

Dec. 26, 1961

A. BRODY ETAL
TABS FOR ATTACHMENT TO RING-BINDER
LEAVES, AND MEANS FOR
MOUNTING THE SAME

3,014,580

Filed March 5, 1958

2 Sheets-Sheet 1

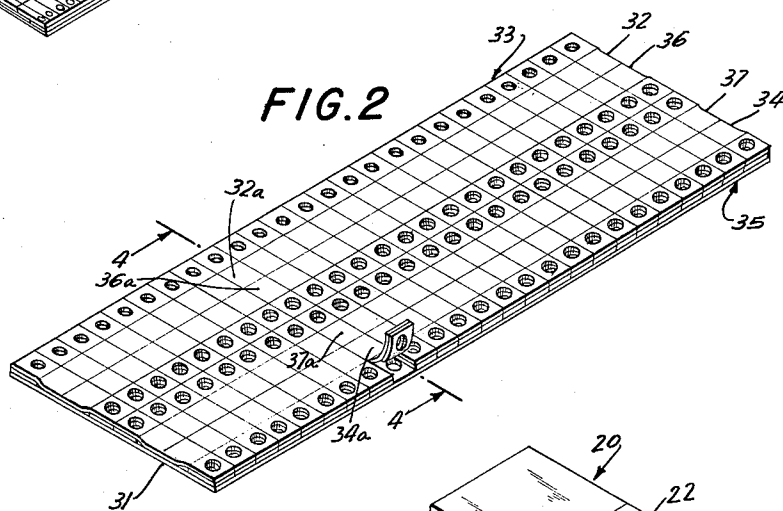
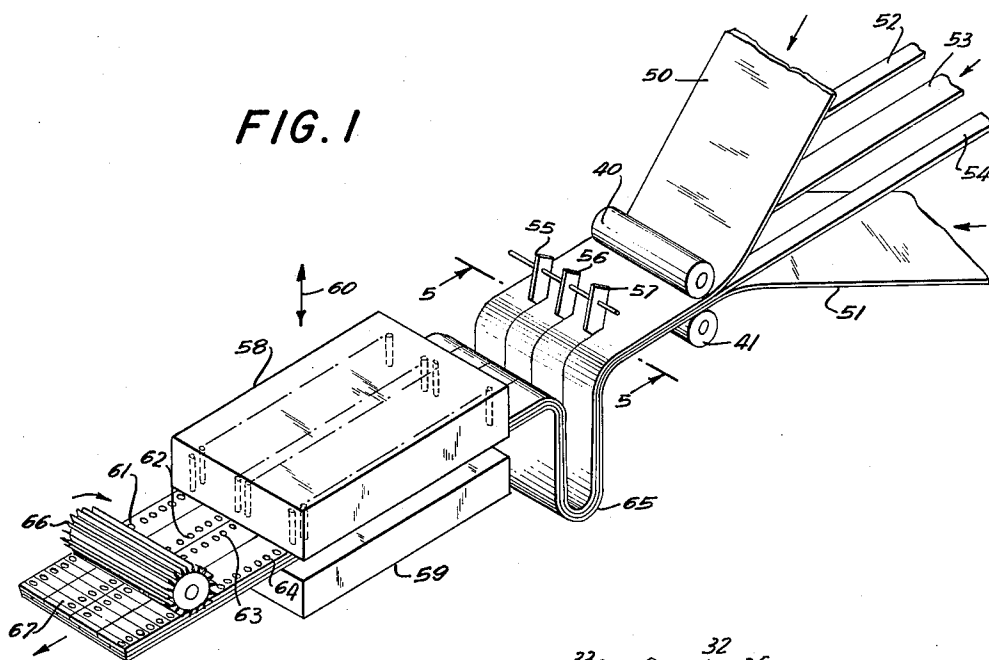
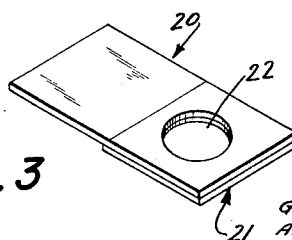


