Dec. 5, 1944. A. W. METZNER 2,364,087

PAPER GUIDE

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Fig. 1

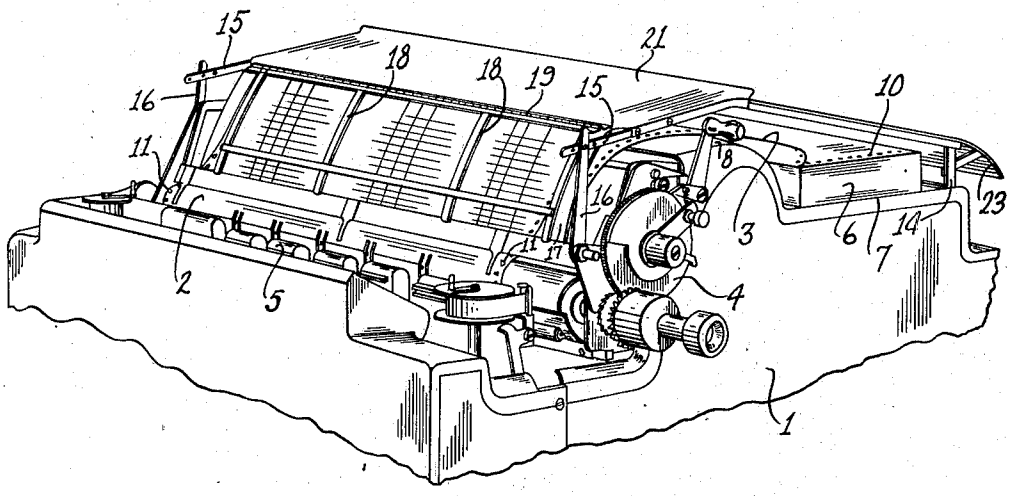
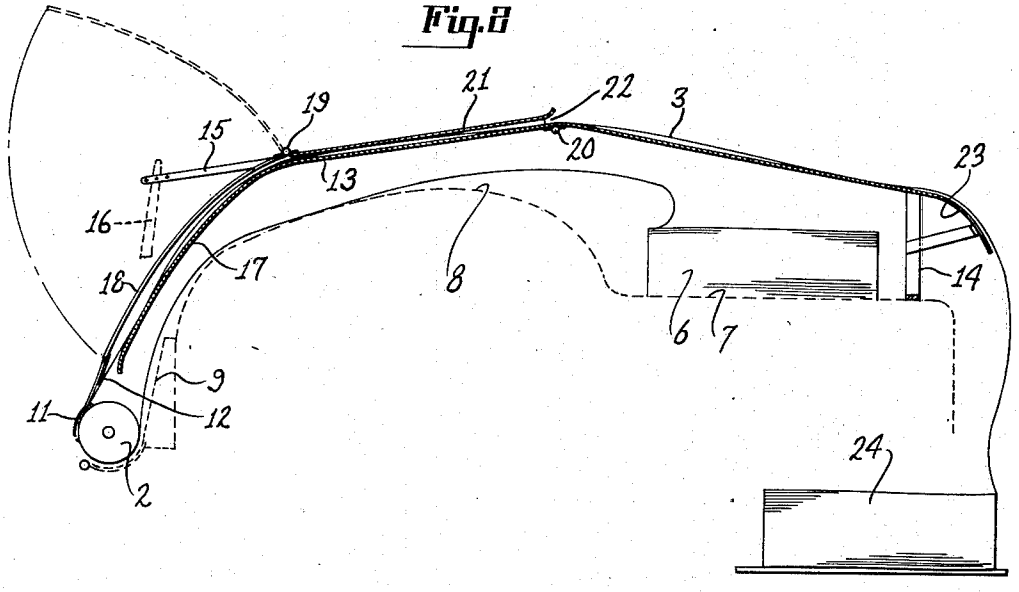


Fig. 2



INVENTOR
ALBERT W. METZNER
BY
ATTORNEY

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Albert W. Metzner, Dayton, Ohio, assignor to The Standard Register Company, Dayton, Ohio, a corporation of Ohio

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7 Claims. (Cl. 197—133)

This invention pertains to writing and imprinting machines, and more particularly to a paper guide for directing continuous series connected form stationery in its exit from the machine.

In conventional forms of tabulating machines, typewriters, billing machines and the like, the continuous supply of stationery enters at the rear of the usual platen roll and after passing beneath the platen and past the writing or imprinting position, it is discharged in a tangential direction rearwardly and upwardly in reverse direction above the incoming stationery supply strip.

If unsupported and undirected the outgoing stationery strip contacts and interferes with the orderly and smooth flow of incoming stationery. The present purpose is to control and direct the inscribed outgoing material through a path apart from the incoming stationery supply portion of the strip.

To this end it is contemplated that the inscribed portion of the stationery will be guided through an arch shaped path in elevated relation above the portion of the machine to the rear of the platen roll and imprinting position, and sufficiently separated from the path of the incoming record material to enable unrestricted movement thereof, and afford room for a supply packet over and beyond which the outgoing material is discharged.

