April 7, 1964 C. M. CUMMINGS 3,128,219

APPARATUS FOR ATTACHING A STRIP TO A SHEET

Filed Feb. 6, 1961

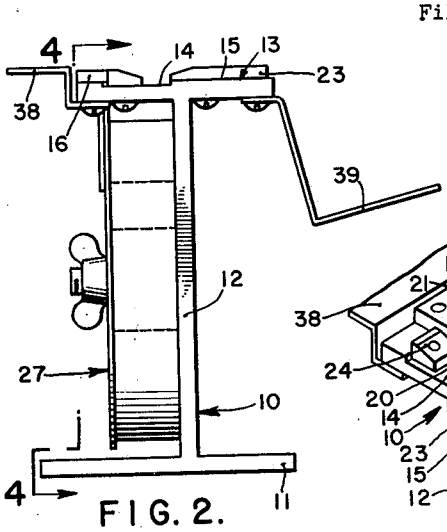


FIG. 2.

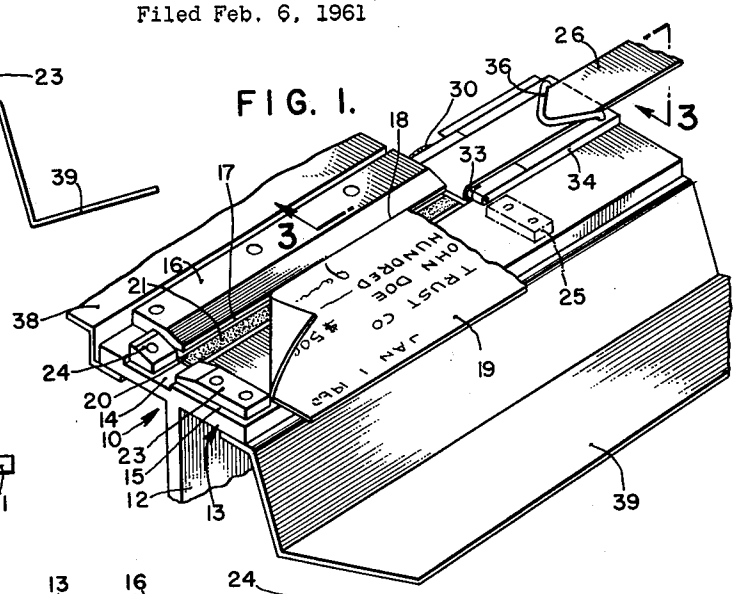


FIG. 1.

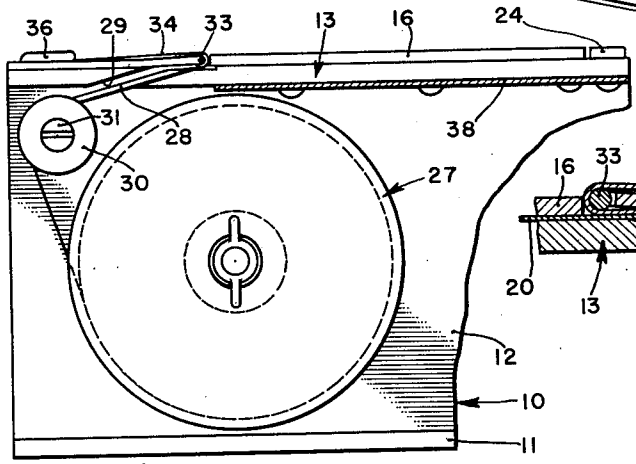


FIG. 4.

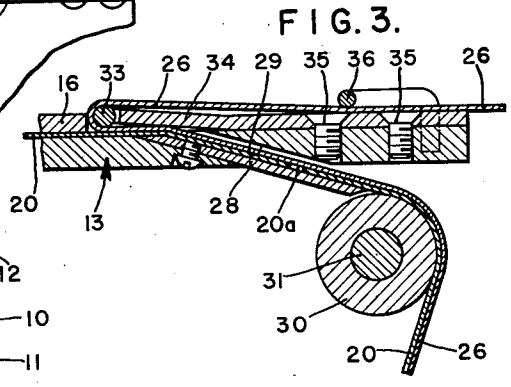


FIG. 3.

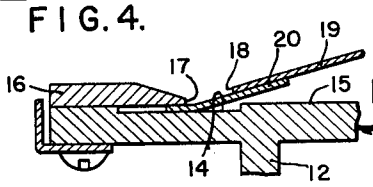


FIG. 6.