FIG. 3



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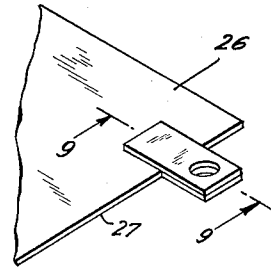
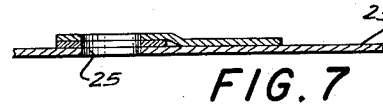
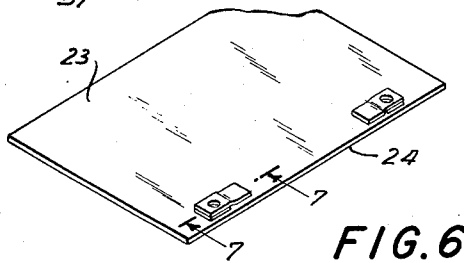
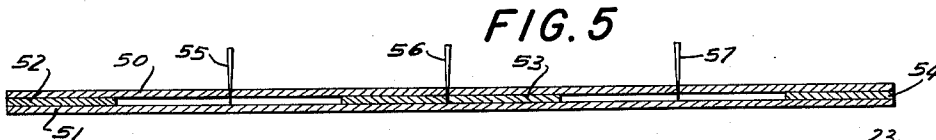
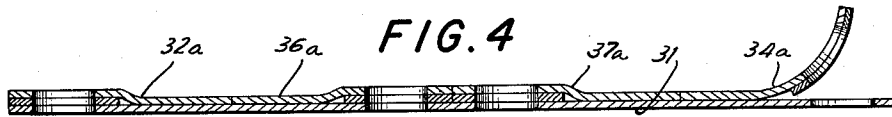


FIG. 9

FIG. 8

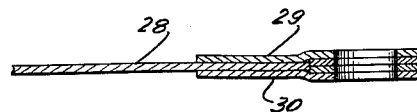
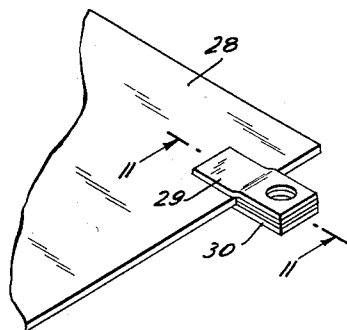


FIG. 11

FIG. 10

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3,014,580

TABS FOR ATTACHMENT TO RING-BINDER LEAVES, AND MEANS FOR MOUNTING THE SAME

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3 Claims. (Cl. 206—56)

This invention relates generally to the field of loose-leaf ring-binders, and has particular reference to an improved tab for attachment to a ring-binder leaf.

Tabs of the character to which the invention relates are useful to reinforce leaves already punched to receive the rings of the binder, and are also useful in providing apertured attachment ears on leaves or sheets that are unpunched and are intended to be engaged with the binder rings.

It is a general object of the invention to provide an attachment tab of improved structural nature, having a varied utility as hereinbeforementioned.

A coordinate object of the invention is to provide a novel tab-carrying mount constituting a new article of manufacture by means of which a supply of tabs of the character mentioned may be handled and stored as a unit, the tabs carried by this unit being individually removable by the user.

It is a further object of the invention to provide an improved method and apparatus for making tabs and tab-carrying mounts of the type referred to.

A tab embodying the features of this invention is substantially oblong in shape, provided at one end with a ring-engaging part having an aperture therein, and at the other end with an attachment part. The top face of the tab is non-adhesive in nature. On the under face there is a pressure adhesive on the attachment part and an aqueously activatable adhesive on the apertured part. The attachment part is secured, in the first instance, to the card or back upon which the tab is mounted when it is manufactured and sold to the user. This attachment part is ultimately adhesively securable to a ring-binder leaf to permit the tab to fulfill its contemplated function. The apertured part of the tab may project laterally beyond the edge of the leaf to be engaged by the binder rings, or it may be adhesively secured in registry with the punched hole already present adjacent to the edge of the leaf, for reinforcement purposes.

