Aug. 26, 1958 L. A. MEYERSON 2,849,050

ADJUSTABLE HEAT SEALING ENVELOPE FORMING DEVICE

Filed April 18, 1956

3 Sheets-Sheet 1

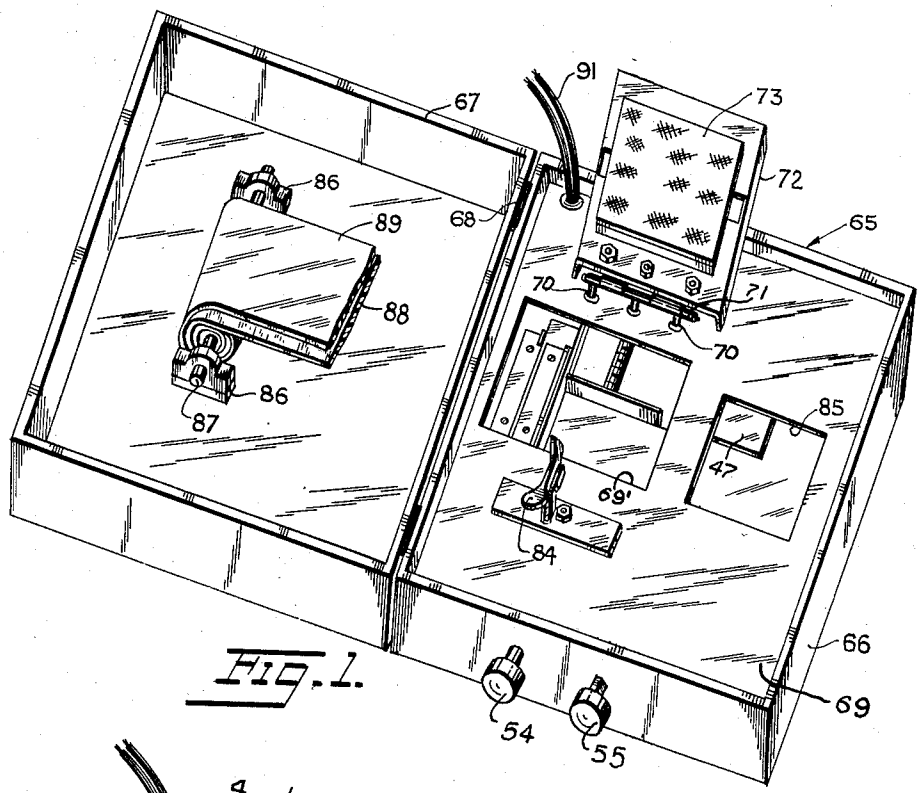


Fig. 1.

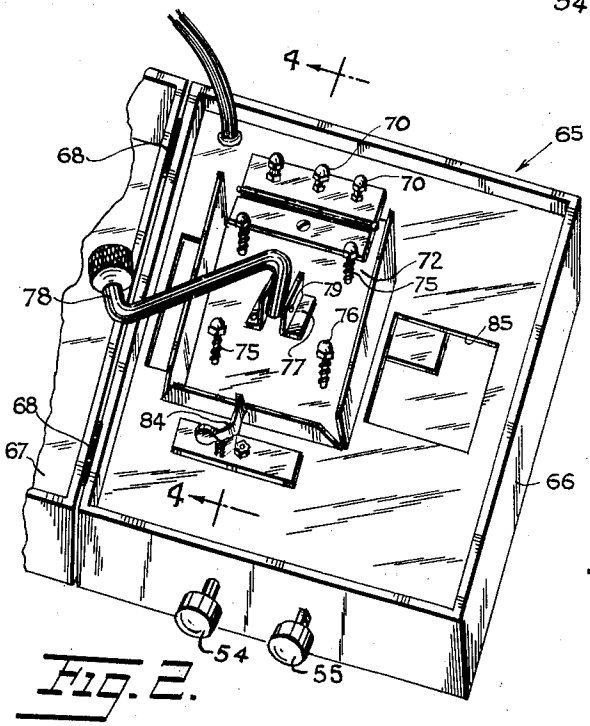


Fig. 2.