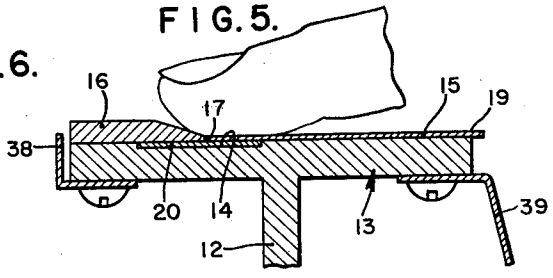


FIG. 5.

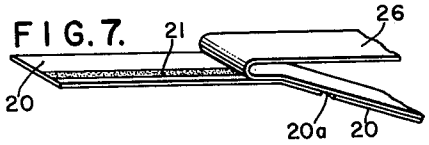


FIG. 7.

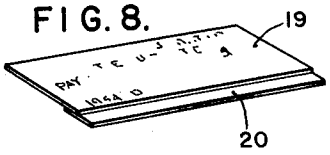


FIG. 8.

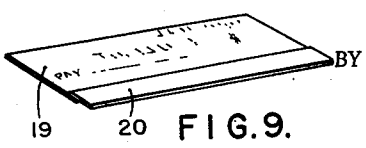


FIG. 9.

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3,128,219
APPARATUS FOR ATTACHING A STRIP TO A SHEET

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5 Claims. (Cl. 156—584)

This invention relates to apparatus for use in attaching a strip along a marginal edge of a rectangular sheet, and has particular usefulness in connection with the attachment of an adhesive correction strip to the marginal edge of a sheet of paper carrying certain data or indicia. This invention will be described in connection with the attachment of paper correction strips to the marginal edges of bank checks but it is to be understood that this is only by way of illustration and not of limitation.

Bank checks are now commonly provided with certain indicia printed in magnetic ink in order that the checks may be automatically sorted by electronic devices. Electronic sorting and processing of bank checks eliminates a great deal of work formerly accomplished manually, but such electronic devices are not entirely faultless in operation. If the magnetic ink imprinting on the check should be damaged by folding of the check or by abrasion of the ink indicia or for any other reason, the check may not be processed in a proper fashion by the machine. Experience has shown that perhaps one in one hundred checks does not pass properly through the electronic sorting and processing equipment. Although the percentage of "defective" checks in any large group is ordinarily very low, nevertheless, the large number of checks involved in present day sorting operations produces a considerable number of "defective" checks in a single day's operation.

It has been the practice manually to apply an overlapping strip of paper along one marginal edge of each "defective" check and then to re-apply suitable magnetic ink indicia to the portion of the attached strip which projects beyond the marginal boundary of the check. The check with the attached strip is then sent through the electronic sorting machine a second time. Since the magnetic ink indicia on the strip is in good condition, the check ordinarily clears the machine on the second trip without incident. However, it is essential that the adhesive coating of the strip be completely covered by the check so that no adhesive is exposed. Any exposed adhesive coating material may be scraped off by parts of the electronic sorting apparatus and cause considerable trouble. Moreover, the leading edge of the strip must be accurately aligned with the adjacent leading edge of the check since proper alignment of the check within the electronic sorting and processing devices requires this relationship.

Accordingly, it is the principal object of this invention to provide a device for facilitating the attachment of a strip of paper along a marginal edge of a bank check in overlapping relationship. Another object is to provide a device of this type which automatically aligns the check with the strip to insure that no part of the adhesive surface on the strip is exposed after the attachment is complete.

Another object is to provide such a device which aligns the edges of the check and strip in the desired relationship.

Another object is to provide a device of this type which is easy to operate and which is not apt to get out of order.

Other and more detailed objects and advantages will appear hereinafter.

In the drawings:

FIGURE 1 is a perspective view partly broken away showing a preferred embodiment of this invention.

FIGURE 2 is an end elevation.

FIGURE 3 is a fragmentary sectional view taken substantially on the lines 3—3 as shown in FIGURE 1.

FIGURE 4 is an elevation partly broken away showing the back side of the device.

FIGURE 5 is a transverse sectional detail showing how manual pressure is applied to cause the check to adhere to the strip in overlapping relationship.

FIGURE 6 is a view similar to FIGURE 5 showing the manner of removing the strip laterally as a unit with the check.

FIGURE 7 is a schematic perspective view showing how the strip with its adhesive coating is separated from the carrier tape.

FIGURE 8 shows a check having a strip attached to a marginal edge, the strip being applied to the under side of the check.

FIGURE 9 shows a check having a strip attached to a marginal edge, the strip being applied to the top surface of the check.

Referring to the drawings, a base generally designated 10 is preferably formed of metal and includes a lower supporting flange 11, an upright web 12 and a table 13. A groove 14 is formed in the upper surface 15 of the table 13 and extends for the full length of the table 13. A stationary guide bar 16 is affixed to the table 13 and projects laterally over a portion of the groove 14. The guide bar 16 has an edge 17 adapted to be contacted by a marginal edge 18 of a rectangular bank check 19.

