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ADJUSTABLE FEED TABLE FOR ENVELOPE MAKING AND LIKE MACHINES

Filed June 1, 1931

2 Sheets-Sheet 1

FIG. 1

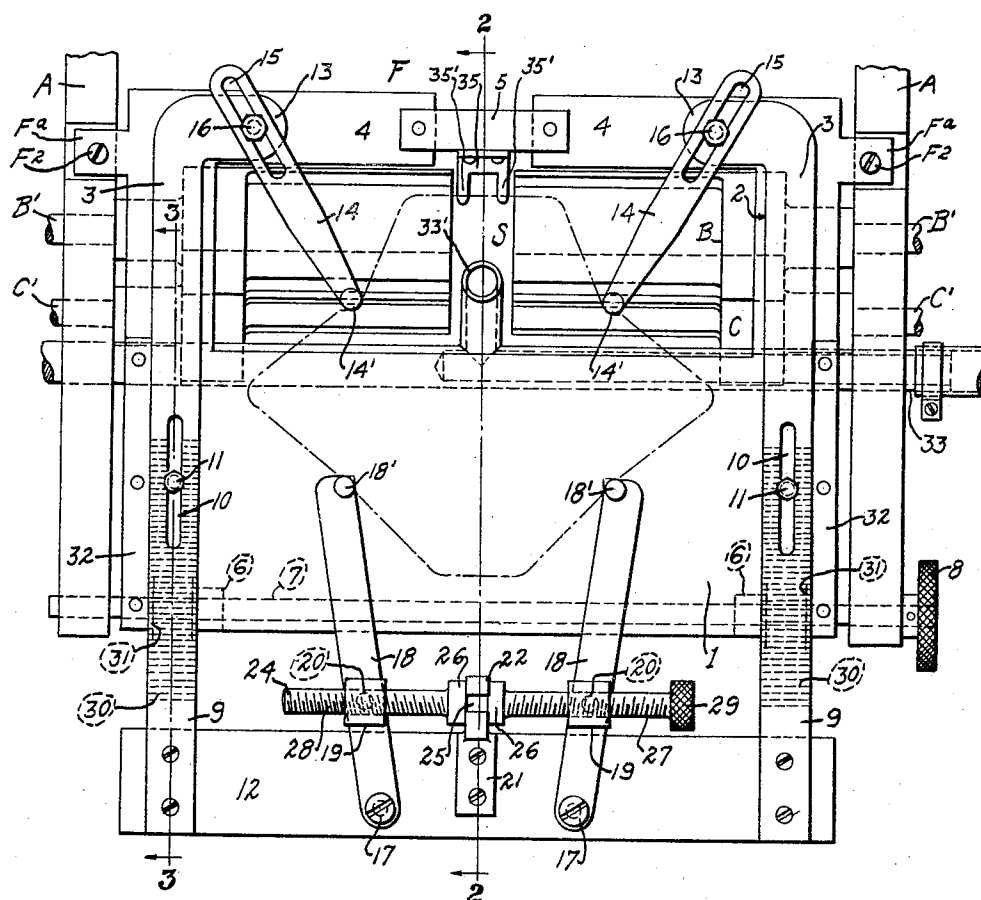
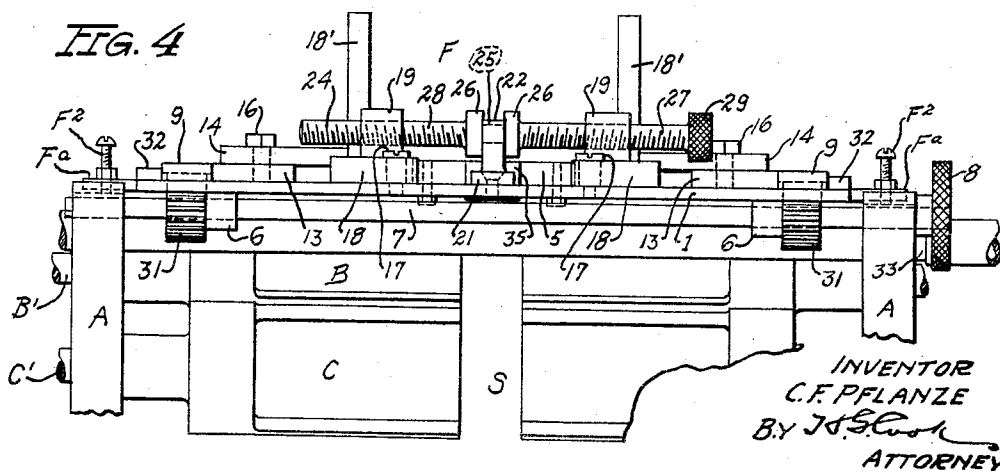