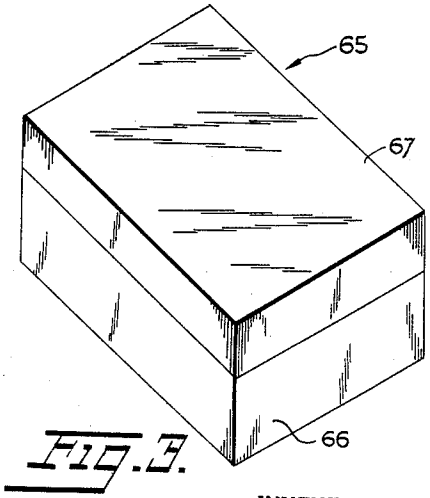


Fig. 3.

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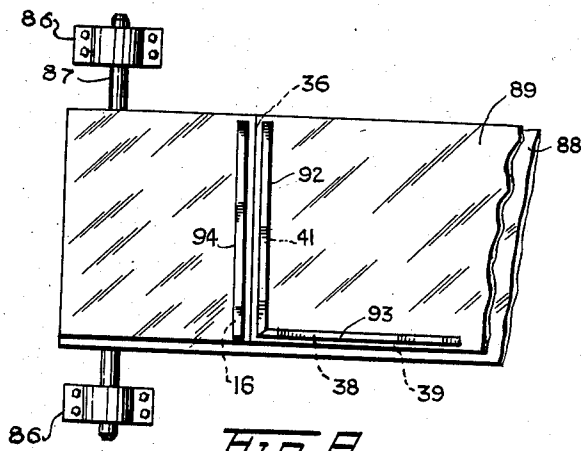


Fig. 8.

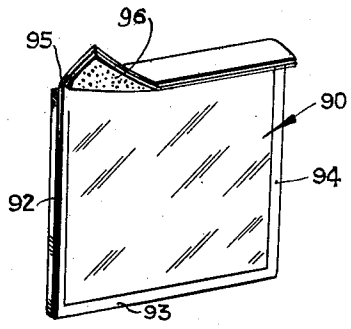


Fig. 10.

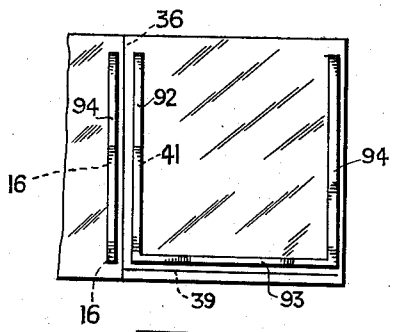


Fig. 9.