A strip of paper 20 is slidably received in the groove 14 and this strip 20 carries an adhesive coating 21 on one surface thereof and near one marginal edge. This coating 21 is positioned so that it does not extend under the guide bar 16 but on the contrary is exposed between the edge 17 and the upper surface 15 of the table 13. An edge stop 23 is affixed to the table 13 and aligned with an abutment 24 fixed in the groove 14. The leading end of the strip 20 contacts the abutment 24 and the leading edge of the bank check 19 contacts the edge stop 23. In this manner the end of the strip 20 is accurately aligned with the leading edge of the check 19.

Means are provided for projecting the strip 20 longitudinally into the groove 14; and, as shown in the drawings, this means includes a continuous carrier tape 26 contained on a reel assembly 27 mounted on the base web 12. A plurality of adhesive coated strips 20 are carried by the tape 26 in serial relation. Each strip 20 has the same length as the length of the check 19 to which it is to be attached. The lengths of strips 20 are attached to the carrier tape 26 by means of the adhesive coating 21. A space 20*a* is provided between adjacent ends of the strips 20 mounted on the carrier tape 26.

The table 13 is provided with an inclined slot 29 which furnishes a passage for the carrier tape 26 and its attached strip lengths 20. This inclined slot 29 communicates with the groove 14 in the table 13. A plate 28 is removably fixed to the table 13 and forms the lower edge of the passage 29. One end of the plate 28 terminates flush with the groove 14 and the other end lies in close proximity to the roller 30. The carrier tape 26 and strip lengths 20 pass from the reel assembly 27 over the roller 30 mounted to turn on a stationary post 31 fixed to the base web 12. A transverse element 33 in the form of a roller is mounted at one end of a bracket 34 fixed to the table by means of fasteners 35. The carrier tape 26 passes around the roller 33 and is doubled back over the bracket 34 and under the retainer 36 fixed to the bracket. The carrier strips 20 do no pass around the roller 33 but extend in the groove 14 under the guide bar 16.

From the above description, it will be understood that when the projecting portion of the carrier tape 26 is grasped manually at the right-hand end of the table 13, as viewed in FIGURE 3, and is tensioned to pull the tape

26 over the roller 33, the effect is to project the strip 20 longitudinally to the left within the groove 14. When the leading end of the strip 20 strikes the abutment 24 no further tension is applied manually to the tapes 26. A blank check 19 is then placed on the upper surface 15 of the table with its marginal edge 18 in contact with the edge 17 of the guide bar 16 and with its leading edge in contact with the edge stop 23. The bank check 19 may be placed on the table 13 either before or after the strip 20 is projected longitudinally into position in the groove 14. Manual pressure may then be applied as shown in FIGURE 5 to cause the pressure-sensitive adhesive coating to secure the strip 20 to the check 19. The check 19 may then be manually lifted as shown in FIGURE 6, and the check 19 and strip 20 withdrawn laterally from the slot 14 as a unit. The check 19 with the strip 20 attached then has the appearance shown in FIGURE 8. The magnetic ink indicia may then be applied to the strip 20 and the check, with strip attached, may be sent through the electronic sorting equipment, not shown.

In the event that the sorting equipment should require that the strip 20 be attached to the front face of the check 19 as shown in FIGURE 9, the edge stop 23 is removed and an edge stop 25 shown in phantom lines in FIGURE 1 is installed. In this latter instance, the right-hand edge of the check 19 is placed in contact with the stop 25 and with the marginal edge 18 in contact with the guide bar 16. Since the strips 20 are cut accurately to length, the rear end of the strip will be aligned very accurately with the portion of the edge stop 25 which is contacted by the check 19 when the forward end of the strip 20 engages the abutment 24. In all other respects, the operation of the device is similar to that previously described.

The extensions 38 and 39 which are attached to the table 13 are not essential to proper functioning of the device, but provide convenient surfaces for supporting of checks.

Having fully described my invention, it is to be understood that I am not to be limited to the details herein set forth, but that my invention is of the full scope of the appended claims.

I claim:

1. In a device for use in transferring strips from a roll of carrier tape to attach each strip to a marginal edge of a rectangular sheet in overlapping relationship, the carrier tape having a plurality of the strips serially attached thereto, each strip having an adhesive coating on one surface thereof, the combination of: a base having a table thereon, means on the base for supporting the roll of carrier tape, a guide element fixed to said base, an edge stop fixed on said table whereby a rectangular sheet may be placed on said table with said marginal edge aligned by said guide element and with another edge of the sheet contacting said edge stop, the strips each being movable longitudinally on said table with the adhesive coating on each strip exposed, means on the base forming a passage for said carrier tape and strips thereon, a transverse element mounted on said base adjacent the table and at one end of said passage, the carrier tape alone passing around said transverse element, whereby manual force applied to tension the carrier tape about the said transverse element is effective to separate a strip from the carrier tape and to project the strip longitudinally on said table.