A characterizing feature of the tab-carrying mount, as contemplated by the invention, resides in the neatly attractive manner in which the plurality of tabs are secured to the backing, and in the efficiency with which the several elements have been associated and interengaged.

Other features of the invention reside in the economy of the manufacturing procedure, both as to material used and reliable uniformity of the resultant product.

One way of achieving these general objects and advantages, and such other benefits as may hereinafter appear or be pointed out, is illustratively exemplified in the accompanying drawings, in which—

FIGURE 1 is a fragmentary perspective view, somewhat diagrammatic in nature, of an apparatus useful in forming tabs and tab-carrying mounts embodying the features of the invention;

FIGURE 2 is a perspective view of a tab-carrying mount;

FIGURE 3 is an enlarged perspective view of a single tab;

FIGURE 4 is a cross sectional view substantially along the line 4—4 of FIGURE 2;

FIGURE 5 is a cross sectional view substantially along the line 5—5 of FIGURE 1;

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FIGURE 6 is a perspective view of a ring-binder leaf carrying tabs of the present character as reinforcements; FIGURE 7 is a cross sectional view substantially along the line 7—7 of FIGURE 6;

FIGURE 8 is a fragmentary perspective view showing a ring-binder leaf employing the present tab as an attachment ear;

FIGURE 9 is a cross sectional view substantially along the line 9—9 of FIGURE 8;

FIGURE 10 is a view similar to FIGURE 8 showing the manner in which a pair of tabs may be used to advantage; and

FIGURE 11 is a cross sectional view substantially along the line 11—11 of FIGURE 10.

Referring first to FIGURE 3, it will be observed that a tab constructed in accordance with this invention consists of a substantially rectangular upper element 20, the long edge being substantially twice the dimension of the short edge, and a lower substantially square element 21 permanently bonded to the upper layer adjacent to one end thereof. The upper layer is a relatively flexible and tough material, such as polyester film of the character presently available on the market under the name "Mylar." The layer 21 is relatively stiff and may be composed of heavy paper-board. The two-ply end of the tab is thus of reinforced nature. It is provided with a punched aperture 22 adapted to receive the ring of a binder of conventional kind.

The top face of the tab is non-adhesive in character. On the bottom face, the exposed surface of the element 21 bears a coating of aqueously activatable adhesive, whereas the exposed part of the element 20, directly adjacent to the element 21, bears a coating of pressure adhesive.

In using the tab, it may be employed for reinforcing purposes, as indicated in FIGURES 6 and 7. 23 represents a conventional ring-binder leaf provided adjacent to the edge 24 with two or more punched holes or apertures such as the hole indicated at 25 in FIGURE 7. To reinforce this hole, the tab of FIGURE 3 may be adhesively secured to the leaf 23 with the long axis of the tab extending parallel to the edge 24. This is accomplished by wetting the under face of the reinforced end of the tab and pressing it downwardly upon the leaf 23 with the aperture 22 in registry with the hole 25. This procedure is greatly facilitated by the ability to hold the tab by the attachment part directly adjacent to the apertured part; since it is thus possible to expose the entire area of the wettable adhesive to the tongue of the user, or other wetting instrumentality. After the apertured part has been pressed down in proper position, the attachment part is released, and will adhere to the leaf 23, as shown, by the mere application of pressure.

FIGURES 8 and 9 indicate the manner in which the tab may be used to provide a ring-engaging ear on a leaf 26 which has not been previously punched. This leaf may be, for example, a photograph or other sheet which the user wishes to incorporate in the ring-binder. As indicated in FIGURES 8 and 9, the tab is applied in this case to the side edge 27 of the leaf 26, with the longitudinal axis of the tab at right angles to the edge 27. The attachment part with the pressure adhesive on its under face is pressed down on to the face of the leaf 26, and the apertured ring-engaging part is caused to project from the edge 27, as indicated. The adhesive coating on the bottom face of the apertured part is not activated.

