Dec. 13, 1966 W. L. GARLICK 3,290,990

MULTIPRINT EASEL

Filed March 2, 1966 2 Sheets-Sheet 1

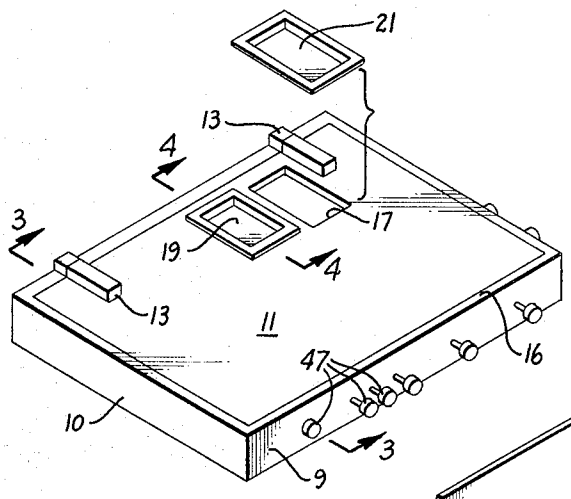


FIG. 1.

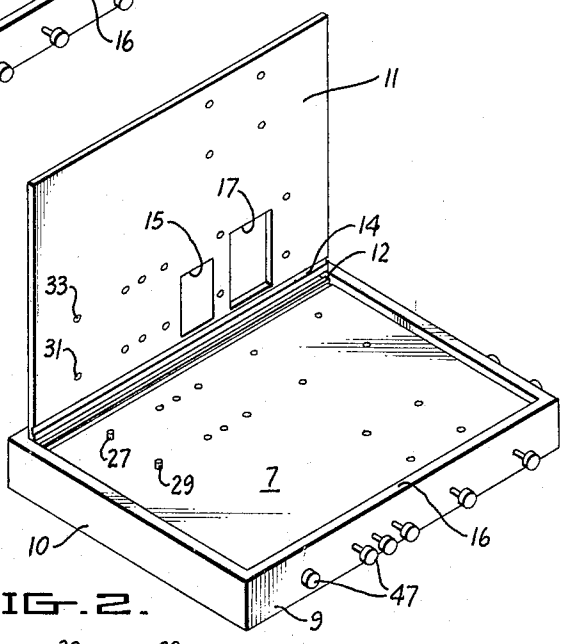


FIG. 2.

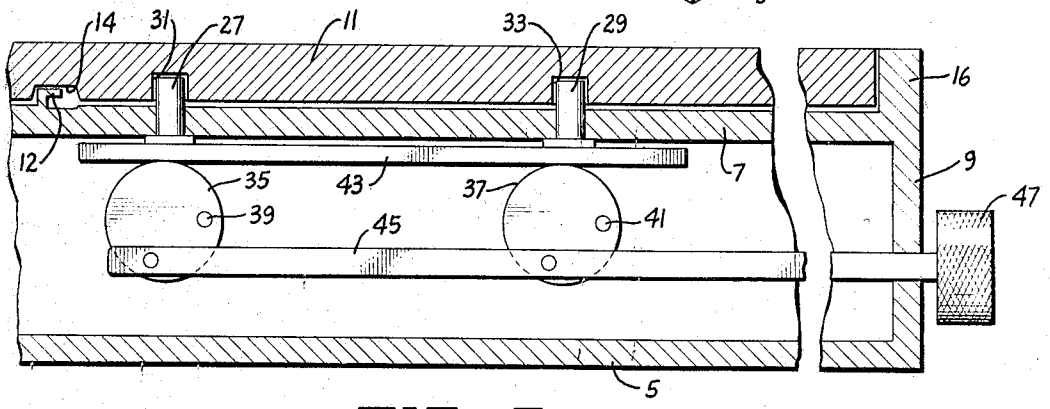


FIG. 3.

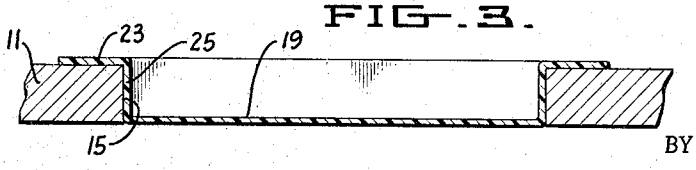


FIG. 4.

