June 5, 1973 W. A. HEINDL, JR 3,737,364

MASKS FOR SLIDE TRANSPARENCIES

Filed Sept. 15, 1971

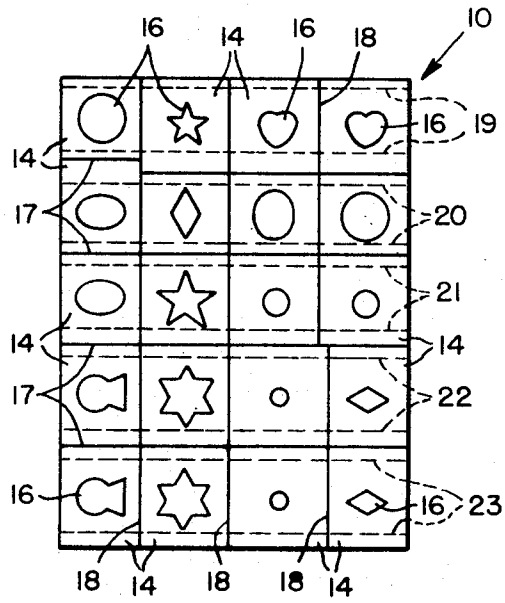


FIG. 1

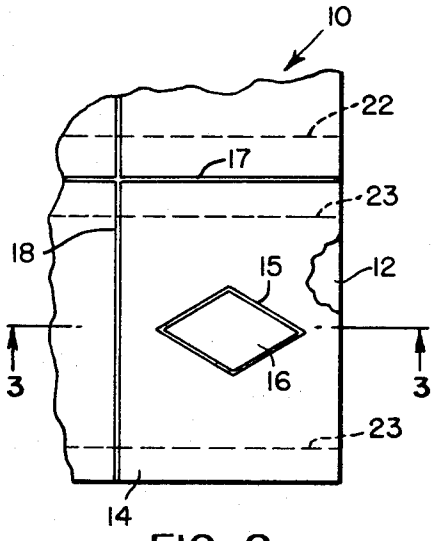


FIG. 2

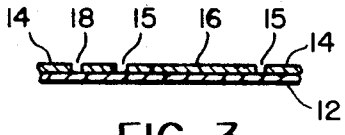


FIG. 3

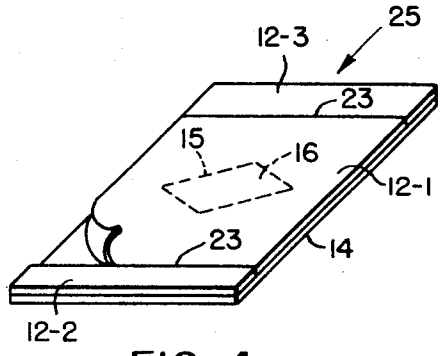


FIG. 4

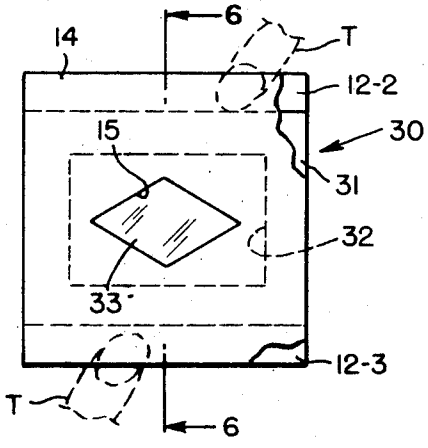


FIG. 5

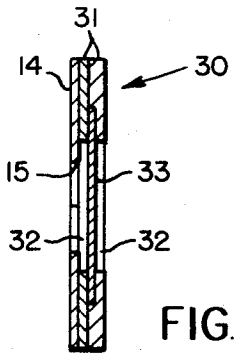


FIG. 6

INVENTOR.
WILLIAM A. HEINDL, JR.

BY

Schlesinger, Fitzsimmons & Schlesinger

ATTORNEYS

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MASKS FOR SLIDE TRANSPARENCIES

William A. Heindl, Jr., 171 Ralmerston Road, Rochester, N.Y. 14618

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U.S. Cl. 161—36 6 claims

ABSTRACT OF THE DISCLOSURE

A plurality of foil masks have pressure-sensitive adhesive surfaces releasably secured to a cardboard backing to hold the masks in intersecting rows and columns on the backing. Each mask has a central opening surrounding a similarly shaped-foil cut-out, which is removed from the opening when the mask is applied to a slide. The backing is cut along spaced pairs of parallel score lines that divide the backing into separate strips extending parallel to the rows of masks. The openings in each row of masks register with a backing strip formed between one of the pairs of score lines; and the spaces between adjacent rows of masks register with the backing strips located between adjacent pairs of score lines, so that adjacent rows of masks overlap the same backing strip. When a mask is severed from the blank, its backing layer is formed in three separate strips which are peelable selectively from the mask to ease the mounting of the mask on a slide.

