

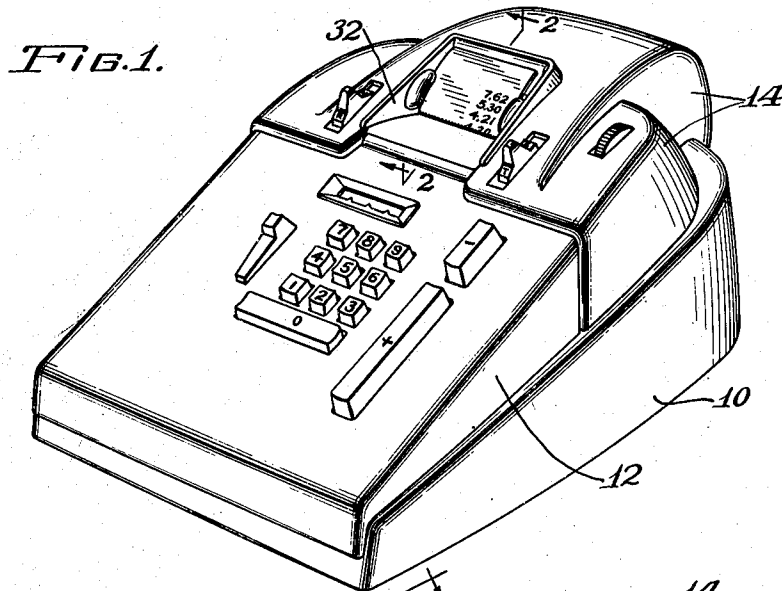
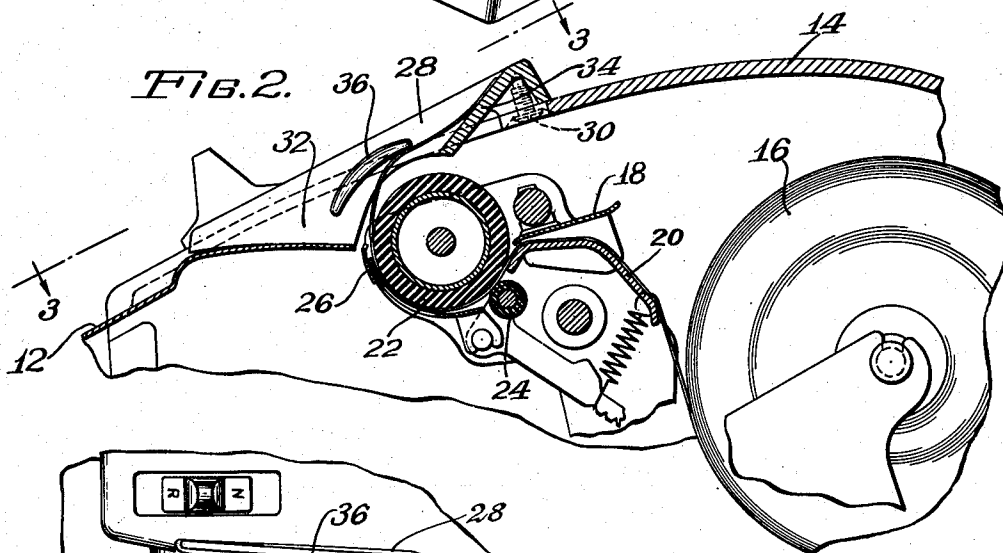
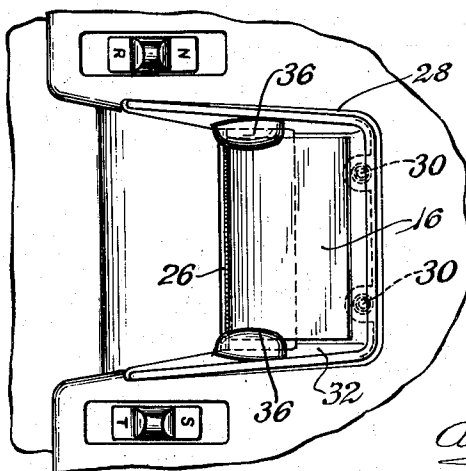
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2,633,968

PAPER TAPE GUIDE FOR CALCULATING MACHINES

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## UNITED STATES PATENT OFFICE

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## PAPER TAPE GUIDE FOR CALCULATING MACHINES

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3 Claims. (Cl. 197-133)

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My invention relates generally to calculating machines and similar machines employing a tape upon which printing is effected, and more particularly to an improved paper guiding throat for machines of this character.

In adding machines employing a paper record tape or web, some difficulty is experienced in properly guiding the paper tape as it leaves the printing platen and passes the serrated tear-off strip. It is desirable that the tear-off strip be located just beneath the last visible amount printed on the tape, and thus the tear-off strip is usually located at the approximate level of the axis of the platen. If the tear-off strip is not thus located, one cannot see all printed items at all times. However, when the tear strip is located in the most desirable position for visibility of the items printed on the tape, there is a tendency for the tape to follow an erratic course. In leaving the platen it may curl forwardly or tend to form a loop to the rear of the platen, thus making it inconvenient to read the amounts printed thereon.