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MULTIPRINT EASEL

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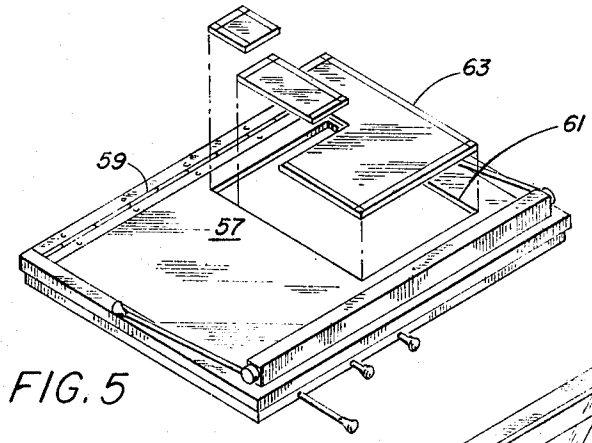


FIG. 5

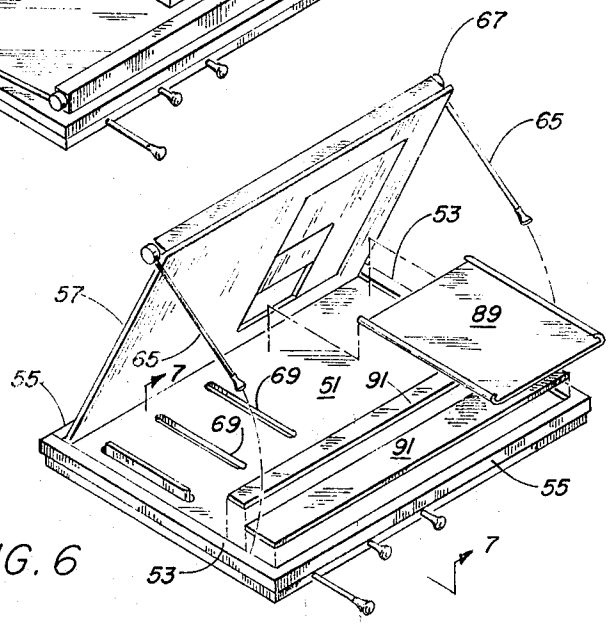


FIG. 6

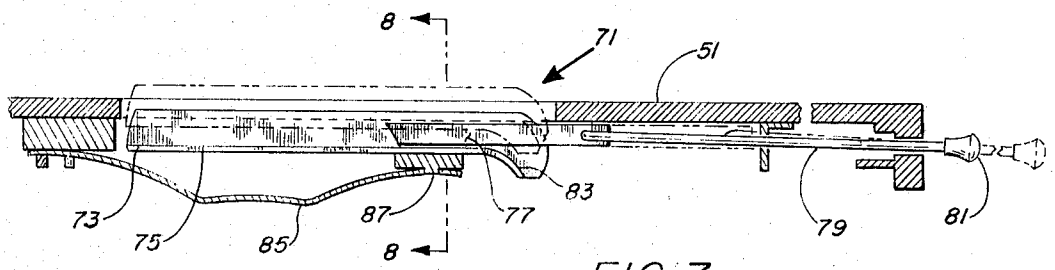


FIG. 7

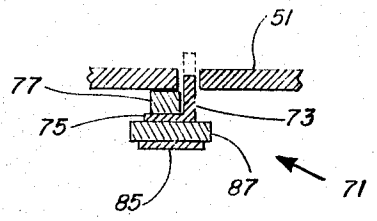


FIG. 8

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MULTIPRINT EASEL

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2 Claims. (Cl. 88—24)

This application is a continuation-in-part of my application Serial No. 379,860, filed July 2, 1964.

This invention relates to a photographic easel and more particularly relates to an easel wherein a plurality of relatively small prints can be made on a relatively large sheet of paper.

In making photographic prints, it is frequently desirable to provide means for making a plurality of small prints on a large sheet of paper. Automatic and semi-automatic developing and/or washing devices frequently take only a single size of paper or will take only a certain number of sheets regardless of the size of the paper. Further, it is frequently less expensive to buy a given area of photographic printing paper in large sized sheets than in small sized sheets; this is particularly important when expensive paper for colored printing is being utilized.

