# United States Patent [19]

**Licciardi**

[11] **3,802,102**

[45] **Apr. 9, 1974**


[54] **SPECIAL EFFECTS BOX**


[76] Inventor: **Robert P. Licciardi,** Daisan Tsukasaso Apt., 7, 1-18-2, Momoi, Suginami-ku, Tokyo, Japan



[22] Filed: **Dec. 2, 1971**

[21] Appl. No.: **203,985**

[52] **U.S. Cl.** ..... **40/132 R,** 40/106.1, 240/2 D, 240/2 AT, 355/113

[51] **Int. Cl.** ..... **G09f 13/10**

[58] **Field of Search** ..... 40/132 R, 130 R, 152.2, 40/106.1; 355/113, 88, 75, 79, 39; 240/2 D, 2 AT, 2 P; 248/466



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*Assistant Examiner*—John F. Pitrelli
*Attorney, Agent, or Firm*—Armstrong & Wegner



[57] **ABSTRACT**

A special effects box that combines the functions of several individual units, such as those of a title layout box, a contact printer, a movie titler, an animation layout box and animation table. The special effects box includes a box having an open top, a light source mounted therein, a clear filter and several color filters, and a mask. The wall of the box is provided with means for supporting said filters and the mask. The filters and the mask are substantially the same size so that they can be interchangeably used in said box.


