June 2, 1964 R. L. HOLCOMBE 3,135,381

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Filed Sept. 28, 1960 2 Sheets-Sheet 1

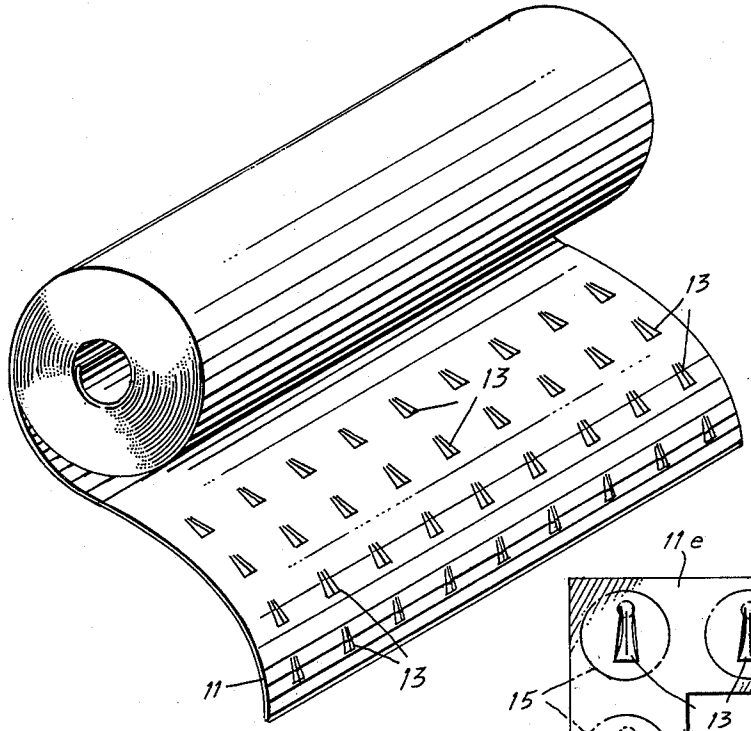


Fig. 1

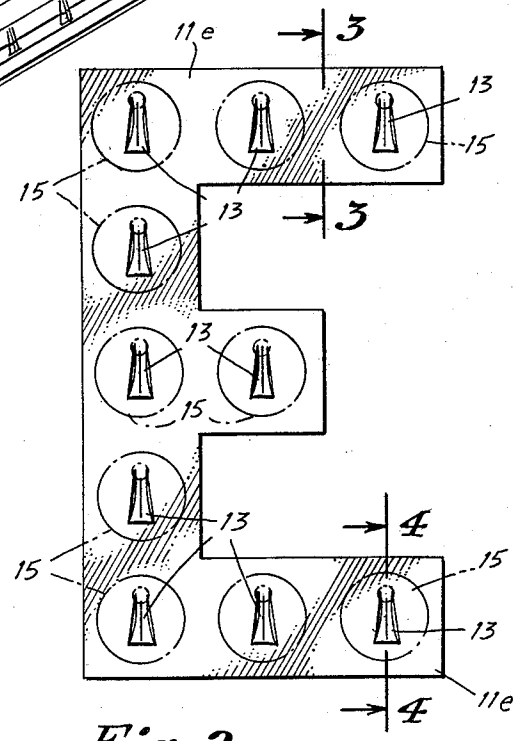


Fig. 2



Fig. 3

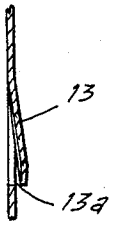


Fig. 4

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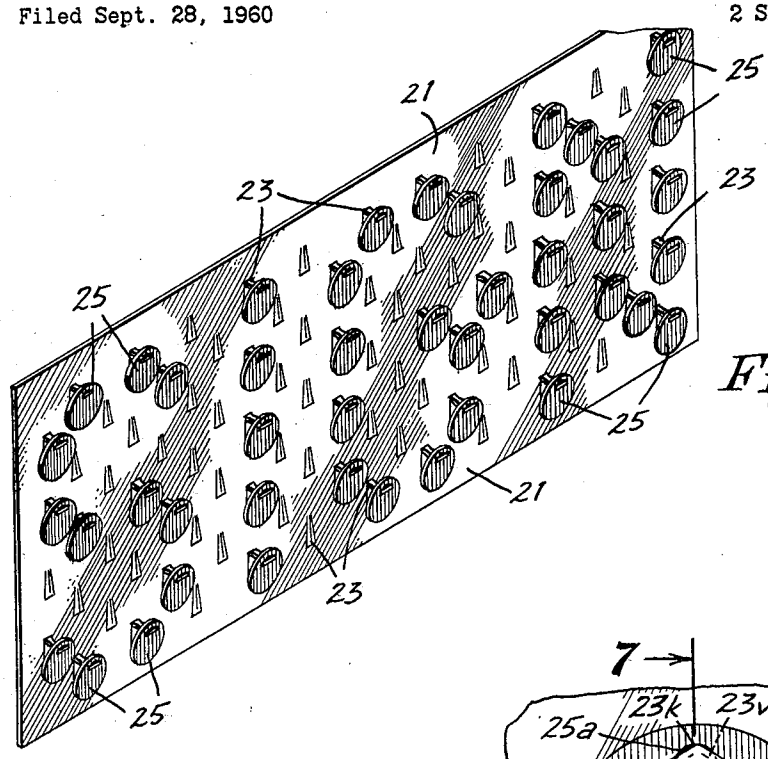


Fig. 5

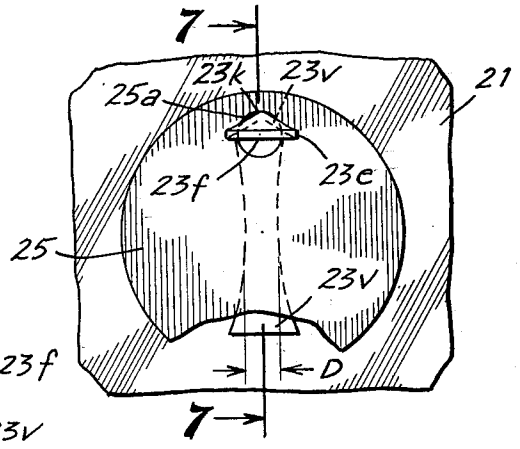


Fig. 6

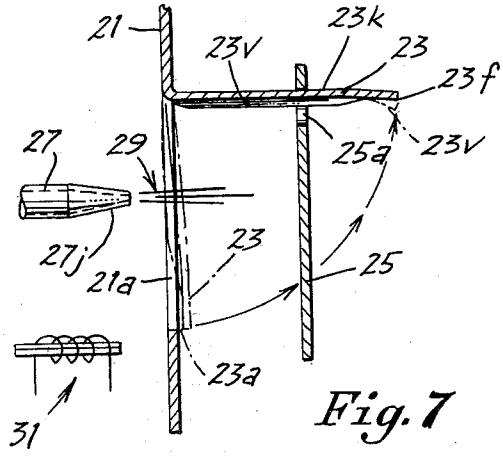


Fig. 7

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United States Patent Office 3,135,381 Patented June 2, 1964

3,135,381

MOBILE TYPE SIGN

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8 Claims. (Cl. 206—59)

This invention pertains to a mobile type sign and method of making same.

More particularly the invention pertains to a mobile type sign and its method of fabrication in which a sheet of deformable material (such as a rolled aluminum alloy (for example) is passed between roller dies that cut therein rows and columns of base-attached tongues that can be selectively bent out from the plane of the sheet to serve as posts or pins for loosely supporting thereon eccentrically apertured discs or sequins movable by air currents, vibration of the sheet, magnetic forces, etc., to produce a sign having attention-attracting, novelly interesting and/or aesthetically appealing oscillatory movement in the message conveying portions thereof, said sheet being easily cuttable (as by tinners' shears) into figures or letters.

It is accordingly an object of this invention to provide in rolls or flat packing forms, sheet material having rows and columns of die cut tongues selectively bendable away from the surface of said sheet material for holding spaced therefrom oscillatory discs or sequins for producing mobile element signs.

It is another object to provide such a sign base in which the sheet material is of sufficiently soft character for easy cutting into figures, letters, etc.

It is a further object to provide a sign base of the herein disclosed type in which the base attached tongues have expanded tips longitudinally crimped into dimensions permitting easy placement of apertured sequins thereon, said tips when flattened to their original shape being wide enough to prevent displacement of the sequins therefrom.