The object of the invention is to provide a stationery guide structure of simple construction and capable of being economically manufactured and applied to existing writing and imprinting machines, which will be efficient in use, automatic in operation, uniform in its action, having relatively few parts and unlikely to get out of repair.

A further object of the invention is to provide an arch shaped guide chute which will maintain control of the traveling record strip from the point where it leaves the imprinting or writing machine to a point instantly spaced there beyond and in bridging relation above the stationery supply being drawn into the machine.

A further object of the invention is to enable the inscribed legends to be readily observed for sufficient distance beyond the imprinting position to enable the operator to ascertain that the machine is working correctly.

An important object of the invention is to enable the continuous automatic operation of power driven writing and imprinting machines without the necessity of constant attendance or observation, whereby one operator will be enabled to attend a battery of multiple machines.

A further object of the invention is to provide stationery supporting and guiding means having the advantageous structural features and inherent meritorious characteristics herein mentioned.

With the above primary and other incidental objects in view as will more fully appear in the specification, the invention intended to be protected by Letters Patent consists of the features of construction, the parts and combinations thereof, and the mode of operation, or their equivalents, as hereinafter described or illustrated in the accompanying drawing.

In the drawing, wherein is shown the preferred, but obviously not necessarily the only form of embodiment of the invention,

Fig. 1 is a perspective view of the upper portion of a conventional tabulating machine to which the present invention has been applied.

Fig. 2 is a vertical sectional view, somewhat diagrammatic, illustrating the relation of the present stationery guide to the platen roll and imprinting position of the tabulating machine and to the stationery supply, over and beyond which the inscribed record material is discharged.

Like parts are indicated by similar characters of reference throughout the several views.

For illustrative purposes, but with no intent to unduly restrict the application or scope of the invention, it is shown in the drawing as applied to a Powers tabulator, of which 1 is the upper portion of the machine frame and 2 is a rotary platen roll about which the record material 3 is advanced past an imprinting position. In the operation of the machine, which is power driven and the imprinting operation thereof is controlled by a succession of punched cards or by a perforated tape, the platen roll is intermittently actuated through successive partial rotations by feeding or line spacing mechanism 4. The area of the record material 3, brought to imprinting position at the front of the platen roll at each actuation thereof, is subjected to imprinting pressure of series of type bars 5 by which successive legends, determined by the punchings of the control cards or tape, are impressed on the stationery strip.

The supply of continuous form stationery is drawn from a supply packet 6, located on a supporting shelf 7, to the rear of the platen roll 2. The strip of material is drawn over a guide surface 8 by the successive partial rotations of the

platen roll, and enters over an inclined paper guide 9 behind the platen roll. The stationery is shown in the drawing as provided with longitudinally spaced marginal holes 10 for progressive engagement of radial feeding pins 11 carried by the platen roll 2. However, the present invention is in no way dependent upon the particular positive feeding means illustrated, but is equally efficient in conjunction with a writing or imprinting machine of other types and with those equipped only with frictional feeding means.

Such machines of whatever type are usually provided with a transverse tear-off knife 12, disposed just above the imprinting or writing position and above the platen roll.

After passing the imprinting position at which the record strip is impressed with desired legends or figures, the strip is discharged in a tangential direction upwardly and rearwardly beneath the tear-off knife 12. Unless supported and guided, the outgoing inscribed record material would fall upon and be pushed over the incoming supply portion of the strip as it traverses the guide surface 8.

Arranged in elevated relation above the guide 8 and incoming record material drawn thereover, is an arch shaped bridge 13 supported at its rear by uprights 14 and adjustably supported at its forward end by arms 15, fixedly attached to the guide bridge 13 and adjustably engaged with upright pivotal arms 16 mounted on the carriage of the machine.

As the inscribed portion of the continuous stationery strip advances from the platen roll upwardly and rearwardly over the forward dependent apron 17 of the guide bridge, it is exposed to view so that the operator may easily observe a number of recent impressions thereon to ascertain the operating condition of the machine.

While traversing this initial portion of the guide bridge, the record strip is restricted to its course parallel with the apron 17 by overlying guide strips or fingers 18 which are pivoted at 19 for vertical swinging motion. This not only enables observation of the advancing record strip, but also facilitates the initial direction of the strip over the guide. The guide bridge comprises flexibly connected sections interhinged at 20 for relative adjustment. Overlying the top of the guide bridge forward of the hinge joint 20, is a cover plate or lid 21 supported in spaced relation above the guide 13 and forming therewith a guide chute 22 through which the inscribed strip is advanced by rotation of the platen roll.

This lid or cover 21 is also hinged at 19, coincident with the guide strips or fingers 18. By raising the lid 21 the direction of the leading end of the record strip over the guide 13 is facilitated, and the strip is accessible for observance of the previously imprinted legends or figures. However, when closed the lid 21 completes the guide chute and confines the strip to its prescribed path of travel over the bridge 13.