In accordance with the present invention, an easel is provided having one or more openings therein which are substantially smaller than the ultimate paper size which can be accommodated by the easel, and it is also provided with one or more paper stops which can be raised or lowered so that the paper can be positioned very accurately in a plurality of positions. The device of the present invention is also provided with covers for the openings so that only the one desired opening will be exposed at a time or so that all of the openings can be closed in the event it is desired to perform some manipulation under bright light.

In accordance with the present invention, a photographic easel can be made in various sizes so that, for instance, various combinations of 5 x 7, 3½ x 5 and 2½ x 3½ inch pictures could be made utilizing larger sheets such as 11 x 14 or 16 x 20. The device of the present invention is completely light-tight except for the opening through which the print is being made and, as has been pointed out above, by inserting covers on all of the openings, the device is completely light-tight. The device of the present invention is adapted to produce prints with a ⅛" white border and extremely small error tolerance.

The stops for the paper are raised and lowered through openings in the top member of the device so that the paper is held tightly in place. The stops themselves can be made of any convenient material, but are preferably made of an inert plastic such as epoxy, nylon (polyester) or Mylar (polyethylene terephthalate).

In the drawings forming a part of this application:

FIGURE 1 is a perspective view of an easel embodying one form of my invention.

FIGURE 2 is a view similar to FIGURE 1 showing the masking cover in the open position.

FIGURE 3 is an enlarged sectional view on the line 3—3 of FIGURE 1.

FIGURE 4 is an enlarged sectional view on the line 4—4 of FIGURE 1.

FIGURE 5 is a perspective view of another embodiment of my invention.

FIGURE 6 is a view of the device shown in FIGURE 5 in open position.

FIGURE 7 is an enlarged section on the line 7—7 of FIGURE 6.

FIGURE 8 is a section on the line 8—8 of FIGURE 7.

Turning now to a description of FIGURES 1–4 of the drawings by reference characters, the easel of the present invention includes a bottom 5 and a top 7 held together by side members as at 9 and end members 10, forming a generally box-like structure. A mask 11 is

hinged by means of the hinges 13 to the top so that the mask can be opened or closed as is shown in FIGURES 1 and 2. A raised paper guide 12 is placed near one edge of the top 7. The masking cover 11 has a groove 14 so that the guide does not prevent the masking cover from fitting tight against the top 7 to grip paper therebetween. A raised edge 16 on top 7 also serves to locate the paper and render the device light-tight. Preferably, the hinges 13 are of the spring-loaded type so that the mask will stay in any position in which it is placed. The mask 11 is provided with one or more masking openings such as the openings 15 and 17 which, in this instance, are shown as two different sizes. It is obvious, of course, that various sized openings might be utilized. The openings 15 and 17 are provided with cover members 19 and 21, cover 19 being shown in place in FIGURE 1 and cover 21 being shown in exploded position in FIGURE 1.

Referring now specifically to FIGURE 4, the cover members are preferably provided with an overhanging lip 23 to make them absolutely light-tight and are also provided with a friction fit so that they will not fall out when the mask is raised. Thus, the cover 19 with the overhanging lip 23 thereon is formed on the shoulder 25, giving a friction fit with the cover 11. Further, these covers are made of a very thin white plastic so that they lie substantially on the same plane as the underlying paper, and thus can be used for focusing. Partial covers can also be provided for changing the size of the opening.

A plurality of locating pins such as those designated 27 and 29 extend upwardly through apertures in the top and fit into mating recesses in the cover as at 31 and 33. These pins may be employed singly or in pairs. Various means can be used to raise and lower the pins, it being understood that the specific means shown in the drawings are for purposes of illustration only. This means comprises a pair of eccentrics 35 and 37 which can rotate on shafts 39 and 41 and bear against an arm 43 on which the bottom ends of the pins 27 and 29 rest. The eccentrics 35 and 37 are connected together by means of a push rod 45 leading to a knob 47. Thus, as the knob 47 is pushed in, as is shown in FIGURE 3, the pins 27 and 29 are raised and protrude upwardly through the top, while if the knob was retracted the pins would be lowered and would not extend beyond the top of the cover. Normally one knob is used to control each pin or pair of pins.