It is a still further object to provide such a structure in which the tongues are medially narrowed and are of inverted V-shape in cross section whereby the sequins supported thereon are thereby held properly spaced from the sign base and are also freely swingable on the knife edge type support thereby produced.

Other and further objects of the invention will become apparent from a reading of the following specification taken in conjunction with the drawings, in which:

FIGURE 1 is a perspective view of a preferred embodiment of the invention,

FIGURE 2 is an enlarged plan view of a piece of the sheet material of FIGURE 1 cut into the shape of the letter E,

FIGURE 3 is an enlarged fragmentary side elevational view in section taken on the line 3—3 of FIGURE 2,

FIGURE 4 is an enlarged side elevational view in section taken on the line 4—4 of FIGURE 2,

FIGURE 5 is a front elevational view of a sign made on a single sheet of base material having a staggered arrangement of the bendable tongues,

FIGURE 6 is an enlarged fragmentary front elevational view of one of the base supported sequins of FIGURE 5, and

FIGURE 7 is a side elevation of the showing of FIGURE 6 in section taken on the line 7—7 of FIGURE 6.

With reference now to FIGS. 1–4 of the drawings, the number **11** designates a roll of sheet material embodying a preferred form of the invention. Sheet material **11** may be of any suitable substance, such as for example rolled aluminum alloy having either a plain or anodized

surface of any desired coloration. Sheet **11** has die cut therein (as by being passed between a pair of roller dies) to provide rows and columns of vertically elongated tongues **13**. Tongues **13** desirably have their attached edges at the upper ends thereof so that when said tongues are bent outwardly at substantially right angles to the sheet **11** (as hereinafter will be described in connection with the second species of the invention) the discs or sequins supported by the posts created by bending said tongues **13** outwardly from the sheet **11**, will by their natural hanging position tend to conceal the vertically elongated slots left by bending the cut tongue outwardly therefrom.

Simultaneously with cutting of the tongues **13** the same are desirably provided with a V-shaped cross section, best seen in FIG. 4 (and further described hereinafter). Said V-shaped cross section has two desirable functions, namely, (1) a rigidifying of the structure and (2) the provision of an upwardly directed knife edged type of ridge upon which the sequin or disc supported thereon may swing with very little frictional damping of the motion of the sequin.

FIGURE 2 is an enlarged front elevational view of a cut out portion of the sheet **11**, the same having been cut in the shape of the capital letter E and designated **11***e*. FIG. 2 shows the tongues **13** in their original position relative to the sheet **11***e*, and also shows the sequins in phantom in the positions they will occupy when the tongues **13** are bent outwardly about their upper extremities as a kind of hinge, and the sequins are mounted thereon by having the eccentrically located holes therein slipped over the extended ends of the tongues **13** in their post forming positions.

It should be noted in FIGS. 2 and 4 that the bending of the lower ends of the tongues **13** into the aforementioned V-shaped cross sections produces a lateral narrowing of the free ends of said tongues **13** so that the same may be passed easily through the eccentrically located holes in the sequins **15**. After the sequins are placed upon the post forming tongue **13**, the ends thereof are expanded (as will hereinafter appear) to provide retaining ears spread to dimensions greater than the supporting aperture in the sequins **15**.

The species of FIGS. 5 through 7 differs primarily from the first-described species in that the die-cut tongues **23** are arranged in staggered columns (FIG. 5) so that the same may be more closely spaced to facilitate the making of signs employing smaller letters or figures or ones having relatively sharp bends therein. It should here be noted that the posts formed by the outturned fingers are capable of being bent laterally to considerable degrees (as well as vertically away from the horizontal) to locate the sequins in desirable relative positions.

FIG. 5 illustrates the use of a sheet **21** as the base of the sign in which the letters are formed by sequins **25** hung on selectively outturned and properly bent post forming tongues **23**. Sheet **21** may be anodized or otherwise treated to provide a surface of any desired coloration, while the sequins **25** desirably will have a contrasting color for obvious reasons. In this species of the invention sheet **21** can have greater rigidity than the rolled up material of the previously described species. Sheet **21** may be packed flat in a package containing a plurality of sheets **21** since the slight elevation of the tongues **23** produced by the dieing operation will not produce an objectionable spacing between adjacent sheets, and moreover, with careful packaging the tongues of one sheet can be nested within the depressions formed by the out-striking of the tongues of the sheet superimposed thereon.