At its rear the guide bridge is deflected downwardly at 23 beyond the supply packet shelf 7 which directs the rearwardly traveling strip downwardly into any suitable receiver or into a collecting packet 24 wherein the strip is automaticaly refolded upon its original fold lines.

The forward apron 17 and guide fingers 18 extend in approximate tangential relation with the platen roll into close proximity with the transverse tear blade 12 and the imprinting position, and thus assume immediate control of the advancing record strip and confine it to its prescribed course.

From the above description it will be apparent that there is thus provided a device of the character described possessing the particular features of advantage before enumerated as desirable, but which obviously is susceptible of modification in its form, proportions, detail construction and arrangement of parts without departing from the principle involved or sacrificing any of its advantages.

While in order to comply with the statute, the invention has been described in language more or less specific as to structural features, it is to be understood that the invention is not limited to the specific features shown, but that the means and construction herein disclosed comprise the preferred form of several modes of putting the invention into effect, and the invention is therefore claimed in any of its forms or modifications within the legitimate and valid scope of the appended claims.

Having thus described my invention, I claim:

1. A guide for a writing or imprinting apparatus wherein a continuous strip of record material is advanced about a platen roll and past a record receiving position, comprising an upwardly and rearwardly inclined portion disposed in substantially tangential relation with the platen roll and a pivotally connected rearwardly extending continuation thereof disposed in elevated bridging relation with the supply of incoming record material, said guide including a pair of oppositely extending retainer members pivotally connected to the initial upwardly and rearwardly inclined portion of the guide and disposed in overlying spaced relation therewith beneath which the inscribed portion of the record material is advanced, and support means for said structure, the construction and arrangement being such that a portion of the underlying record material is exposed to view through one of said retainer members.

2. A guide chute for a writing or imprinting apparatus wherein a continuous strip of record material is progressively advanced past a record receiving position, including a hinged multi-sectional channel shaped guide member for outgoing inscribed material supporting means by which the guide member is disposed in elevated posititon bridging the supply of incoming material, and a hinged multi-sectional retainer overlying the initial section of the channel and confining the strip therein, the construction and arrangement being such as to permit observation of a portion of the strip while advancing through the channel.

3. A guide chute for a writing or imprinting apparatus wherein a continuous strip of record material is progressively advanced past a record receiving position, including a channel shaped guide member for outgoing inscribed material supporting means by which the guide member is disposed in elevated position bridging the supply of incoming material, a hinged multi-sectional cover member for the channel affording a tunnel through which the strip is advanced and an observation area within which the advancement of the strip through the tunnel may be observed, the construction and arrangement being such that the sections of the cover member may be pivoted about the hinge independently of the underlying channel.

4. An attachment for a writing or imprinting apparatus wherein a continuous strip of record

material is advanced about a platen roll and past a record receiving position, a sectional flexibly joined guide channel for an outgoing inscribed portion of the strip supported in elevated bridging position over the supply of incoming material, supporting means accommodating the flexible guide channel in different positions of lineal deflection, a sectional flexibly joined guard overlying a portion of the guide channel, the construction and arrangement being such that the channel portion with the overlying guard may be adjusted as a unit into different position of lineal deflection while permitting the independent adjustment of a portion of the overlying guard relative to the pre-adjusted guide channel.

5. A sectional guide for a writing or imprinting apparatus wherein a continuous strip of record material is advanced about a platen roll and past a record receiving position, a guide member extending upwardly and rearwardly in substantially tangential relation with the platen roll, a second guide member flexibly united with the first guide member and extending rearwardly therefrom in elevated bridging relation above the supply of incoming record material, supporting means for said structure, and a sectional hinged retainer overlying the initial upwardly and rearwardly inclined portion of the guide member confining the advancing portion of the strip thereto, the sections of said retainer being free for upward swinging motion relative to the underlying guide member, the construction and arrangement being such that a portion of the underlying record material is exposed to view through one of said retainer sections.

6, The combination with a recording apparatus having a platen roll about which a continuous strip of record material is progressively advanced, of a guide therefor overlying the recording apparatus and conducting the strip away from the platen roll, said guide being medially jointed for flexing movement in a plane perpendicular to the plane of the strip being advanced thereover, supporting means for the structure, and a pair of oppositely extending retainer members pivoted to the guide in offset relation with the medial joint of the guide for swinging motion independently of the guide toward and from the latter in a plane perpendicular to the plane of the strip being advanced over the guide.

7. The combination with a recording machine having a platen roll about which a continuous record strip is advanced past a recording position, of a guide therefor overlying the recording apparatus including an upwardly and rearwardly inclined portion above the platen roll, and a continuing rearwardly extending portion over which the strip is progressively directed, at least a portion of the guide being mounted for vertical swinging motion relative to the recording apparatus, supporting means for the guide, and a pair of conjointly pivoted retainer members beneath which the strip is advanced relative to the guide, one of said retainer members extending from its pivotal point downwardly and forwardly relative to the recording apparatus and the other pivoted retainer member extending rearwardly from its pivotal point in spaced relation with said guide.

ALBERT W. METZNER.