It may be desirable, however, to take advantage of the presence of this aqueously activatable adhesive by employing two of the tabs, as indicated in FIGURES 10 and 11. In this case, a leaf 28 is provided with a ring-engaging ear by mounting one tab on one face, as indicated at 29, and another tab on the opposite face 30, the tabs being

arranged in directly superposed relation, whereby the adhesive coatings which face each other in the apertured parts may be activated and caused to adhere to each other. This results in providing a staunch projection on the leaf 28, by means of which the leaf may be inserted into the ring-binder.

In FIGURES 2 and 4 there is shown a tab-carrying mount which constitutes a convenient and attractive supply of tabs. In the preferred construction shown in these figures, four parallel rows of tabs are mounted on a supporting card 31. This card may be of any desired or suitable material, such as cardboard or the like. One row of tabs is indicated at 32 with its apertured tab ends arranged adjacent to one longitudinal edge 33 of the mount. A similar second row of tabs is indicated at 34, adjacent to the opposite longitudinal edge 35 of the mount. Two additional rows of tabs are indicated at 36 and 37, the apertured ends being arranged in adjacency along the central region of the mount 31. The relationship of parts is best indicated in FIGURE 4, wherein there is shown a series of tabs 32a, 36a, 37a and 34a. Each tab is adhesively secured to the backing or mount 31 by means of the pressure adhesive on the under face of its attachment part. The apertured part of each tab is free of direct facial attachment to the backing 31. Accordingly, when it is desired to remove a tab from the mount, the apertured end may be readily lifted, as indicated in connection with the tab 34a, and the tab peeled from the surface of the card 31. To facilitate the latter action, the face of the card 31 to which the tabs are secured is provided with a release coating of appropriate kind, such as polyethylene.

The preferred method and apparatus for manufacturing the tabs, and the tab-carrying mounts, is illustratively exemplified in FIGURES 1 and 5.

In carrying out this phase of the invention, a series of continuous webs are longitudinally advanced in convergent relation and bonded together as they pass between a pair of pressure rollers 40 and 41. The first web, shown uppermost in FIGURE 1, is a continuous length 50 of the flexible and tough material ultimately to form the layer 20 of FIGURE 3. The web 50, as it approaches the rollers shown, is coated on its under face with a pressure adhesive. This may be applied in any desired manner at a previous stage (not shown). The web 51, shown lowermost in FIGURE 1, is composed of a cardboard or equivalent sheet material having the desired body and stiffness for the backing 31. This web is at least as wide as the web 50, and it is preferably coated on its top surface (as viewed in FIGURE 1) with a release coating. This may be applied at a previous stage (not shown).

Feeding toward the rollers 40, 41, between the webs 50 and 51, are a set of parallel spaced-apart relatively narrow webs 52, 53 and 54. These are composed of the relatively stiff material ultimately to define the part 21 of the tab shown in FIGURE 3. Each of these narrow webs bears on its under face a coating (previously applied by any conventional means, not shown) which is an aqueously activatable adhesive. The webs 52 and 54 will ultimately define the reinforcement parts of the tabs in the rows 32 and 34 of FIGURE 2, hence each of these webs is half the width of the medial web 53 which will ultimately define the juxtaposed reinforcement ends of the tab rows 36 and 37.

It will be observed that each of the narrower webs is bonded along its uncoated face (uppermost) to the adhesive-bearing face of the web 50; and the coated (uppermost) face of the web 51 is simultaneously bonded to the adhesive-bearing face of the web 50 in the regions between the webs 52, 53, 54.

Immediately following the passage of the webs through the rollers 40, 41, they are subjected to the longitudinal cutting action of knives 55, 56 and 57. As best indicated in FIGURE 5, the knife 55 forms a longitudinal cut in the web 50 halfway between the narrower webs 52 and 53.

Similarly, the knife 57 forms a cut in the web 50 halfway between the narrower webs 53 and 54. The knife 56 cuts through both webs 50 and 53. None of the cutters severs the web 51.