This invention relates to photography, and more particularly to adhesive-backed masks for blocking photographic transparencies, and the like. More particularly, this invention relates to an improvement of the masks disclosed in my co-pending U.S. patent application, Ser. No. 60,245, filed Aug. 3, 1970.

Adhesive-backed masks of the type disclosed herein are used for altering the over-all shape or configuration of an image that is projected by a photographic transparency, for example, by a conventional 35 mm. slide. In my above-noted patent application, I have disclosed means for producing a plurality of such masks on a single blank or cardboard backing. The masks have differently shaped central openings, for example, circular, triangular, diamond-shaped, etc. Individual masks may be peeled from the cardboard backing, and applied to the face of a slide, so that the opening in the mask frames that portion of the slide transparency that is to be projected. The projected image will then have an outline or border corresponding to the configuration of the opening in the mask.

One of the difficulties encountered in applying such a mask to the face of a slide, is that, once the mask is peeled from the cardboard backing, the adhesive side of the mask tends to stick to the operator's fingers, thus making it difficult properly to align the opening in the mask with the photographic transparency held in the slide. Moreover, in addition to the conventional, rectangularly-shaped cardboard film holder that frequently is employed for mounting 35 mm. film frames, there are numerous plastic, metal or cardboard film holders that are designed to hold replaceable film strips. These additional holders may have, for example, hinged sections between which a strip of film is held removably; or the holder may comprise separable backing sections that are press fit together around the outside of the film strip.

When a mask is applied to one of these more complicated film holders to alter the shape of its projected image, it is desirable that the mask fit inside the holder, and that it be adhesively secured to the holder around its central (usually rectangular) opening. This requires that the mask be carefully positioned in the holder before the mating sections of the holder are reassembled. Because

of the above-noted tendency of the adhesive sections of the mask to stick to the operator's fingers, it is particularly difficult properly to align the specially shaped opening in the mask with the desired portion of the film strip in this type of holder.

It is an object of this invention, therefore, to provide an improved photographic mask, which is substantially easier to manipulate during its application to a film slide.

Another object of this invention is to provide a novel mask of the type described having a cardboard backing, or the like, which comprises a plurality of separate sections, one or more of which can be removed selectively from the adhesive side of the mask, prior to its application to a slide, better to enable the proper alignment of the mask with the slide.

Still another object of this invention is to provide a novel blank having thereon a plurality of adhesively backed masks, which may be severed from the blank one at a time and applied rapidly and accurately to the face of a photographic slide, or the like.

Other objects of the invention will be apparent hereinafter from the specification and from the recital of the appended claims, particularly when read in conjunction with the accompanying drawing.

In the drawing:

FIG. 1 is a plan view of a plurality of adhesively-backed masks that are removably mounted on the face of a flexible backing sheet to form a multiple-mask blank made in accordance with one embodiment of this invention;

FIG. 2 is an enlarged, fragmentary plan view of the lower right-hand corner of the blank shown in FIG. 1;

FIG. 3 is a still further enlarged fragmentary sectional view taken along the line **3—3** in FIG. 2 looking in the direction of the arrows;

FIG. 4 is a perspective view looking at the bottom of a single mask and a registering portion of the backing sheet that has been severed from the blank shown in FIG. 1, and illustrating how part of this backing may be removed from the mask;

FIG. 5 is a fragmentary front elevational view of this mask with the central portion of its backing removed, and illustrating one manner in which the mask is adapted to be applied to a slide; and

FIG. 6 is a sectional view taken along the line **6—6** in FIG. 5 looking in the direction of the arrows, and illustrating the mask as it looks when it is finally applied to the slide.

Referring now to the drawing by numerals of reference, **10** denotes a flexible blank comprising a plurality of rectangular foil masks **14**, which are removably secured to the face of a large, rectangular backing sheet **12** (FIGS. 2 and 3) of heavy paper, cardboard, or the like. Each mask **14** has therethrough a specially shaped central opening **15** (FIGS. 2 to 6), which may be of any desired configuration—e.g., circular, oval, diamond-shaped, etc. Also removably secured to the face of sheet **12** within each opening **15**, and with its marginal edges equally spaced from the surrounding edges of the associated opening **15**, is a foil cut-out **16**, the configuration of which is similar to that of the surrounding opening **15**.