FIGS. 6 and 7 illustrate the manner in which the sequins **25** are supported from the post forming outturned tongues **23**. To raise a post forming tongue **23**

(FIG. 7) away from the plane of the sheet **21** a pointed instrument may be inserted in the open end of the slightly exposed V-shaped notch at **23***a* to thus engage under the end of a tongue **23**, which can then be easily grasped by the fingers (or a fingernail or pair of pliers) and bent into the desired post forming position. When the desired number of fingers **23** has been bent outwardly from the sheet **21** to form the intended sign pattern, the sequins **25** are hung onto said posts **23** through the eccentrically disposed holes **25***a* in the sequins **25**. The posts **23** pass easily through the holes **25***a* because the free ends of the posts **23** have the V-shape shown in FIGS. 6 and 7 to give the tip end of the posts **23** the hole-penetrating dimensions indicated by arrows D in FIG. 6. The said V-shaped cross section extends for the major portion of the length of the posts **23** terminating just short of the base portions thereof to permit easy bending of the tongues from the sheet **21**, and provides the knife edge support indicated at **23***k* for the sequin **25**. After the sequin **25** is placed on the post **23** the extreme outer end thereof is flattened as indicated at **23***f* to provide the sequin retaining ears **23***e* which expand the said flattened end **23***f* to a dimension slightly greater than the diameter of the sequin aperture **25***a*.

FIG. 7 also discloses an arrangement for adding to the mobility or agitation of the sequins **25** when the sign is not being subjected to vibratory forces or ambient air currents. By way of illustration, a plurality of small bendable tubes **27** having jet forming constricted ends **27***j* may be fixably located behind the sign panel **21** so as to direct jet type air streams indicated by the arrows **29** through the tongue-shaped apertures **21** to produce movements of the sequins **25** as desired. The sign may be entirely covered with sequins and by the use of a system of jets connected to define various patterns, different messages or effects can be produced by alternatively directing air into the several sets of interconnected jets.

FIG. 7 also illustrates a simultaneously or alternatively usable magnetic device for varying the mobility of the sequins **25**. For this purpose each sequin **25** is made of a permanently magnetized material. An electromagnet, schematically illustrated at **31**, is mounted behind the plate **21** with one of its poles positioned to attract and repel the lower polarized end of the sequin **25** when a relatively low frequency alternating current is applied to the schematically illustrated solenoid energizing the electromagnet **31**.

While but one form of the invention has been shown and described herein, it will be readily apparent to those skilled in the art that many minor modifications may be made without departing from the spirit of the invention or the scope of the appended claims.

What is claimed is:

1. Base structure for signs of the type employing a plurality of eccentrically apertured mobile sequins arranged in a preconceived pattern, comprising: a sheet of deformable material die cut and shaped to provide

a multiplicity of unidirectionally oriented elongated tongues arranged in relatively closely spaced regular rows and columns, said tongues each remaining attached at one end thereof to said sheet to define a bendable hinge-like connection, at least a portion of each tongue including the free end thereof, being bent transversely to decrease the lateral overall dimension thereof sufficiently to permit and facilitate placement thereon of an eccentrically apertured sequin for hanging of the sequin on said tongue when bent outwardly away from said sheet, the free end of said tongue having a width, when subsequently flattened, greater than the diameter of the aperture in the sequin supported on said tongue for preventing displacement of the latter therefrom, said tongues lying substantially parallel to the surfaces of said sheet, whereby said sheet can be space-savingly and self-protectingly packed for shipping and storage.

2. Structure according to claim 1, said tongue having their mid portions narrowed to provide freer swinging of sequins thereon and to tend to maintain said sequins supported medially thereof.

3. Structure according to claim 2, the transverse curvature of said tongues providing knife edge-type support for said sequins.

4. Structure according to claim 1, the transverse curvature of said tongues providing knife edge-type support for said sequins.

5. Structure according to claim 1, the transverse curvature at the free ends of said tongues providing small arched openings in said sheet for inserting therein of a pointed tool for initiating the bending of said tongues away from said sheet.

6. Structure according to claim 1, said tongues being in staggered arrangement for closed spacing without weakening of said sheet.

7. Structure according to claim 1, said sheet being of relatively soft material to facilitate cutting thereof into configurations defining sign elements as desired.

8. Structure according to claim 1, said sheet being in roll form.

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