line of the rod 29 to the lower surface of the plate 46, is such as to permit the latter to lie on the shelf or floor 24 in parallel relationship to said floor throughout the length and breadth of the said plate.

A handle 48 is provided, by means of which the operator may swing the confining member 45 upwardly about the rod 29 preparatory to introducing the work-sheet 19 into the machine.

After the introduction of the work-sheet around the platen in the usual manner, the member 45 is returned to its operative position, as shown in Figure 2, and rests by its own weight like a mat on the work-sheet, confining the latter within a passageway formed by the side gages 27, the paper-shelf 24 and the plate 46. As the paper is fed into the machine, either by the usual line-feeding means or the lever 20, the work-sheet 19 is smoothed between the web-facing plate 46 and the paper-chute shelf or floor 24. The weight of the member 45 exerts a constant pressure on the work-sheet and thus said member 45 and shelf 24 co-operate to clasp the work-sheet so that the latter is fed into the platen without curling or piling up against the side gages 47.

By making the side walls 47 extend the full depth of the plate 46, as shown in Figure 1, the latter is stiffened and bending or distortion is substantially prevented, assuring even web-clamping coaction of the plate 46 and the floor 24.

It will be seen that the forward or bottom margin of the confining plate 46 may be contiguous to a perpendicular from the fulcrum-rod 29 to the paper shelf or floor 24, see Figure 2, with said plate 46 in operative position, it being understood that so long as said bottom margin does not extend below said perpendicular, said plate remains free to swing off said paper-shelf 24. Placement of the fulcrum-rod 29 at a suitable distance from the shelf 24, as illustrated in Figure 2, provides for swinging the plate 46 including its bottom marginal portion far enough off the shelf 24 to permit of easy initial introduction of the web. It will be further seen that such placement of said fulcrum-rod 29 also provides that the friction of the advancing work-web against the plate 46 and particularly against said bottom marginal portions thereof tends to rotate said plate clockwise of Figure 2, thereby aiding the weight of the plate for clamping said web facewise between said plate 46 and paper-shelf 24. The plate 46 extends rearwardly sufficiently so that its upper marginal portion acts to limit such rotation so as to prevent the plate 46 from unduly binding the web.

It has been found in practice that so long as the plate 46 overlies the work-sheet at the side-edge margins thereof and for a substantial distance from each work-sheet edge, the contact of said plate with the central portion of the work-sheet is not critical. Also, by having the side edges or sides 47 of the plate 46 in close contact with the side walls or gages 27 of the paper-chute, any possibility of the work-sheet edges curling or piling up against the said side gages is eliminated. It is therefore desirable to make a simple modification of the confining member 45 whereby it may be made adjustable to meet the adjustment of the width of the chute 21.

As shown in Figure 4, the modification may consist of making the plate 46 in sections 50, 51, the latter having extensions 52 to overlie the section 50. These extensions are upwardly offset to assure that the sections 50 and 51 lie in the same plane. Slots 53, formed in the extensions 52, co-operate with means such as the thumb-nuts 54 to permit a ready and easily securable adjustment of the overall width of the confining member.

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 front strike typewriter having a revoluble platen and tangent feed roll by which a continuous work web is advanceable from the rear or intake side of the platen; means for guiding, and preventing skewing of, said web, comprising a web chute at the intake side of the platen having a floor and also having web-edge-guiding sides, a plate having web pressing side margins, said plate being nested in said chute for presenting said margins against the chute-floor-overlying web and along the chute sides, and means hinging said plate at a platen-parallel axis that is in a plane perpendicular to the web floor at the front of the plate, the plate extending mat-wise from said plane rearwardly or away from the platen, whereby the drag of the advancing web upon the plate tends to turn the latter and press it upon the web, said axis being extensively distant off the chute floor and said plate having, correspondingly, a long hinge arm reaching to said axis for permitting the plate to be swung upwardly and forwardly over the platen.
2. In a front strike typewriter having a revoluble platen and tangent feed roll by which a continuous work web is advanceable from the rear or intake side of the platen; means for guiding, and preventing skewing of, said web, comprising a web chute at the intake side of the platen having a floor and also having web-edge-guiding sides, presser means nested in said chute and consisting of a bottom plate and upwardly extending sides, and plate hinging means permitting said plate to lie mat-wise upon the chute-floor-overlying work-web, the plate extending mat-wise from a platen-parallel plane perpendicular to the chute floor at the front of the plate, the hinge axis being in said plane and passing through the upwardly extending plate sides, whereby the drag of the advancing web upon said plate tends to turn and press the plate mat-wise upon the web, said hinge axis being extensively distant off the chute floor and said plate sides forming, correspondingly, long hinge arms for permitting the plate to be swung upwardly and forwardly over the platen.

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