The masks **14** may be prepared by applying a large, rectangular, adhesively-backed layer of metal foil to the face of backing sheet **12**. The foil layer is then die cut with specially shaped dies, which cut through the foil around each cut-out **16**, and along intersecting score lines **17** and **18** (FIGS. 1 to 3), which divide the layer of foil into a plurality of separate, rectangular masks **14** that are arranged on sheet **12** substantially in horizontal rows, and vertical columns. This die cutting operation cuts only through the layer of foil and not through the backing layer **12**.

By separate cutting means layer **12** is also severed between its side edges along a plurality of successive pairs of spaced score lines **19**, **20**, **21**, **22** and **23** (FIG. 1), which extend parallel to, and are offset from, the foil score lines **17**. The operation that produces the score lines **19** to **23** cuts only through the backing sheet **12**, and not through the registering portions of the foil layer. The score lines **19** to **23** sever the backing sheet **12** into a plurality of separate, parallel backing strips, which extend continuously between opposite side edges of blank **10** at right angles to the foil score lines **18**.

From an examination of FIG. 1, it will be noted that the cut-outs **16** of each horizontal row of masks **14** register with the space between one of the pairs of score lines **19**, **20**, **21**, **22** or **23** in the backing sheet **12**; and that the upper and lower edges of each mask **14** overlap alternate strips of the backing **12** that are formed by the score lines **19** to **23**. The result is that each mask **14** on the blank **10** registers with at least parts of three different strips of the backing **12**. This is true even though the die cutting operation of the foil layer causes certain portions of the score lines **17** and **18**, respectively, to be offset slightly from one another to produce differently sized masks **14**.

In use, the desired mask **14** is removed from the blank **10** by cutting, as for example with a scissors or the like, through the backing sheet **12** along the boundary line of the mask as defined by its foil score lines **17** and **18**. For example, the mask **14** in the lower right-hand corner of the blank **10** as shown in FIGS. 1 and 2 may be removed from the blank by cutting along the score lines **17** and **18** as illustrated in FIG. 2, thereby producing a single-mask blank that is denoted generally at **25** in FIG. 4. Blank **25** will then comprise a single foil mask **14** having three separate backing strips, which for purposes of description are denoted in FIG. 4 as **12–1**, **12–2** and **12–3**. These strips are separated by the backing score lines **23**, and are releasably attached to the adhesive backing on the associated mask **14**.

To apply the mask **14** of the blank **25** to the face of a photographic slide **30** (FIGS. 5 and 6), the central backing strip **12–1**, which registers with the opening **15** in the mask, may be peeled manually from the adhesive surface of the mask **14**, at the same time causing the associated cut-out **16** also to be removed. This leaves the strips **12–2** and **12–3** on the blank **14** to be gripped, for example, between the thumbs T (broken lines in FIG. 5) and forefingers of the operator, so that the mask can be held up against the face of the slide **30** to enable the operator to view through the opening **15** in the mask the image on the slide film strip **33**. Strip **33** is secured in the usual manner around its marginal edges between registering sections **31** of the slide transversely of the slide apertures **32** in sections **31**.

At this time the strips **12–2** and **12–3** prevent the operator's fingers from coming into contact with the portion of the adhesive on the back of the blank **14** that was exposed by the removal of the strip **12–1**. The operator is thus able to shift the mask **14** readily relative to the slide **30** until the operator has decided upon the most desirable location of the opening **15** relative to the image on the film strip **33**. When this has been determined, the operator may then press the exposed portions of the adhesive backing on the mask **14** against the registering portion of the confronting section **31** of the slide to secure the mask **14** in place on the slide. Thereafter the remaining strips **12–2** and **12–3** can be removed to enable the remaining portion of the adhesive surface on the mask to be pressed against the upper and lower marginal edges of the slide as shown in FIG. 6. If any excess portions of the mask **14** project beyond the marginal edges of the slide, these portions can be trimmed away with a razor blade, knife, scissors or the like.

In a manner that will be apparent from the above description, other masks **14** may be severed from the blank **10**, as needed, and applied to other slides of the type illustrated in FIGS. 5 and 6, or to more complicated slides of the type noted above that are designed to hold replaceable film strips. In the case of these more complicated film holders, the novel blank **25** is particularly advantageous, since it enables the operator to remove, for example, a single strip **12–2** or **12–3** along one edge of the blank to expose a narrow strip of the adhesive backing on the registering mask **14**. This narrow, exposed portion of the adhesive surface may then be secured to the film mount or holder along one of the edges of the film aperture or opening in the holder, thus properly to position the mask relative to the opening before the remaining strips **12–1** and **12–3** are removed from the mask.