FIG. 4



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FIG. 2

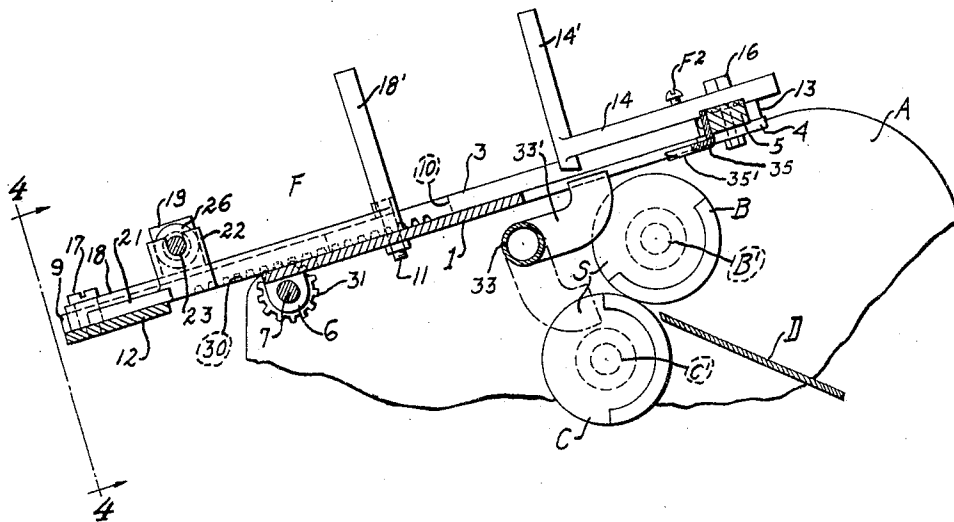
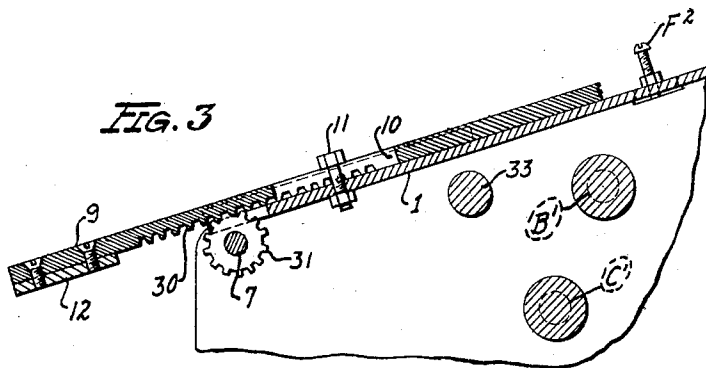


FIG. 3



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ADJUSTABLE FEED TABLE FOR ENVELOPE-MAKING AND LIKE MACHINES

Application filed June 1, 1931. Serial No. 541,195.

This invention relates generally to envelope-making and like machines, and more specifically to adjustable feed tables for machines of this type, the predominant object of the invention being to provide a feed table which is adjustable so as to receive and feed envelope blanks, or other sheets of material, of different sizes, and to so construct and arrange the feed table that the adjustments thereof are made relative to the longitudinal center line of the feed table.

