

3,200,929

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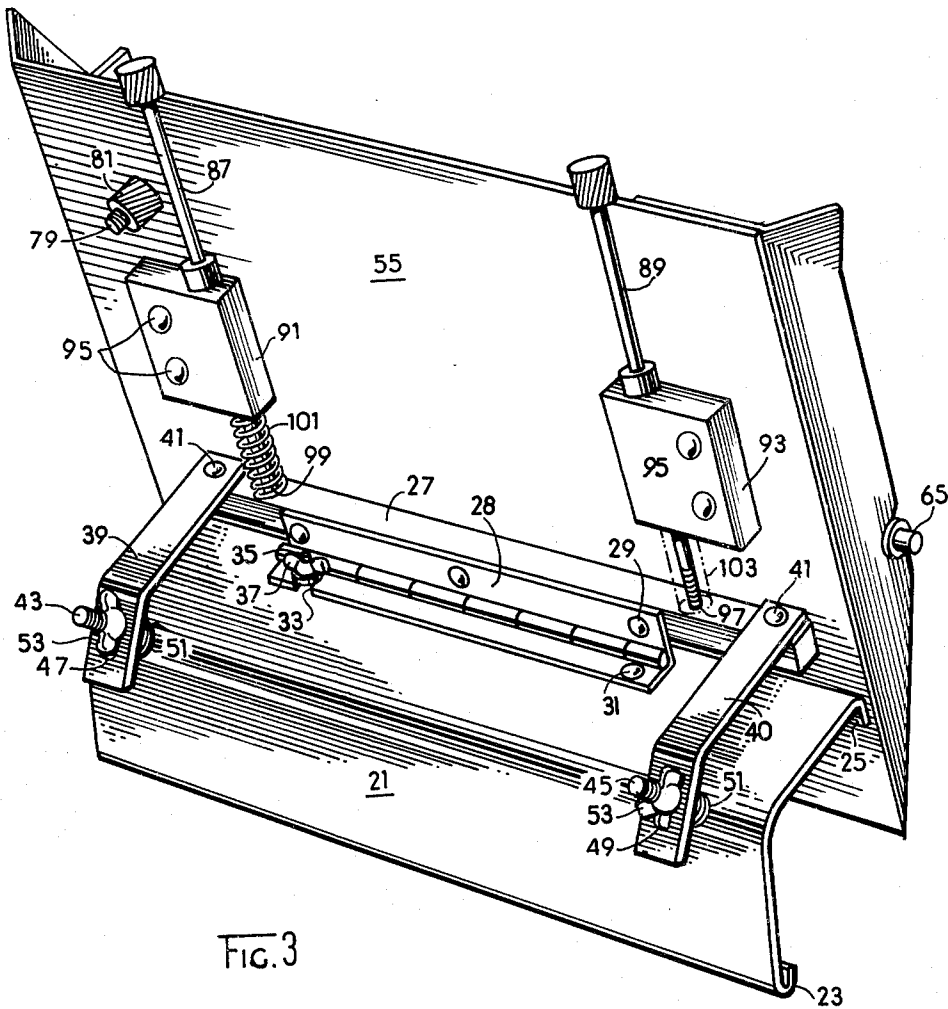
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3,200,929

FEEDING DEVICE

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FEEDING DEVICE

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3 Claims. (Cl. 197-130)

This invention relates to a novel feeding device for a machine, and more particularly to a novel feeding device adapted to continuously feed paper such as envelopes, tabulating cards or sheets into a typewriter.

Such feeding devices have heretofore been designed as illustrated by the patent to Cross 2,887,208 and the patent to Armanni 2,011,991. To the best of the inventors' knowledge, such devices have not been commercially promoted, primarily for the reason that they have not been economical to produce and they are difficult to adjust to the machine to function properly.

The primary object of the invention is to provide a novel feeding device to continuously feed envelopes into a typewriter. The feeding device can be utilized to feed tabulating cards, blank paper and forms to the typewriter.

Another object of the invention is to provide an adjustment means on the feed platform to vary the width thereof to correspond to the width of the material being fed to the typewriter.