**7 Claims, 18 Drawing Figures**

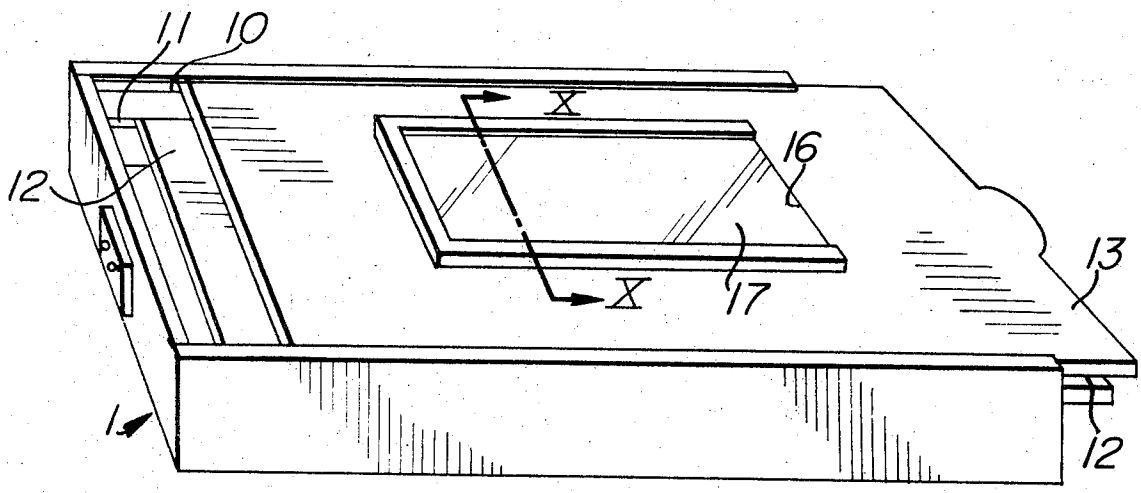


FIG. 1

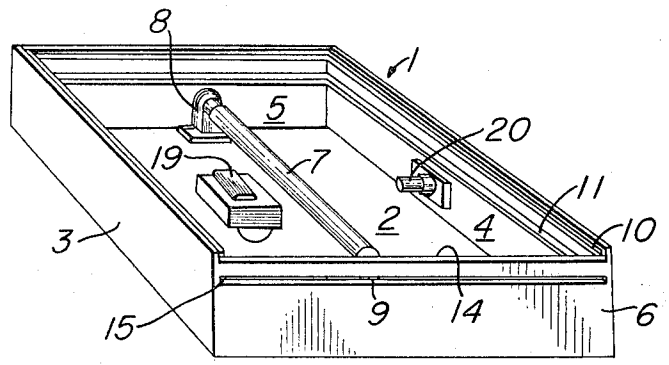



FIG. 2

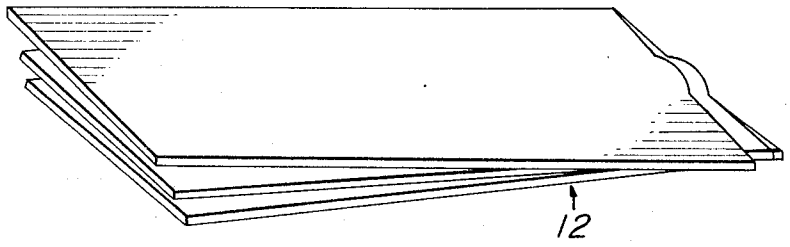



FIG. 3

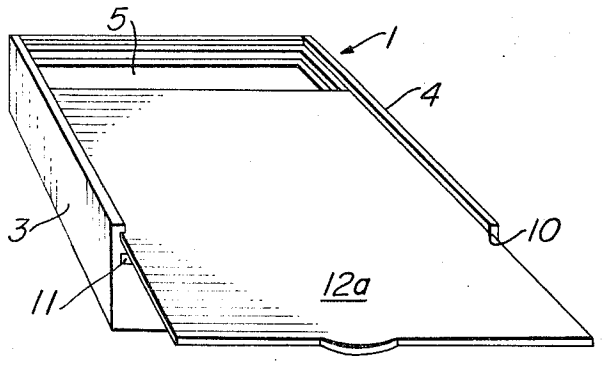


FIG. 4

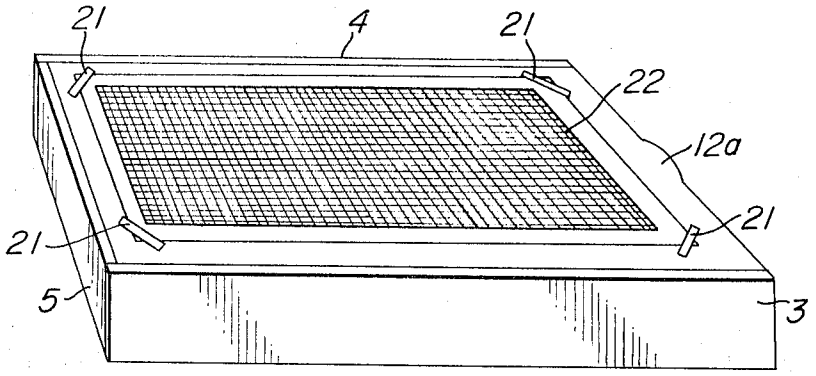



FIG. 5