It is therefore the primary object of my invention to provide an improved paper guiding throat which causes the tape leaving the platen to move in an upward and generally rearward direction, which maintains the last printed portion of the tape in a position in which the amounts thereon are clearly visible, and which does not interfere with severing the used portion of the tape by pulling it across the tear strip.

Other objects will become apparent from the following description, reference being had to the accompanying drawings, in which

Fig. 1 is a perspective view of a calculating machine embodying the invention;

Fig. 2 is a fragmentary vertical sectional view taken on the line 2-2 of Fig. 1; and

Fig. 3 is a fragmentary plan view taken on the line 3-3 of Fig. 2.

In Fig. 1, the improved paper guide is shown as part of a calculating machine comprising a base casing portion 10, a keyboard casing portion 12, and a hood portion 14 for covering the paper roll platen and other parts of the machine. The hood portion 14 is preferably hinged to, or removable from, the base portion 10 for convenient replacement of the roll of tape and ribbon.

As fragmentarily illustrated in Fig. 2, a paper tape supply roll 16 is suitably mounted for rotation, the tape therefrom feeding between a pair of guide plates 18 and 20 and partially around a platen 22, the tape being frictionally held against the platen 22 by one or more pressure rollers 24.

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A serrated tear strip 26 is suitably secured in front of the platen 22, having its serrated edge at about the same level as the center of the platen. After passing the tear strip, the tape passes into a throat member 28, which is preferably a die casting or a molded plastic part, and is secured to the hood 14 by a plurality of screws 30, the hood 14 and throat member 28 having suitable bosses for these screws.

The inner side wall surfaces 32 of the throat member 28 are tapered to aid in centering the tape, and are joined by a sloping flat rear portion 34 against which the tape 16 is normally deflected by a pair of smooth projections 36 from the side walls 32, as best shown in Figs. 2 and 3. The projections 36 are generally arcuate in shape and extend upwardly and rearwardly from a point forwardly of the serrated tear strip 26, so that when the used portion of the tape is torn off, the leading end of the tape leaving the space between the tear strip 26 and the platen 22, will come into contact with the projections 36 and be deflected rearwardly toward the sloping portion 34. The projections 36 are of smooth rounded contour and project a short distance over the edges of the tape 16, as best shown in Fig. 3. When it is desired to sever a portion of the tape, it may be pulled forwardly past the projections 36 without tearing the edges of the tape. The projections 36 merely bend back the edge portions of the tape as it is pulled forwardly between them. After the tape has been pulled past the projections 36, the portion above the tear strip 26 may readily be severed from the remainder of the tape by forward and sideward pull on the tape.

The throat 28 thus provides a very convenient means for deflecting the tape against the surface of the sloping portion 34 where the tape is readily visible and where, if desired, pencil notations may be made upon it, and this deflection of the tape which insures that it will continue moving rearwardly of the machine, is accomplished by the projections 36 which do not obscure printed figures on the tape and which do not in any way interfere with tearing off a used portion of the tape by pulling it forwardly against the serrated tear strip 26.

The guiding of the tape in the rearward direction is entirely automatic, and no manual operations are required to secure the travel of the tape in the desired rearward direction.

While I have shown and described a preferred embodiment of my invention, it will be apparent that numerous variations and modifications

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thereof may be made without departing from the underlying principles of the invention. I therefore desire, by the following claims, to include within the scope of the invention all such variations and modifications by which substantially the results of my invention may be obtained through the use of substantially the same or equivalent means.

I claim:

1. In combination, a calculating machine having a platen for receiving a listing tape, a tear strip positioned forwardly of the platen, and a throat member comprising, a pair of side walls converging in a rearward direction and having their rearward portions joined by a part having a forwardly sloping upper surface, and a pair of opposed smooth arcuate projections on the side walls extending upwardly and rearwardly from points forwardly of the plane of the tear strip, the projections being of sufficient height to be engaged by the edge portions of the tape and to deflect the tape toward said sloping surface.

2. In a machine having a platen and a tear strip adjacent and forwardly of the platen, means for receiving and deflecting the leading edge of a tape leaving the space between the tear strip and the platen in an upward and rearward direction comprising, means forming a pair of side guide walls, and a pair of opposed smooth similar generally

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arcuate projections on the side walls, the projections extending upwardly and rearwardly from points in front of and above the tear strip and extending toward each other a sufficient distance to engage the tape along the edges thereof.

3. In a machine having a platen and a tear strip adjacent and forwardly of the platen, a throat for receiving and deflecting the leading edge of a paper tape leaving the space between the tear strip and the platen in an upward and rearward direction, the throat having side walls spaced apart a distance greater than the width of the tape and a pair of generally arcuate opposed projections on the side walls, said projections extending upwardly and rearwardly from points forwardly of the space between the tear strip and the platen and extending toward each other a sufficient distance to engage the tape along the edges thereof.

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