In the case of envelope-making machines and like machines, it is essential that the envelope blanks, or other sheets of material being fed into the machines, move along a predetermined path which coincides with the center line of the feed table. In other words, for the machines to function properly the center lines of the sheets of material being fed must coincide with the center lines of the feed tables, and during passage through the machines must follow along a path which is a continuation of such center lines. This coincidence of the center lines of the sheets of material being fed is obtained in the use of a feed table constructed in accordance with this invention by making all adjustments of said feed table relative to a fixed center line thereof, and therefore the making of the adjustments referred to does not disturb the absolute coincidence of center lines of the feed table and the sheets of material being fed.

Fig. 1 is a plan view of a feed table constructed in accordance with this invention.

Fig. 2 is a section on line 2—2 of Fig. 1.

Fig. 3 is a fragmentary section on line 3—3 of Fig. 1.

Fig. 4 is an end elevation of the structure illustrated in Figs. 1 and 2 viewed as indicated by the line 4—4 in Fig. 2, and with parts thereof broken away to conserve space.

In the drawings, wherein is shown for the purpose of illustration, merely, one embodiment of the invention, A designates frame members of a machine, such, for instance, as an envelope-making machine, said machine A including a pair of feed rolls B and C by which material in sheet form is fed to the mechanism (not shown) of the machine. The

feed rolls B and C deliver the sheets of material being fed to the machine to an inclined element D which aids in delivering said sheets of material to the mechanism of the machine.

Referring now to the improved feeding table, which is designated generally by the reference character F, 1 designates a plate provided adjacent to its upper end with a cut-out portion 2; that is to say, at the opposite sides of its upper end portion the plate 1 is provided with bar portions 3, and at their outer ends these bar portions are provided with integrally formed, inwardly extended bar portions 4. The bar portions 4 terminate short of each other at their inner ends, as shown in Fig. 1, and a bar 5, which is secured at its opposite end portions to the opposed bar portions 4, joins said bar portions 4 together. The plate 1 at its rearward end is provided with downwardly extended lugs 6, and 7 designates a rod which is extended through apertures in said lugs. The rod 7 is extended transversely of the feed table, and is rotatably supported by the opposed frame members A of the machine with which the feed table is associated, and at one of its ends said rod has fixed thereto an operating element 8 provided with a knurled circumferential face (Fig. 1). The forward portion of the feed table is supported by portions F^a at the opposite sides thereof which overlap the frame members A, adjusting screws F^b being provided for regulating the elevation of said forward portion of said feed table.

Arranged adjacent to the opposite side edges of the plate 1 is a pair of bars 9 which slidably contact with the top face of said plate. Each of the bars 9 is provided with an elongated opening 10 through which a bolt 11 or other suitable headed fastening device is extended, said fastening device being provided with a nut which is screwed on the lower end portion thereof. The bars 9 are connected together at their rearward ends by a connecting element 12 to which said bars 9 are secured, and at their opposite ends said bars are provided with inwardly extended portions 13. 14 designates guide members which are adjustably secured to the portions 13 of the bars 9. These guide

members 14 are each provided with a slot 15, and 16 designates a bolt or other suitable fastening device which passes through said slot and through an aperture formed through the portion 13 of the associated bar 9. The guiding members 14 are each provided with a guiding extension 14' which serves a purpose to be hereinafter referred to.

Pivotally secured to the connecting element 12 at the points designated by the reference character 17 is a pair of guiding members 18. These guiding members are provided at their forward ends with guiding extensions 18' similar to the guiding extensions 14' associated with the guiding members 14, and associated with each of said guiding members 18 is a follower 19. The followers 19 are each secured to the associated guiding members by a swivel connection 20, and each of said followers is provided with a screw-threaded opening formed there-through.

Fixedly secured to the element 12 at its approximate center is a bearing 21, said bearing including an upstanding portion 22 in which a seat 23, which is open at the top, is formed (Fig. 2). The bearing 21 supports an adjusting screw 24, said adjusting screw being provided with a smooth portion 25 at its approximate center which is disposed in the seat 23 of the bearing 21. The smooth portion 25 of the adjusting screw 24 is interposed between a pair of enlarged collar portions 26 which embrace the portion 22 of the bearing 21, and the opposite ends 27 and 28 of said adjusting screw, which extend through the followers 19, are provided respectively with right-hand and left-hand screw-threads. 29 designates an enlarged operating head at one end of said adjusting screw.