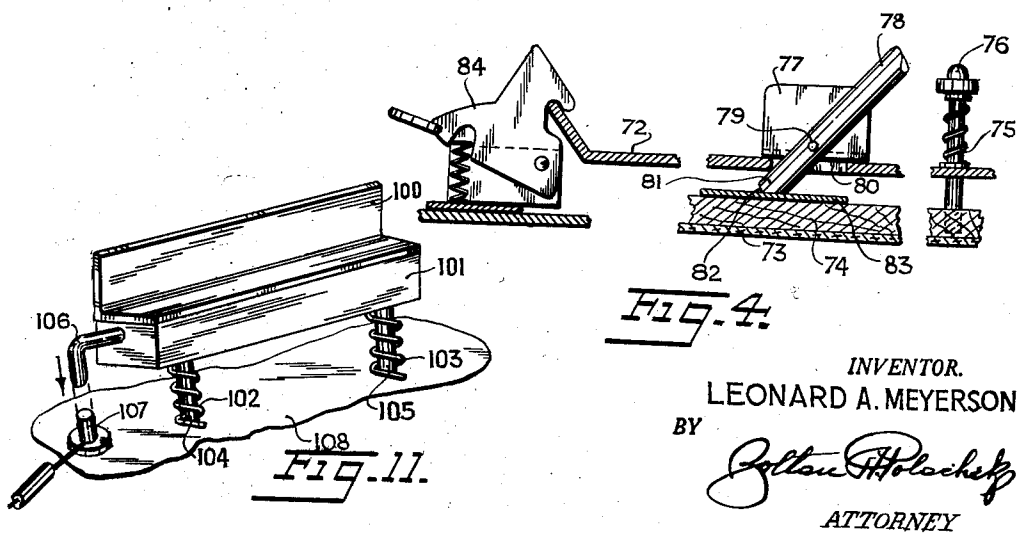


Fig. 11.

Fig. 4.

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3 Sheets-Sheet 3

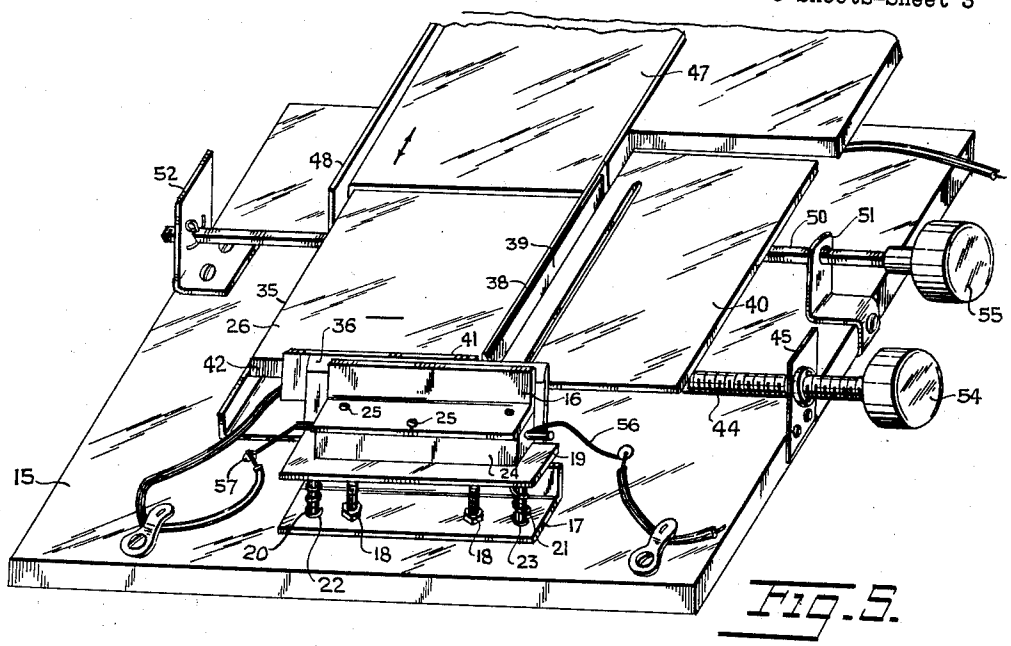


Fig. 5.

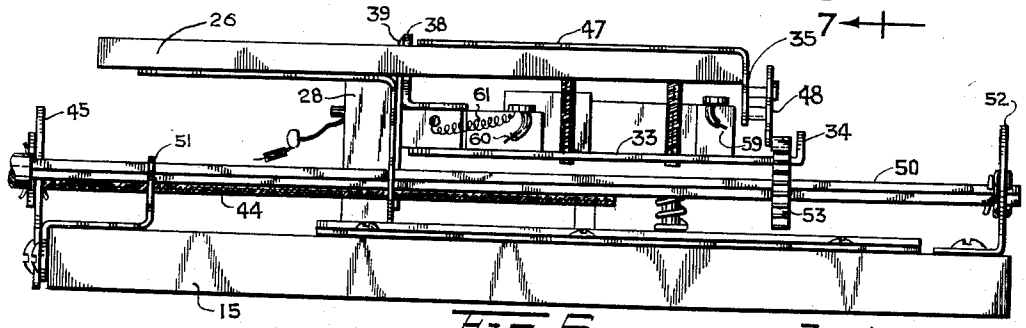


Fig. 6.

