

Feb. 2, 1965

S. ALMASI

3,168,430

APPARATUS FOR CUTTING AND APPLYING A DISC TO A BASE

Filed June 11, 1962

3 Sheets-Sheet 1

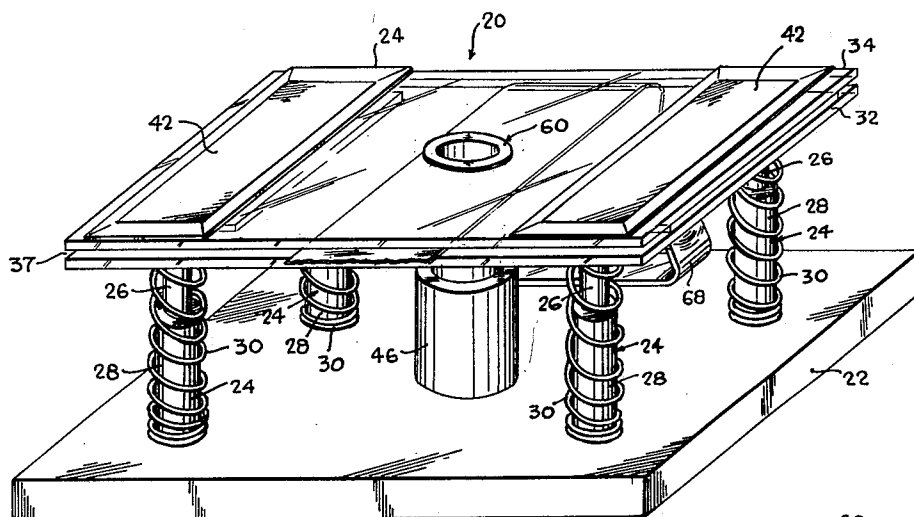


Fig. 1

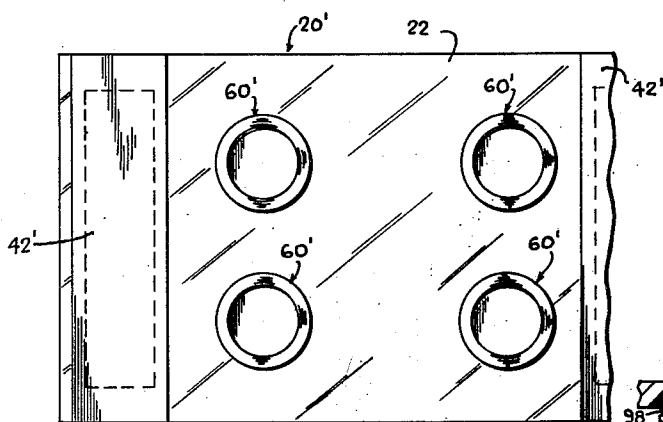


Fig. 14

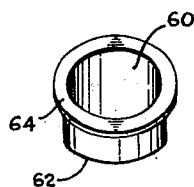


Fig. 10

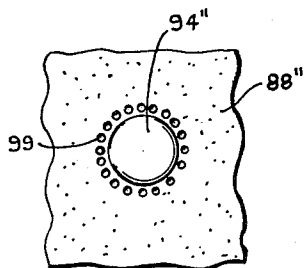