2. In a device for use in transferring strips from a roll of carrier tape to attach each strip to a marginal edge of a rectangular sheet in overlapping relationship, the carrier tape having a plurality of these strips serially attached thereto, each strip having an adhesive coating on one surface thereof, the combination of: a base having a table provided with a groove, means on the base for supporting the roll of carrier tape, a guide element fixed to said base and overlying a longitudinal portion of said groove, an edge stop fixed on said table whereby a rectangular sheet may be placed on said table with said marginal edge

aligned by said guide element and with another edge of the sheet contacting said edge stop, the strips each being movable longitudinally into said groove with the adhesive coating on each strip exposed between said table and said guide bar, means on the base forming a passage communicating with one end of said groove, a transverse element mounted on said base at the junction of said passage and said groove, the carrier tape and the strips thereon passing through said passage and the carrier tape alone passing around said transverse element, whereby manual force applied to tension the carrier tape about said transverse element is effective to separate a strip from the carrier tape and to project the strip longitudinally into said groove.

3. In a device for use in transferring strips from a roll of carrier tape to attach each strip to a marginal edge of a rectangular sheet in overlapping relationship, the carrier tape having a plurality of the strips serially attached thereto, each strip having an adhesive coating on one surface and adjacent one edge thereof, the combination of: a base having a table provided with a groove to receive the strip, means on the base for supporting the roll of carrier tape, the depth of the groove being such that the adhesive coating on the strip in the groove lies substantially flush with the surface of said table, a guide bar fixed to said table and overlapping a longitudinal portion of said groove, an edge stop fixed on said table whereby a rectangular sheet may be placed on said table with said marginal edge aligned by said guide bar and with another edge of the sheet contacting said edge stop, the strips each being movable longitudinally into said groove with said adhesive coating on each strip exposed between the table and said guide bar, means on the base forming a passage communicating with one end of said groove, a transverse element mounted on said base at the junction of said passage and said groove, the carrier tape and the strips thereon passing through said passage and the carrier tape alone passing around said transverse element, whereby manual force applied to tension the carrier tape about said transverse element is effective to separate a strip from the carrier tape and to project the strip longitudinally into said groove.

4. In a device for use in transferring strips from a roll of carrier tape to attach each strip to a marginal edge of a rectangular sheet in overlapping relationship, the carrier tape having a plurality of the strips serially attached thereto, each strip having an adhesive coating on one surface thereof, the combination of: a base having a table thereon, means on the base for supporting the roll of carrier tape, a guide element fixed to said base, an edge stop fixed on said table whereby a rectangular sheet may be placed on said table with said marginal edge aligned by said guide element and with another edge of the sheet contacting said edge stop, the strips each being movable longitudinally on said table with the adhesive coating on each strip exposed, means on the base forming a passage for said carrier tape and strips thereon, a transverse element mounted on said base adjacent the table and at one end of said passage, the carrier tape alone passing around said transverse element, retainer means on the base overlying a portion of the carrier tape extending from said transverse element, whereby manual force applied to tension the carrier tape about the said transverse element is effective to separate a strip from the carrier tape and to project the strip longitudinally on said table.

5. In a device for use in transferring strips from a roll of carrier tape to attach each strip to a marginal edge of a rectangular sheet overlapping relationship, the carrier tape having a plurality of these strips serially attached thereto, each strip having an adhesive coating on one surface thereof, the combination of: a base having a table provided with a groove, means on the base for supporting the roll of carrier tape, a guide element fixed to said base and overlying a longitudinal portion of said groove, an edge stop fixed on said table whereby a rectangular sheet may be placed on said table with said marginal edge aligned by said guide element and with another edge of the sheet

contacting said edge stop, the strips each being movable longitudinally into said groove with the adhesive coating on each strip exposed between said table and said guide bar, means on the base forming a passage communicating with one end of said groove, a transverse element mounted on said base at the junction of said passage and said groove, the carrier tape and the strips thereon passing through said passage and the carrier tape alone passing around said transverse element, retainer means on the base overlying a portion of the carrier tape extending from said transverse element, whereby manual force applied to tension the carrier tape about said transverse element is effective to separate a strip from the carrier tape and to project the strip longitudinally into said groove.

References Cited in the file of this patent

UNITED STATES PATENTS

1,467,595	Westling	Sept. 11, 1923
2,165,540	Engel	July 11, 1939
2,569,140	Avery	Sept. 25, 1951