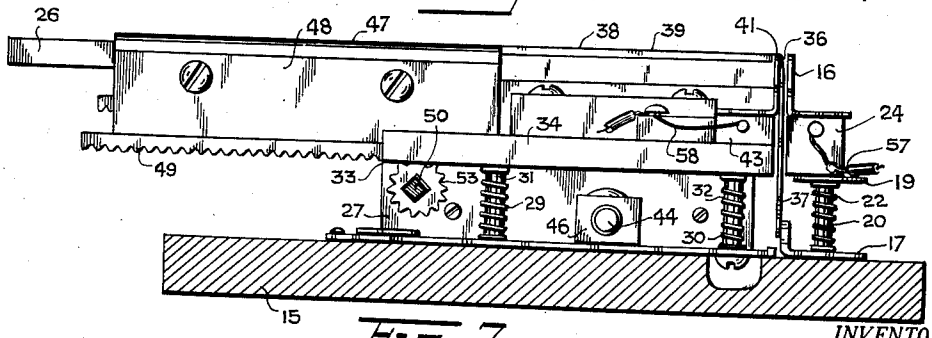


Fig. 7.

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ADJUSTABLE HEAT SEALING ENVELOPE FORMING DEVICE

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Application April 18, 1956, Serial No. 579,068

2 Claims. (Cl. 154—42)

This invention relates to new and useful improvements in envelope making methods and devices and means for affixing the envelope to a page, card or other mounting or display device.

More particularly, the present invention proposes the construction of an improved adjustable heat sealing envelope forming device which can be used to make envelopes for stamps, seals, coins and other uses, which envelopes may have a transparent front and an opaque back, with opaque border, or which may be completely opaque or completely transparent, depending upon the materials used.

As a further object, the present invention proposes forming the device so that a collector, trader or dealer in stamps, coins, seals or the like can easily, quickly and conveniently make various size envelopes he needs in any quantity desired.

Still further, the present invention proposes constructing the device with spaced sealing bar elements and cutter blades so that envelopes can be made and cut from superposed thermoplastic sheets with three sides of an envelope closed and one side opened and gummed providing a flap for mounting in albums and the like.

Another object of the invention is to provide a method whereby envelopes can be made from a roll of strips of thermoplastic material with a minimum of heat sealing and cutting operations.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a perspective view of an adjustable heat sealing envelope forming device constructed and arranged in accordance with the present invention showing the press member raised.

Fig. 2 is a fragmentary view similar to Fig. 1 but showing the press member down.

Fig. 3 is a reduced perspective view similar to Figs. 1 and 2 but showing the cabinet closed.

Fig. 4 is a fragmentary sectional view taken on line 4—4 of Fig. 2.

Fig. 5 is a view similar to Fig. 1 but showing the cabinet and top plate and attendant structure removed for clarity.

Fig. 6 is a side view similar to Fig. 5 but taken from another angle.

Fig. 7 is a sectional view taken on line 7—7 of Fig. 6.

Fig. 8 is a diagrammatic top plan view illustrating one step in the making of envelopes with the device from a roll of transparent thermoplastic strip material.

Fig. 9 is a view similar to Fig. 8 but illustrating another successive step.

Fig. 10 is a perspective view of an envelope with a gummed flap made on the device.

Fig. 11 is a perspective view of a sealing bar element similar to those shown in Figs. 5 and 6 but illustrating a modification of the present invention.

Referring more particularly to the drawings, the adjustable heat sealing envelope forming device in accordance with the first form of the invention illustrated in Figs. 1 to 10, inclusive, has a frame 15 (see particularly Figs. 5, 6 and 7) which may be a flat plate preferably of wood, plastic or other insulator or non-conductor material.