A further object of the invention is to provide novel mounting means for mounting the device on a typewriter, and more particularly the mounting means is adapted to adjust the feeding platform so that the feeding edge is parallel to the platen roll and can be adjusted perpendicular to the platen roll to vary the feed opening to the typewriter. In utilizing the three adjustments on the mounting means, the feeding platform can be positioned to accurately feed the material to the typewriter.

Still another object of this invention is to provide friction means on the feeding platform which functions to stabilize and spread the material so that the endless drive belt can convey the material to the machine.

An important object of the invention is to provide elastic or flexible endless belts adapted to be driven directly and automatically by the rotation of the platen roll to convey the material to the typewriter machine.

Other objects and features will in part be obvious and in part pointed out as the description of the invention proceeds as shown in the accompanying drawings wherein there is disclosed a preferred embodiment of my invention.

In the drawings:

FIGURE 1 is a perspective view showing the feeding device attached to a typewriter machine;

FIGURE 2 is a detailed cross sectional view taken along the line 2-2 in FIGURE 1; and

FIGURE 3 is a perspective view of the back of the device illustrating the three adjustments for positioning the feeding platform with respect to the machine.

Referring to the drawings in detail, the reference numeral 11 designates the continuous feeding device adapted to be connected to the rear machine closure 13 of a typewriter 15. This feeding device may be mounted on an electric or manual typewriter having a carriage 16, a platen roll 17 and a platen nob 19. As illustrated in FIGURE 3, a mounting bracket or support 21 is formed with an upturned flange 23 adapted to be positioned under the closure member 13. The front portion of the bracket is provided with a downwardly turned flange 25 which is adapted to be positioned over the front edge of the closure member 13.

The numeral 27 designates an elongated frame member having a hinge 28 connected thereto by means of screws or rivets 29. The hinge is pivoted with respect to the mounting bracket 21 by a pin or rivet 31. The other

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end of the hinge is provided with a slot 33 for receiving a bolt 35 having a wing nut 37. The slot 33 in the hinge permits the frame member to be horizontally adjusted to a substantially parallel position with respect to the platen roll 17. A pair of arms 39 and 40 are mounted on the frame member 27 by pins 41. A pair of elongated threaded bolts 43 and 45 are connected to the mounting bracket 21. An elongated slot 47 is provided in arm 39 for receiving the bolt 43 to permit the frame 27 and hinge 28 to be adjusted as previously described. The arm 40 is provided with a conventional opening 49 to receive the bolt 45. A pair of springs 51 are disposed between the arms 39 and 40 and the mounting bracket 21 which function to urge the arms upwardly to rotate or tilt the frame member 27. Wing nuts 53 serve to adjust the arms 39 and 40 to tilt the frame member 27 with respect to the platen roll.

A feed or support platform 55 is provided with upturned end members 57 and 59 which are provided with slots 61 and 63 for receiving a rotatable shaft 65. The rotatable shaft is provided with a series of circumferential grooves or recesses 67 for receiving an elastic or flexible endless belt 69. It should be noted that the flexible belt is positioned to contact the feeding edge 71 of the feed platform 55. The platen roll 17 serves as a drive means for rotating the flexible belt 69. The grooves or recesses 67 on the shaft 65 serve to position the belts 69 with respect to the feed platform 55 and prevent them from traveling axially along the shaft.

Adjustable means 73 in the form of an L-shaped member 75 having an elongated slot 77 is mounted on one edge of the feed platform 55. The member is secured to the platform by a bolt 79 and fastener 81. The member 75 can be moved axially with respect to the feed platform 55 to vary the width of the feed platform to correspond with the width of the material being fed to the typewriter. A member 83 having the same thickness as 75 is mounted on the platform 55. For purposes of this invention, the members 83 and 75, along with the platform 55, are considered the feed platform or work area for the material to be transferred to the machine. A knurled surface is provided at 85 to provide frictional means for the material passing to the typewriter machine. For example, when a stack of envelopes are placed on the support platform, the frictional means has a tendency to evenly spread the envelopes on the platform. The friction means also prevents jamming of the envelopes between the shaft 65 and support of feed platform 55.