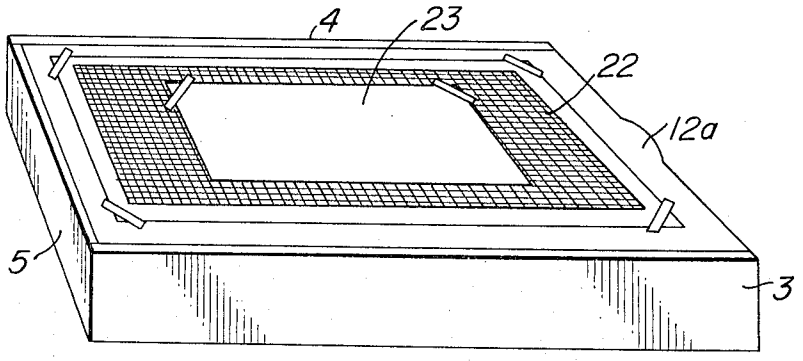



FIG. 6

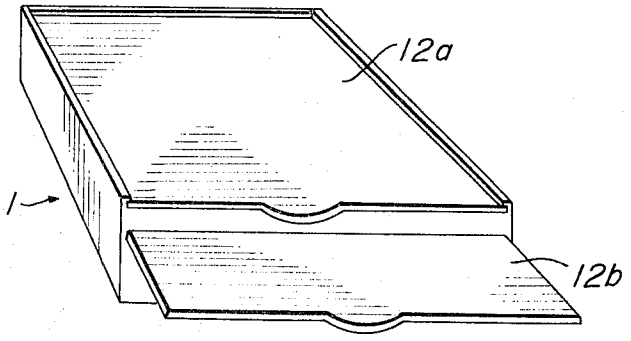


FIG. 7

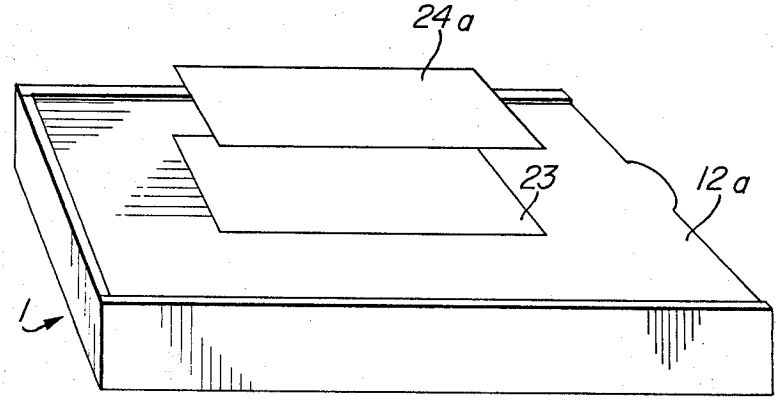



FIG. 8

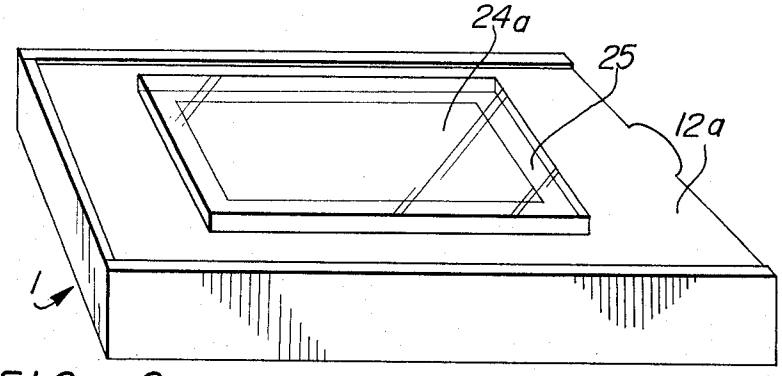



FIG. 9

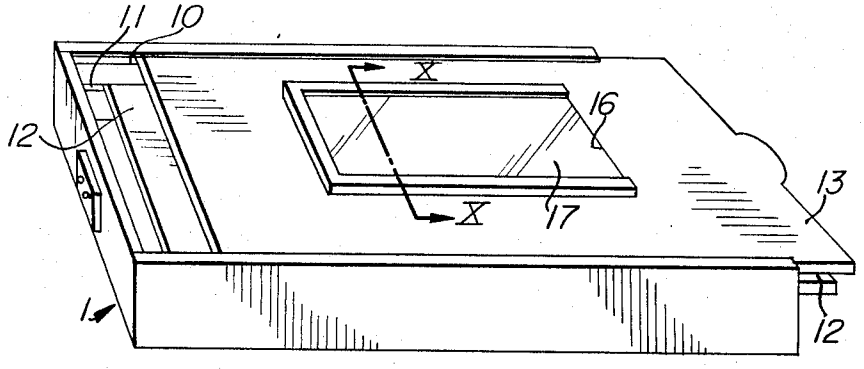


FIG. 10

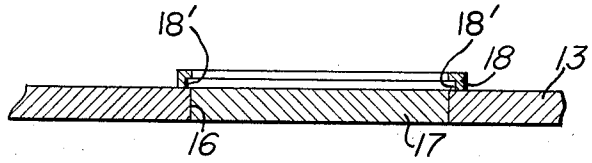



FIG. 11