Fig. 16

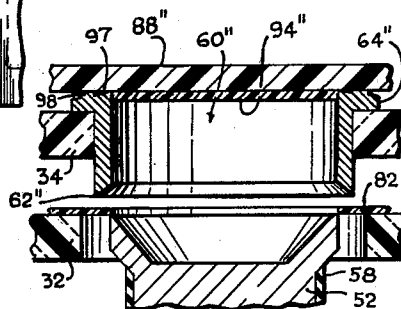


Fig. 15

INVENTOR.
STEPHEN ALMASI

BY

Golden H. B. Schick
ATTORNEY

Feb. 2, 1965

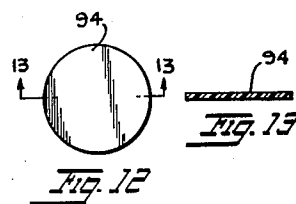
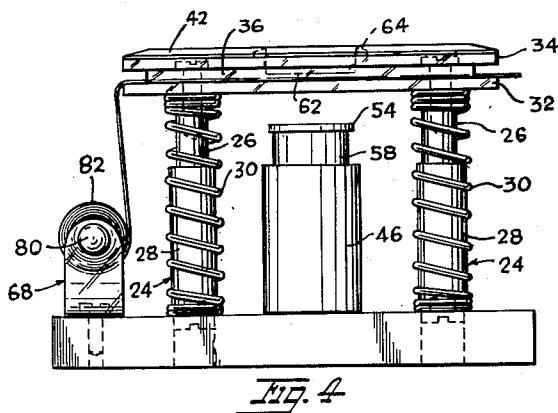
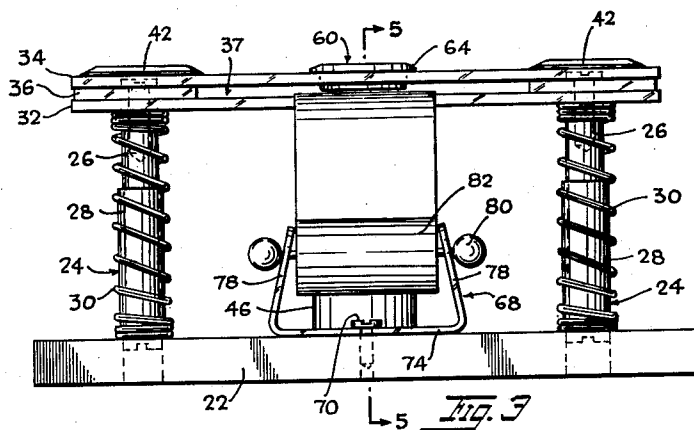
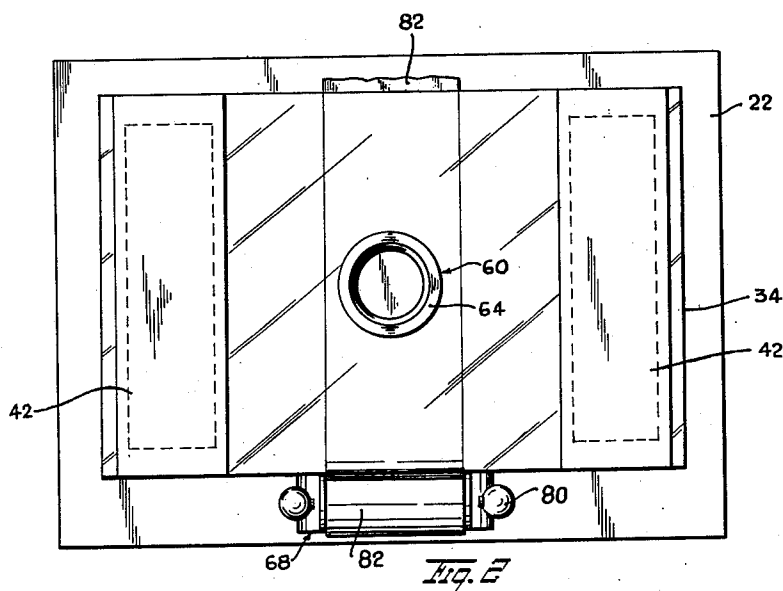
S. ALMASI