Referring now to FIGURES 5 through 8, a preferred embodiment of the device is shown wherein the easel includes an easel surface 51 provided with end members 53 and front and back members 55 with a light-tight cover 57 hinged thereto by means of a hinge 59. Cover 57 has one or more openings 61 therein provided with covers 63 as previously described. In this preferred embodiment, the cover member also preferably has legs 65 pivoted on the rod 57 to hold the cover in a convenient open position while paper is being inserted or withdrawn from the easel. Instead of the locating pins previously described, in this preferred embodiment of the invention, a plurality of bars are used as paper locating means. Thus, the easel member 51 is provided with a plurality of slots 69 through which the paper locating bars can be selectively raised. No mating openings are provided in the top 57 and spring action merely presses the bars flush with the top. These bars and the associated actuating equipment are shown in FIGURES 7 and 8. The bars, generally designated 71 are of L-shape, having an upright portion 73 adapted to move freely in one of the slots 69 and a rib 75 which is adapted to be acted upon by the slider 77 which in turn is actuated by rod 79 having a suitable knob 81 thereon. The front of the rib 75 is curved downwardly as at 83 to provide a camming surface for lowering the bar. The bar 71 is normally urged upwardly by means of a leaf spring 85 with a pad 87

thereon pressing against the bottom of the bar. Thus, as the knob **81** is pulled out to the position shown in phantom in FIGURE 7, spring **85** urges the bar **71** upwardly through the slot **69**. When the cover **57** is lowered, the top of the bar will press by spring action against the cover, while when the cover is raised as is shown in FIGURE 6, the rib **75** will prevent the bar from being pushed out through the slot.

In using this embodiment of the invention, it is preferable to use a paper holder **89** obviating any possibility of the paper slipping between the top of a bar and the cover. In order to provide for the accommodation of various sizes of papers and conditions, one or more flat members **91** can be provided which are inserted under the cover to hold the paper in some desired position.

The device is used by inserting the paper, utilizing the pins or bars to locate the paper, lowering the mask and exposing through an opening of the desired size, raising the mask, lowering the paper stops and moving the paper until it touches the next proper stops reached in sequence. This process is repeated until the correct number of exposures of this size has reached the capacity of the used paper size. The paper is then reversed edge for edge and inserted and the foregoing operation repeated until all areas of the paper have been exposed.

Various changes can be made in the structure described without departing from the spirit of this invention. For instance, the device has been shown as an enlarging easel, but could easily be adapted for making contact prints. Further, eight pairs of locating pins and corresponding knobs have been shown as well as two openings in the top in one embodiment and three locating bars in another embodiment but it is obvious that the number of openings and locating stops might be altered, depending upon the job at hand. Furthermore, the paper stops as well as the knobs might be treated with glow-in-the-dark substances to aid in utilizing the device. Further, the shapes of the knobs might be altered so that various distinctive-shaped knobs might be used to actuate certain pins, enabling the correct knob to be manipulated in the dark.

Various materials of construction can be used such as wood, metal, plastic, and various combinations thereof.

Although specific eccentric and cam means have been shown, for raising and lowering the stops, other means such as wedges, levers, solenoids, and the like could be used for changing the position of the pins.

It is believed apparent from the foregoing that I have provided a simple yet highly effective enlarging easel which enables one to make multiple prints on a single sheet of paper.

I claim:

1. A multiple print easel comprising in combination:
(a) a top member;
(b) a masking cover hinged so that it can be rotated to a first position in contact with the top member and to a second position away from the top member;
(c) at least one opening in said masking cover, said opening being substantially smaller in size than the masking cover;
(d) a plurality of openings in said top member;
(e) means for raising and lowering a stop through each of the openings of said top member; and
(f) means for selectively raising said stops through said openings whereby said stops can locate a sheet of photographic paper lodged against said stop and said paper can be located against another stop to expose a different area, said stops comprising a plurality of locating pins, said pins being grouped in pairs with each pair of pins being provided with an individual control.

2. A multiple print easel comprising in combination:
(a) a top member;
(b) a masking cover hinged so that it can be rotated to a first position in contact with the top member and to a second position away from the top member;
(c) at least one opening in said masking cover, said opening being substantially smaller in size than the masking cover;
(d) a plurality of spaced elongated openings in said top member, each spaced a predetermined distance from the adjacent edge of said opening in the cover when the cover is in said first position, elongated stop means;
(e) means for raising and lowering said stop means through each of the openings of said top member; and
(f) separate means for selectively raising said stop means through said spaced openings whereby said stop means can locate a sheet of photographic paper lodged against said stop and said paper can be located against another stop to expose a different area.

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