The lower face of each of the bars 9 is provided with teeth which provide a rack 30, and fixedly mounted on the rod 7 adjacent to the opposite ends thereof are pinions 31. The teeth of the pinions 31 mesh with the teeth of the racks 30, whereby rotation of the rod 7 will result in longitudinal movement of bars 9. Fixed to the top face of the plate 1 is a pair of guiding elements 32 which contact with the outer edges of the bars 9 so as to aid in guiding the movement of said bars.

The feed rolls B and C already referred to are supported for rotary movement by shafts B' and C' which are journaled in the frame members A of the machine with which the feed table is associated, and located adjacent to said feed rolls is a suction tube 33 of the type common to paper feeding mechanisms. The suction tube 33 has mechanism associated with it (not shown) which operates to swing the extended portion 33' thereof in an arc of a circle to the position indicated by dotted lines in Fig. 2, and to permit such

movement the feed rolls B and C are each arranged in two parts with a space between the inner ends of the sections of each roll. These spaces between the sections of the rolls B and C are shown clearly in Figs. 1 and 4, wherein said spaces are designated by the reference character S. Also the feed rolls B and C are of segmental formation, each of the sections of said rolls comprising an arcuate wall as shown in Fig. 2. Located immediately above the feed roll B and secured to the bar 5 already referred to is a support 35 for the sheets of material being fed, said support preferably comprising an element provided with a pair of spaced fingers 35'.

In the operation of the machine with which my improved feed table is associated, a stack of envelope blanks or other sheets of material is arranged on the feed table, as indicated in Figs. 1 and 2, the guiding extensions 14' and 18' of the guiding members 14 and 18 being positioned, as shown in Fig. 1, so that said stack of material is maintained in its proper position on the feed table and with the longitudinal center line of the stack of material in exact coincidence with the longitudinal center line of the feed table. The machine is then placed in operation and the suction tube 33 draws the forward portion of the lowermost blank or sheet of material downwardly when the extension 33' of said suction tube swings downwardly in an arc of a circle, the forward edge portion of the stack of blanks being supported by the support 35. The feed rolls B and C are so timed that as the forward portion of the lowermost blank or sheet of material is drawn downwardly as described, the rotating arcuate walls of said feed rolls will grasp said forward portion of said blank or sheet of material and feed it forwardly along the inclined element D to the mechanism of the machine.

When it is desired to adjust the guiding members 14 and 18 so as to provide for the feeding of blanks, or other sheets of material, of a different size, the fastening devices 11 are released and the rod 7 is rotated by manipulating the knurled element 8 associated therewith. This results in the bars 9 being moved longitudinally of their axes with respect to the plate 1, and because the guiding members 14 and 18 are movable with said bars, said guiding members are subjected to like adjustment. The adjusting screw 24 may then be rotated by manipulation of the knurled head 29 associated therewith, and as a result of such rotation of said adjusting screw 24 the outer end portions of the guiding members 18 are moved in an arc of a circle toward or away from the center line of the feed table, depending on the direction of rotation of the adjusting screw 24. Also, if necessary, the guiding members 14 may be adjusted by releasing the fastening devices

16 and shifting the guiding members to the desired position.

It is seen, therefore, that the guiding members of the feed table may be subjected to complete adjustment, and as such adjustments are made with respect to the center line of the feed table, proper positioning of the stack of blanks or other sheets of material being fed is always attained.

I claim:

1. A feed table including a support for a stack of material being fed, a plurality of guiding members for maintaining the position of said stack of material on said support, means for adjusting said guiding members longitudinally with respect to said support, and a common means for simultaneously adjusting a plurality of said guiding members transversely of said support in opposite directions.

2. A feed table including a support for a stack of material being fed, a plurality of guiding members for maintaining the position of said stack of material on said support, means including a rack bar and pinion for adjusting said guiding members longitudinally with respect to said support, and a common means for simultaneously adjusting a plurality of said guiding members transversely of said support in opposite directions.