3,168,430

APPARATUS FOR CUTTING AND APPLYING A DISC TO A BASE

Filed June 11, 1962

3 Sheets-Sheet 2



INVENTOR.
STEPHEN ALMASI
BY
John H. H. H.
ATTORNEY

Feb. 2, 1965

S. ALMASI

3,168,430

APPARATUS FOR CUTTING AND APPLYING A DISC TO A BASE

Filed June 11, 1962

3 Sheets-Sheet 3

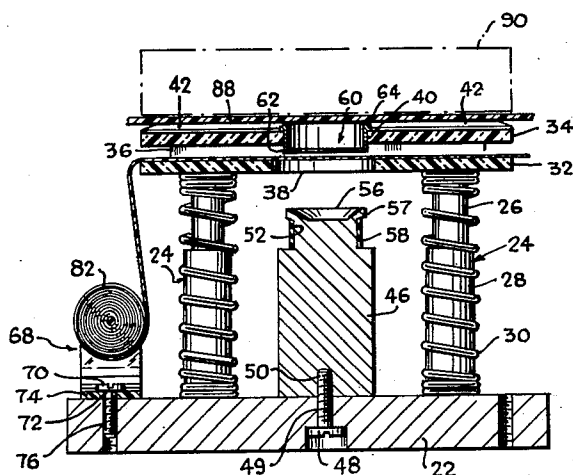


Fig. 5

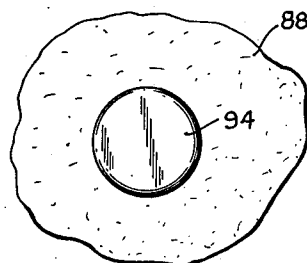


Fig. 11

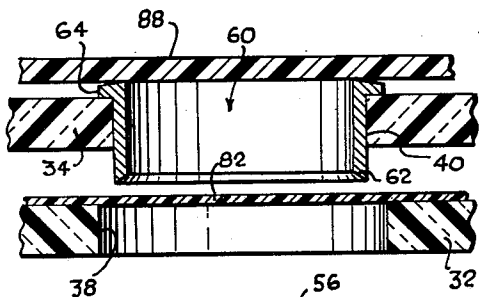


Fig. 6

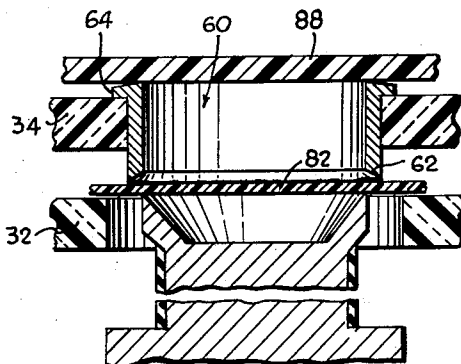


Fig. 7

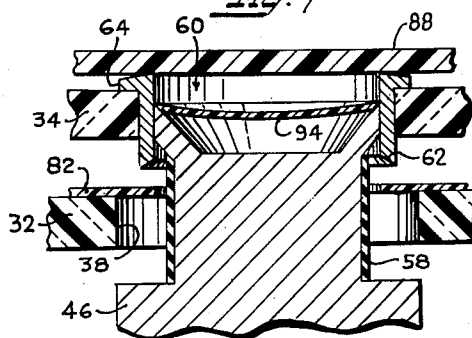


Fig. 8

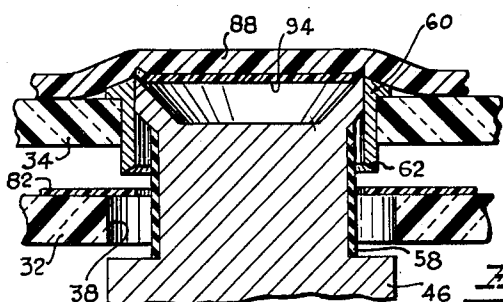


Fig. 9

INVENTOR.
STEPHEN ALMASI
BY
Robert H. Schuch
ATTORNEY

1

2

3,168,430 APPARATUS FOR CUTTING AND APPLYING A DISC TO A BASE

Stephen Almasi, 8650 Boulevard E., North Bergen, N.J.
Filed June 11, 1962, Ser. No. 201,633
4 Claims. (Cl. 156—520)

This invention relates to improvements in automatic applique or label forming and attaching apparatus.

A principal object of the present invention is to provide apparatus that automatically cuts and/or punches ornamental appliques or labels from a strip or ribbon of flexible sheet material, and electronically heat seals the same to a strip of flexible vinyl sheet material to be ornamented.

Another object of the invention is to provide a machine in which a strip or ribbon of flexible material is moved past a cutting die, which die operates to successively cut any ornamental applique or label therefrom and apply the same to a strip of flexible sheet material to be ornamented.