From the foregoing it will be apparent that the instant invention provides relatively simple and inexpensive means for improving the suitability of masks of the type described for application to numerous varieties of film holders or slides. The backing of each mask **14** of a blank **25** is divided into three separate sections, at least one of which, the middle section, is slightly larger than the registering opening **15** of the associated mask, so that when the center section is removed prior to the application of the mask to a slide, the entire opening **15** will be unobstructed by the backing, so that the operator can view the entire image that will be projected through the opening **15**. When the masks **14** are produced in quantities in the form of a blank **10**, the space between each pair of score lines **19**, **20**, **21**, **22** or **23** need only be slightly greater than the maximum vertical dimension (FIG. 1) of the registering horizontal row of cut-outs **16**, and less than the over-all vertical dimension of the smallest of the associated masks **14**, so that none of the openings **15** or score lines **17** register with any of the score lines **19** to **23**. This enables the numerous backing strips that are formed by the score lines **19** to **23** to hold the several masks **14** in blank form (**10**) until such time as one of the masks is to be applied to a slide.

If desired, the blank **10** of FIG. 1 can be cut along lines **17** and **18** to form a number of independent, single-mask blanks of the type denoted at **25** in FIG. 4, which can then be applied to a slide, when desired, as described above. Moreover, although the score lines **19** to **23** have been cut parallel to lines **17** in the illustrated embodiment, it will be apparent that these cuts could be made parallel instead to lines **18**.

Having thus described my invention, what I claim is:

1. A flexible blank of masks for photographic transparencies, comprising

a flexible backing layer having therethrough a plurality of pairs of spaced score lines, and

a plurality of flexible masks having adhesive sides releasably secured to the face of said layer removably to secure said masks in spaced relation to each other on said layer,

each of said masks having therethrough a central opening and being positioned on said layer with its central opening registering with the space between a pair of said score lines, and with opposed, marginal portions thereof overlapping said pair of score lines.

2. A flexible blank as defined in claim **1**, wherein

said pairs of score lines extend parallel to one another between opposed side edges of said layer operatively to divide said layer into a plurality of separate backing strips, and

said masks are arrayed on said layer in spaced rows extending parallel to said score lines, with the openings in the masks in each row thereof registering with the backing strip formed between one of said pairs of said score lines.

3. A flexible blank as defined in claim **2**, wherein the spaces between successive rows of said masks register with the backing strips formed between successive pairs of said score lines, whereby the masks of adjacent rows overlap the same backing strip.

4. A flexible blank having thereon a plurality of spaced

slide masks severable from one another by cutting through the blank around the marginal edge of a mask, comprising

a flexible backing layer,

a plurality of flexible masks releasably secured in spaced parallel rows on the face of said layer, each of said masks having therethrough a central opening, and having a pressure-sensitive adhesive on one side thereof releasably attached to the face of said layer to secure the masks thereon,

said backing layer having therethrough a plurality of pairs of spaced, parallel score lines, which divide said layer into a plurality of backing strips that extend parallel to said rows, and

said pairs of score lines being disposed so that the masks of each row have their central openings registering with a first backing strip that is formed between one of said pairs of score lines, and have portions thereof at opposite sides of their central openings overlapping the two backing strips immediately adjacent said first backing strip.

5. A flexible blank as defined in claim **4**, wherein

said masks are arrayed in intersecting rows and columns on said layer, with the spaces between said rows extending parallel to each other, and with the spaces between said columns extending parallel to one another and transverse to said spaces between said rows, and

the spaces between adjacent rows of said masks register with the strips formed between adjacent pairs of said score lines, whereby when a mask is severed from said blank by cutting through the blank in the spaces between the last-named mask and the masks adjacent thereto, the registering portion of the backing layer on the last-named mask will comprise three separate strips.

6. A flexible blank having thereon a removable mask for use in masking slide transparencies of the type in which a film strip is secured across an aperture in each slide, comprising

a flexible backing layer, and

a flexible mask having therethrough a central opening, and having on one side thereof a pressure-sensitive adhesive releasably secured to the face of said backing layer releasably to secure said mask on said layer,

said backing layer having therethrough two, spaced, parallel score lines operatively dividing said layer into three, separate strips peelable manually from said mask, and

one of said strips registering with said opening in said mask and having a width greater than the maximum dimension of said opening measured in a direction transverse to said one strip whereby said one strip overlaps marginal portions of said mask around said opening.

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GEORGE F. LESMES, Primary Examiner

J. J. BELL, Assistant Examiner

U.S. Cl. X.R.

161—113, 149, 167, 406