3. A feed table including a support for a stack of material being fed, a plurality of guiding members for maintaining the position of said stack of material on said support, means for adjusting said guiding members longitudinally with respect to said support, a pair of said guiding members being arranged for pivotal movement, and a common means for simultaneously adjusting said pivoted guiding members transversely of said support in opposite directions.

4. A feed table including a support for a stack of material being fed, a plurality of guiding members for maintaining the position of said stack of material on said support, means for adjusting said guiding members longitudinally with respect to said support, a pair of said guiding members being arranged for pivotal movement, and a common means including an adjusting screw for simultaneously adjusting said pivoted guiding members transversely of said support in opposite directions.

5. A feed table including a support for a stack of material being fed, a plurality of guiding members for maintaining the position of said stack of material on said support, means for adjusting said guiding members longitudinally with respect to said support, a pair of said guiding members being arranged for pivotal movement, and a common means for simultaneously adjusting said pivoted guiding members transversely of said support in opposite directions, the last-men-

tioned means including an adjusting screw having portions provided with right-hand and left-hand screw-threads, and followers associated with said pivoted guiding members through which the screw-threaded portions of said adjusting screw pass.

6. A feed table including a support for a stack of material being fed, a plurality of guiding members for maintaining the position of said stack of material on said support, said guiding members including a plurality of independently adjustable guiding members and a pair of guiding members arranged for pivotal movement, means for adjusting said guiding members longitudinally with respect to said support, and a common means for simultaneously adjusting said pivoted guiding members transversely of said support in opposite directions.

7. A feed table including a support for a stack of material being fed, a plurality of guiding members for maintaining the position of said stack of material on said support, said guiding members including a plurality of independently adjustable guiding members and a pair of guiding members arranged for pivotal movement, means for adjusting said guiding members longitudinally with respect to said support, and a common means including an adjusting screw for simultaneously adjusting said pivoted guiding members transversely of said support.

8. A feed table including a support for a stack of material being fed, a plurality of guiding members for maintaining the position of said stack of material on said support, said guiding members including a plurality of independently adjustable guiding members and a pair of guiding members arranged for pivotal movement, means for adjusting said guiding members longitudinally with respect to said support, and means for simultaneously adjusting said pivoted guiding members transversely of said support, the last-mentioned means including an adjusting screw having portions provided with right-hand and left-hand screw-threads, and followers associated with said pivoted guiding members through which the screw-threaded portions of said adjusting screw pass.

9. A feed table including a support for a stack of material being fed, a plurality of guiding members for maintaining the position of said stack of material on said support, said guiding members including a plurality of independently adjustable guiding members and a pair of guiding members arranged for pivotal movement, means including a rack and pinion for adjusting said guiding members longitudinally with respect to said support, and means for simultaneously adjusting said pivoted guiding members transversely of said support, the last-mentioned means including an adjusting screw having portions provided with right-hand and left-

hand screw-threads, and followers associated with said pivoted guiding members through which the screw-threaded portions of said adjusting screw pass.

5 10. A feed table including a support for a stack of material being fed, a plurality of guiding members for maintaining the position of the stack of material on said support, said guiding members including a plurality
10 of independently adjustable guiding members and a pair of guiding members arranged for pivotal movement, means for adjusting said guiding members longitudinally with respect to said support, locking means for
15 locking said guiding members in positions longitudinally of the support to which they have been adjusted, and means for simultaneously adjusting said pivoted guiding members transversely of said support.

20 11. A feed table including a support for a stack of material being fed, a plurality of guiding members for maintaining the position of the stack of material on said support, said guiding members including a plurality
25 of independently adjustable guiding members and a pair of guiding members arranged for pivotal movement, clamping means for locking said independently adjustable guiding members against independent adjustment, means for adjusting said guiding
30 members longitudinally with respect to said support, locking means for locking said guiding members in positions longitudinally of the support to which they have been ad-
35 justed, and a common means for simultaneously adjusting said pivoted guiding members transversely of said support.

In testimony that I claim the foregoing I hereunto affix my signature.

40 CHARLES F. PFLANZE.

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