At a subsequent stage of advancement, the superposed webs are subjected to the action of a pair of punching elements 58 and 59. Since punching operations are well known per se, the details of these parts have not been illustrated. Suffice it to point out that the part 59 might be provided with apertures and remain stationary during the punching operations, whereas the part 58 would in such a case be provided with punch elements designed to enter the apertures in the part 59 as the element 58 is reciprocated upwardly and downwardly, as indicated by the arrow 60, by a mechanism of appropriate kind (not shown). The function of the punching apparatus is to form a longitudinal row of holes or apertures in each of the spaced longitudinal regions in which the webs overlap. This forms the four longitudinal rows indicated at 61, 62, 63 and 64.

Since the punching apparatus functions intermittently upon successive longitudinal segments of the advancing webs, a slack region 65 is provided for between the region of the apparatus in which the webs move continuously and the region of the apparatus in which they move stepwise.

After the webs leave the punching station, they are subjected to the cutting action of an appropriate mechanism, illustratively shown in the form of a transverse roller 66, provided with a multiplicity of parallel cutting edges, whereby a series of transverse cuts 67 are formed in the uppermost webs, but not in the web 51, these cuts being parallel, lying crosswise with respect to the advancing webs, and between the apertures previously formed. Accuracy of positioning is provided for by operating the cutting instrument 66 in indexed relation to the punching operation.

At a stage subsequent to the operations indicated in FIGURE 1, the laminated product is severed along transverse lines which form separate units of the character shown in FIGURE 2. Obviously these units may be of any desired length.

It will be observed that the plurality of tabs carried by the unit of FIGURE 2 are arranged in closely adjacent array. This imparts an attractive appearance to the unit, and is economical and efficient from the standpoint of making maximum use of the available area of the underlying backing sheet.

Where the upper sheet 50 (defining the part 20 of each resultant tab) is of a transparent nature, the attractiveness of the unit of FIGURE 2, and of the individual tabs, may be further enhanced by coloring the webs 52, 53, 54. The backing card 51 may also be appropriately colored, if desired. Instructions or advertising embellishment may also be applied to the web 51, either on the face that shows through the transparent web 50 or on the under face.

While the unit of FIGURE 2 has been shown with four adjacent parallel rows of tabs, it will be understood that a smaller number of rows may be provided for. For example, a tab-carrying mount may be created on which there is only a single row of tabs, or, if the outer webs are appropriately widened, and if additional intermediate webs are used, units may be formed in which there are more than four parallel rows of removable tabs.

Other elements of the procedure and apparatus may be similarly modified without materially altering the basic nature of the concept. For example, the cutters 55, 56, 57 may be positioned closer to the rollers 40, 41, or on the side from which the various webs are approaching these rollers. Punching means other than the intermittent type shown may be used, and transverse cutting means other than the knife roller 66 may be employed.

In general it should be understood that the details herein described and illustrated may be modified in

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various respects without necessarily departing from the spirit and scope of the invention as expressed in the appended claims.

What is claimed is:

1. A substantially rectangular tab for attachment to a ring-binder leaf, consisting of a ring-engaging end provided with an aperture adapted to receive a binder ring, said ring engaging end being formed of two permanently bonded superposed layers, the upper face of the upper layer being non-adhesive and the under face of the lower layer bearing an aqueously activatable adhesive, the upper layer including an attachment stem integral with and extending beyond the contour of said lower layer, said stem having a non-adhesive upper face and a pressure adhesive on its under face.

2. A tab-carrying mount consisting of a supporting card and a plurality of tabs carried thereby and individually removable therefrom, each tab being substantially oblong and comprising an apertured binder-ring-engaging end and an attachment end, the upper face of the tab being non-adhesive and the under face carrying a pressure adhesive on said attachment end and an aqueously activatable adhesive on said apertured end, said tabs being mounted on said card in closely adjacent array with said attachment ends in peelable adhesive engage-

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ment with said card and with said apertured ends overlying but free of direct facial attachment to said card.

3. A tab-carrying mount as defined in claim 2, said card bearing a release coating on the face on which said tabs are mounted, to facilitate the removal of said tabs therefrom.

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