A sealing bar element 16 is mounted on frame 15 in the following manner. A base angle 17 is fixed to frame 15 as by bolts 18 and a base plate 19 is resiliently secured to the base angle 17 by guide posts 20 and 21 and coil springs 22 and 23 which encircle the posts 20 and 21 respectively. An insulator block 24 containing suitable electrical heating elements is fixed to the base plate 19 and screws 25 secure the angle-shaped sealing bar element to the insulator block 24.

Movably mounted on the frame 15 is a table 26 made of fibreboard, plastic or other insulator material. The table 26 is secured to and above an undershelf 33 which is resiliently supported on coil springs 29 and 30 which encircle guide posts 31 and 32 respectively. The undershelf 33 is provided with an upturned flange portion 34 extending beyond one edge 35 of the table.

A cutter blade 36 is positioned behind the sealing bar element 16, the blade 36 being fixed at its lower edge portion 37 to the base angle 17 which is fixed to the frame.

Mounted on the shelf 33 is a second sealing bar element 38 and a second cutter blade 39 is mounted parallel to and alongside the second sealing bar element 38. The second sealing bar element 38 is disposed perpendicular to the sealing bar element 16 and the second cutter blade 39 is disposed perpendicular to and abuts the cutter blade 36. An apron 40 is supported adjacent to and below the cutting edge of the second cutter blade 39.

A third sealing bar element 41 is positioned between cutter blade 36 and the edge 42 of the table and is fixed to an insulator block 43 which is secured to the undershelf 33 and which supports suitable electrical heating elements.

A threaded rod 44 mounted on bracket support 45 and extending through an upright supporting plate 27 and a threaded block 46 secured to plate 27 provides means to move the table parallel to the cutter blade 36 and sealing bar element 16.

Movably mounted on the table is a guide member 47 having a downwardly disposed flange 48 with a rack 49. A rod 50 mounted between brackets 51 and 52 fixed to the frame has mounted thereon a pinion 53 which meshes with the rack 49 and moves the guide member 47 toward and away from the cutter blade 36 and sealing bar elements 16 and 41. Knobs 54 and 55 are provided on the threaded rod 44 and rod 50 respectively.

Conduits or wires 56, 57, 58, 59, 60 and 61 provide means to heat the heating or sealing bar elements by a source of electricity (not shown).

The frame 15 and components thereon are encased in a sectional cabinet 65 having a bottom section 66 and a top section 67 hinged together as by hinges 68. A shield or top plate 69 fits across the bottom 66 over the frame 15 and components, and is cut away as indicated at 69' over the heaters and cutters.

Pivotally mounted on the shield or top cover plate 69 as by posts 70 and hinges 71 is a pressure or press member 72. Press member 72 has a bottom plate 73 of resilient material and a backing plate 74 of more rigid material. The plates 73 and 74 are resiliently connected with the press member 72 by spaced springs 75 mounted on guide posts 76, and are of a size to pass through cut-out

69' in plate 69. A lever bracket 77 is mounted on the press member 72 and a lever 78 is pivotally mounted on the bracket 77 by a pivot pin 79. The press member 72 has a lever opening 80 and the lower portion 81 of the lever extends through the opening 80 for the cam tip 82 to bear against a bearing plate 83 mounted on the backing plate 74. Movement of the lever in one direction depresses plates 73 and 74 and movement in the reverse direction releases the plates 73 and 74 for retraction by the springs 75.

A spring-pressed locking latch 84 is pivotally mounted on the top plate 69 releasably to hold the press member 72 in the lowered position shown in Fig. 2. A window 85 is provided in the top plate 69 to see the guide member 47 for setting the guide member. By reason of the coaction between window 85 and to directly measure the size of envelope needed and to position the heaters and cutters accordingly.

Mounted in the top section 67 of cabinet 65 is a pair of spaced pillow blocks 86 which rotatably hold a roll 87 of superposed thermoplastic strips 88 and 89. Strip 88 is thicker than strip 89 and is opaque while strip 89 is transparent.