The support platform is adjustably mounted on the frame 27 by means of elongated threaded screws 87 and 89. The screws pass between two support members 91 and 93 which are fastened to the platform by rivets 95. The screws 87 and 89 are adapted to fit into threaded openings 97 and 99. A pair of springs 101 and 103 are disposed between the support members 91, 93 and the frame 27 to urge the supports upwardly. The screws 87 and 89 serve to adjust the feed platform 55 so that the feed edge 71 is perpendicular with respect to the platen roll 17.

In operation of the device, the bracket 21 is placed on the closure member 13, and the hinge 28 is adjusted by the bolt 35 and nut 37 until the leading edge 71 is parallel with the platen roll 17. The screws 87 and 89 are then adjusted until the leading edge is perpendicular with respect to the platen roll 17. Then the arms 38 and 39 are tilted by adjusting the wing nuts 43 and 45 until the desired clearance opening between the leading edge 71 and the platen roll 17 is accomplished. This clearance opening is usually determined by the thickness of the material desired to be fed to the typewriter. The material 111 to be fed to the typewriter is then placed on the feed platform 55, and the first unit is placed in contact with this

belt 69. Thereafter, the units are fed continuously to the typewriter. It should be noted that in actual practice if one unit is slightly off center on the support platform 55, the first edge reaching the leading edge 71 will not pass to the typewriter until the other edge is in contact with the leading edge 71 and belt 69. The unit will not pass the leading edge 71 unless both edges are in contact with the leading edge for the reason that the friction of the endless belt, which moves the unit, is not sufficiently powerful to move the unit past the edge. For example, if the unit is slightly cocked, or off center, as soon as one edge of the unit reaches the leading edge 71 it will momentarily hold until the other edge of the unit comes into contact with the leading edge so that the frictional force of both endless belts will pass the unit to the platen. In other words, both edges of the material have to be in contact with the leading edge 71 and belt 69 before it will be fed to the typewriter.

It should be understood that various modifications and changes in the structural details of the device may be made, within the scope of the appended claims, without departing from the spirit of the invention.

We claim:

1. A feeding device for conveying paper to a machine comprising, in combination, a mounting bracket adapted to be disposed on the machine, frame means including a pivotal member connected to the bracket, a first adjustment means connected to the bracket and frame means for tilting the frame means with respect to the machine, a platform having a flange portion turned upwardly at each end, a second adjustment means for mounting the platform on the frame means and for positioning one edge of the platform perpendicular with the machine, a third adjustment means associated with the platform for varying the width of the feeding device to correspond with the width of the paper passing therethrough, friction means disposed on the platform to spread units of paper as it passes therethrough, a rotatable shaft mounted on the flange portions of the platform, and a pair of flexible endless belts mounted on the shaft in spaced parallel relationship to each other and adapted to be driven by the machine to feed paper thereto.

2. A feeding device for conveying work to a machine comprising, in combination, a feeding platform having a side member at each end for supporting a rotatable shaft, a slidable member mounted on the platform for varying

the width of the platform to correspond to the width of the work, a pair of flexible endless belts encircling the shaft, said belts adapted to be driven by the machine and positioned with respect to the platform to frictionally move the work thereon, a frame member having an elongated hinge mounted along one side, a mounting bracket, said hinge pivotally mounted on the bracket, a pair of arms connected to the frame and adapted to be adjusted with respect to the mounting bracket to tilt the frame to the desired position, and adjustment means for mounting the feeding platform on the frame member, said adjustment means adapted to move the feeding platform to or from the machine to control the size of the opening between the feeding edge of the platform and the machine.

3. A feeding device for a typewriter comprising, in combination, a mounting bracket adapted for connection with a typewriter having a platen roll, a feeding platform for conveying paper work to the typewriter, a frame member first adjustment means for supporting the feeding platform on the frame member and adapted to position the feeding edge of platform substantially perpendicular with respect to the platen roll of the typewriter, a second adjustment means for supporting the frame member on the mounting bracket and adapted to move the feeding edge substantially parallel with the platen roll of the typewriter, a pair of adjustable arms mounted on the frame member and connected to the mounting bracket to tilt the platform to control the opening between the feeding edge of the platform and the platen roll, said feeding platform having end members for supporting a rotatable shaft, a pair of endless flexible belts encircling the shaft and platen roll, said belts adapted to convey the work from the platform to the typewriter.

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