Another object according to a modification of the invention is to provide apparatus of this kind with a gang of cutting and pressing dies which operate automatically to cut or punch ornamental appliques or labels from a strip or ribbon of flexible sheet material and which by means of electronic heat can directly apply the appliques or labels to a strip of flexible sheet material to be ornamented.

Yet a further object of the invention is to provide apparatus of this kind in which a gang of cutting and pressing dies is associated with a reciprocatory element including novel means for operating the element in a quick and easy manner.

Still another object is to provide automatic apparatus having the above features which is simple in construction and rapid and positive in operation.

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 rear perspective view of apparatus embodying one form of the invention, a roll of flexible sheet material from which appliques are to be cut being shown in operative position.

FIG. 2 is a top plan view thereof.

FIG. 3 is a rear view thereof.

FIG. 4 is an end view thereof.

FIG. 5 is a sectional view taken on the line 5—5 of FIG. 3 showing an electronically actuated reciprocatory element in operative position, in dot-dash lines.

FIGS. 6 to 9, inclusive, are diagrammatic views showing steps in the cutting of the appliques and applying the same to the flexible sheet material to be ornamented.

FIG. 10 is a top perspective view of the cutter forming part of the invention.

FIG. 11 is a top plan view of a fragment of a sheet of flexible material on the surface of which an applique has been applied.

FIG. 12 is a top plan view of an applique cut by the apparatus of FIG. 1.

FIG. 13 is a cross-sectional view taken on the line 13—13 of FIG. 12.

FIG. 14 is a top plan view of apparatus embodying a modified form of the invention.

FIG. 15 is a sectional view through a modified form of cutter and shaper.

FIG. 16 is a top plan view of a fragment of a strip of

flexible sheet material to which an applique has been applied, and ornamental recesses formed in the material around the applique by means of the modified form of cutter of FIG. 15.

Referring in detail to the various views of the drawings, in FIG. 1 apparatus embodying one form of the invention is shown and designated generally by the reference numeral 20. The apparatus comprises a thick flat metal base 22 rectangular in plan supporting four up-standing corner cylindrical tubular metal posts 24. Each post is formed of two sections 26 and 28, the section 26 being telescopically and slidably arranged inside section 28. A compression spring 30 encircles each post. On the top of the sections 26 of the posts, there is fixed a plate assembly formed of nonconductive material comprising two rectangular-shaped plates 32 and 34 in closely spaced superimposed relation, plastic spacer plates 36 being interposed between the plates at their ends for holding the plates in spaced relation as indicated at 37. Aligned holes 38 and 40 are formed in the plates 32 and 34, respectively.

On the top surface of the top plate 34 there are two rectangular-shaped cushion pads 42, 42 suitably secured to the top surface of the plate. The pads are disposed over the spacing plates. The plastic assembly including the plates and pads is held in outermost position by means of the springs 30 and is moved inwardly against the action of said springs.

On the center of the base plate 22, there is mounted a solid cylindrical metal post 46 secured in upright position by a screw 48 passing through a hole 49 in the base plate and threaded into a threaded passage 50 in the center of the post 46. A reduced neck portion 52 is formed at the top end of the post, the neck portion terminating in an annular head 54 with a dished upper surface 56. A strip of insulation 58 covers the neck portion 52. The reduced neck portion and head 54 constitute a heat seal die.

An annular cutter member 60 is seated in the hole 40 in top plate 34, the hole 40 being smaller in diameter than the diameter of the hole 38 in plate 32. The cutter member 60 has a knife edge 62 at one end and a laterally protruding flange 64 at its other end. The hole 40 is slightly greater in diameter than the diameter of the cutter member 60 so that the flange 64 seats on the edge of the hole for supporting the cutter member. The cutter depends downwardly into the space 37 between the plates 32 and 34 about half way down, leaving a space between the bottom plate 32 and the knife edge 62 of the cutter member. The diameter of the cutter member is slightly greater than the diameter of the head 54 on post 46 so that the cutting edge can slide over the head in a shearing operation.

A U-shaped bracket 68 is secured to the top surface of the base 22 midway the ends thereof in line with the center post 46. The bracket is secured in place by a screw 70 passing through a hole 72 in the center of the right portion 74 of the bracket and into a threaded hole 76 in the base 22. The legs 78, 78 of the bracket support a roller 80 upon which is sleeved a roll or ribbon 82 of flexible plastic sheet material known in the trade as "Mylar" plastic and preferably of a golden color.