A plastic envelope 90, such as shown in Fig. 10, may be made on the device by placing the strips 88 and 89 over the sealing bar elements and cutter blades, lowering and clamping the press member 72 thereagainst and operating the lever 78, the device having first been connected to a source of electricity by conductors 91. The strips 88 and 89 are then pressed against the sealing bar elements which are heated. The strips 88 and 89 are of different widths as shown in Fig. 1 and may or may not be of different thicknesses, and may both be formed of opaque material or of transparent material or one strip may be opaque and the other transparent.

The right-angled bars make seals 92 and 93 of one envelope as well as the bar seal 94 of another envelope and the pressure causes the cutter knives or blades to sever the fed strips at 92 and also severs the excess stock outside the bar seals 93 and 94 and between the bar seals 92 and 93.

The envelope 90 has one open end 95 with a top upper end portion or flap 96 which may be gummed for moisture sealing or coated with adhesive for hand pressure sealing so that the flap may be attached to an album or the like. The size of the envelope may be measured by means of the guide member 47 and window 85.

The modification of the invention illustrated in Fig. 11 is characterized by the provision of a sealing bar element 100 mounted on an insulator block 101 which in turn is mounted on coil springs 102 and 103 having guide posts 104 and 105, respectively. A movable electrical terminal or contact 106 is secured to block 101 and connected with sealing bar element 100. A fixed terminal or contact 107 is mounted on frame 108 and aligned with the movable contact 106 so that the sealing bar element 100 will only heat up when depressed to the point where the contacts or elements 106 and 107 are touching.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. An adjustable heat sealing envelope forming device comprising a frame, a sealing bar element mounted on the frame, a table movably mounted on the frame adjacent said sealing bar element, a cutter blade positioned behind said sealing bar element and parallel thereto, means to move the table on the frame parallel to the cutter blade, a second sealing bar element disposed perpendicular to the first mentioned sealing bar element, a second cutter blade parallel to the second sealing bar element, means to heat said sealing bar elements, a flanged guide plate movably mounted on the table, and a rack and pinion means connected to the flange to move the guide plate toward and away from the first mentioned sealing bar element, a resilient member mounted between the first mentioned sealing bar element and the frame and another resilient member between the table and the frame resiliently to mount said sealing bar element and the table on said frame, said resilient members being pairs of coil springs, said means to heat the sealing bar elements being electrical circuits with fixed and movable terminals, said movable terminals being mounted on the sealing bar elements and adapted to bear against the fixed terminals to close the circuits to the sealing bar elements when said elements are depressed.

2. An adjustable heat sealing envelope forming device comprising a frame, a sealing bar element mounted on the frame, a table movably mounted on the frame adjacent said sealing bar element, a cutter blade positioned behind said sealing bar element and parallel thereto, means to move the table on the frame parallel to the cutter blade, a second sealing bar element disposed perpendicular to the first mentioned sealing bar element, a second cutter blade parallel to the second sealing bar element, means to heat said sealing bar elements, a third sealing bar element mounted on the table between the first mentioned cutter blade and the table parallel to said blade, a flanged guide plate movably mounted on the table, a rack and pinion means connected to the flange to move the guide plate toward and away from the first mentioned sealing bar element, a resilient member mounted between the first mentioned sealing bar element and the frame and another resilient member between the table and the frame resiliently to mount said sealing bar element and the table on said frame, said resilient members being pairs of coil springs, and an apron mounted on the table adjacent the second cutter blade, said means to heat the sealing bar elements being electrical circuits with fixed and movable terminals, said movable terminals being mounted on the sealing bar elements and adapted to bear against the fixed terminals to close the circuits to the sealing bar elements when said elements are depressed.

References Cited in the file of this patent

UNITED STATES PATENTS

1,877,728	Gutberlet	Sept. 13, 1932
2,479,375	Langer	Aug. 16, 1949
2,641,304	Biddinger et al.	June 9, 1953