In operation, the flexible sheet material 82 is fed from the roll on bracket 68 through the space 37 between the superimposed plates 32 and 34, over the hole 38 in plate 32 and under hole 40 in top plate 34 and directly over the post 46, with the adhesive layer 84 uppermost as shown in FIGS. 4 and 5. The strip 82 may be fed either manually or automatically. A strip 88 of flexible plastic sheet material to be ornamented is placed over the top plate 34 between the pads 42 and cutter 60 as shown in FIGS. 6 to 9, inclusive. The top surfaces of

the pads 42 on top plate 34 are slightly higher than the top edge of the cutter.

The apparatus 20 with a strip 88 of vinyl plastic material thereon is placed under a suitable pressing or stamping machine electronically actuated and having a plunger head 90 shown in FIG. 5.

The plunger head 90 on its downward movement will engage the strip 88 of plastic material over the pads 42, 42 and over the cutter 60 and press the plate assembly including the plates 32 and 34 and associated parts downwardly against the action of the springs 30, carrying the strip 82 along and shearing said strip around the periphery of flange 54 of the post 46 and cutting therefrom a disc 94. High frequency current passes from the plunger head 90 to the center post 46 and fuses the vinyl material of strip 88 to a supporting surface.

In FIGS. 11 to 13, inclusive, there is shown an applique 94 comprising the improved applique of this invention having a body with a golden or gilded face.

Since the cutter or die 60 is yieldingly mounted, effective pressure is attained for firmly securing the applique 94 to the plastic sheet material 88 with no danger of shearing the material 88 because the pads 42, 42 are relieving the pressure from the vinyl sheet 88 which is to be ornamented.

In FIG. 14, apparatus 20' embodying a modified form of the invention is illustrated. The apparatus 20' differs from the apparatus 20 of FIG. 1 in that a plurality of movable spaced cutters or dies 60' are provided to coact with a plurality of stationary posts (not shown) similar to post 46. The pads 42' are disposed alongside the cutters 60'.

FIG. 15 illustrates a modified form of cutter or die 60''. The cutter 60'' differs from the cutter 60 in that upstanding from the slanting surface 97 of flange 64'' there is a plurality of short studs 98 spaced therearound. In using this modified form of cutter 60'', an applique 94'' is cut and applied to the plastic strip 88'' and around the applique the material of the strip 88'' is formed with ornamental recesses 99 as shown in FIG. 16.

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 applied claims.

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

1. Apparatus of the kind described comprising a rectangular-shaped base, telescopically movable posts supported upright on the base, a spring-pressed plate carried on the top ends of the movable posts, said plate having a central hole therein, another plate supported on the first named plate in closely spaced relation, said other plate having a hole in line with the hole in the first named plate, said first named plate serving as a support for a strip of flexible plastic sheet material across the hole therein, a cutter member supported in the hole in said other plate, said other plate serving as a support for a strip of flexible ornamental material over and across the cutter member, an upstanding headed die member supported on the base below and in line with the holes in said plates, and means for moving said plates downwardly thereby carrying the cutter member over the die member and severing a disc from the plastic material and subsequently severing a disc from the ornamental material and simultaneously pressing the ornamental disc upon the plastic disc.

2. Apparatus of the kind described in claim 1 characterized by spaced flat pads on the top surface of the other plate on both sides of the cutter member and wherein the ornamental strip is supported on said mats above the cutter member.

3. Apparatus of the kind described in claim 1 wherein the headed die member is heated.

4. Apparatus of the kind described in claim 1 characterized by spaced flat pads on the top surface of the other plate on both sides of the cutter member and wherein the ornamental strip is supported on said mats above the cutter member and wherein the headed die member is heated.

References Cited by the Examiner

UNITED STATES PATENTS

1,372,947	3/21	Gerritson	156—261
1,875,720	9/32	Freeman	83—143
1,885,169	11/32	Altwater	83—143

EARL M. BERGERT, *Primary Examiner.*