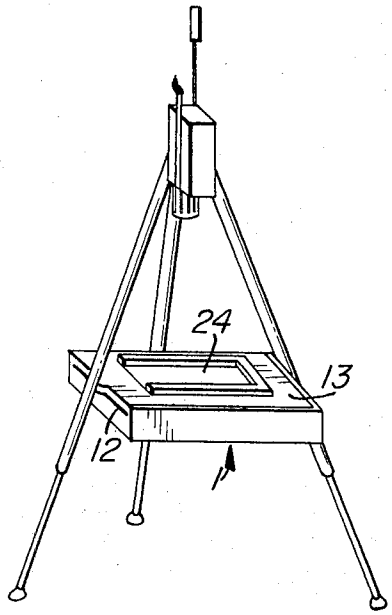



FIG. 12

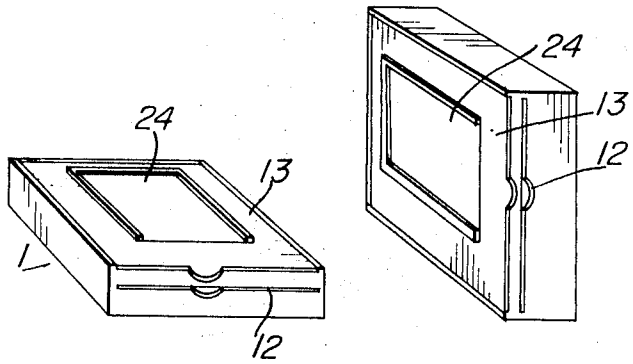


FIG. 13

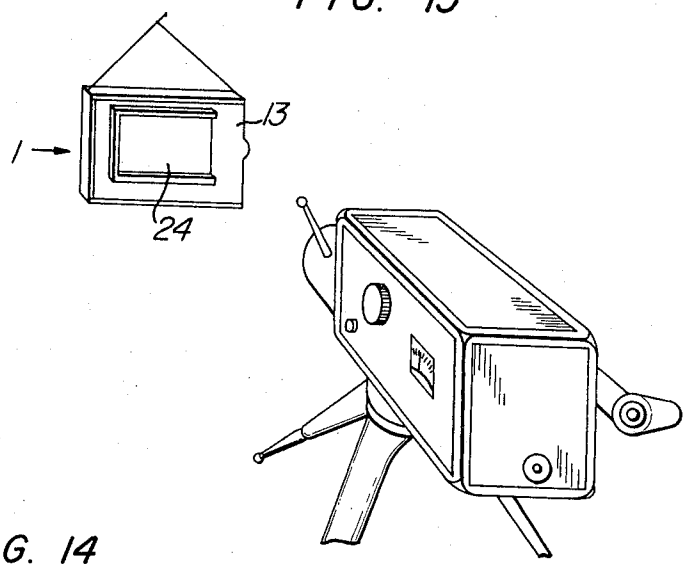



FIG. 14

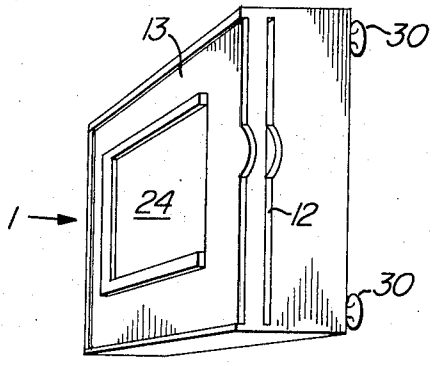



FIG. 15

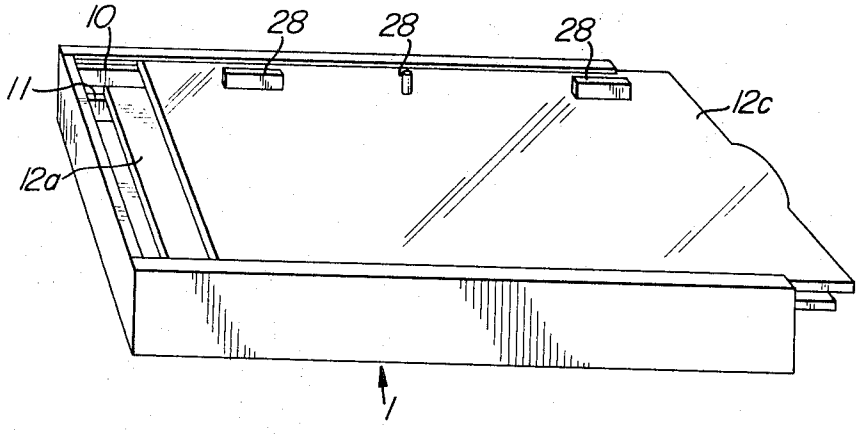


FIG. 16

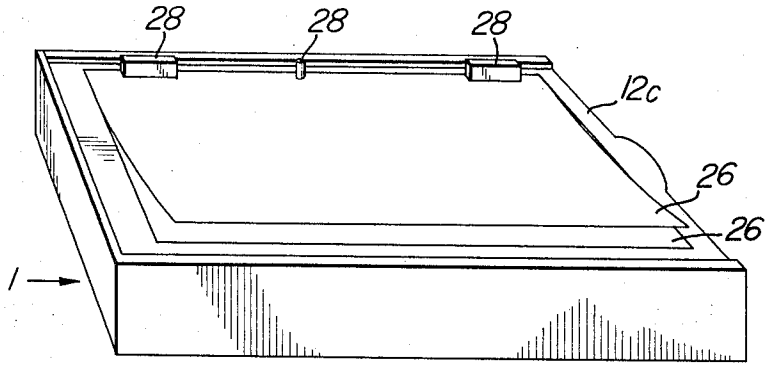



FIG. 17

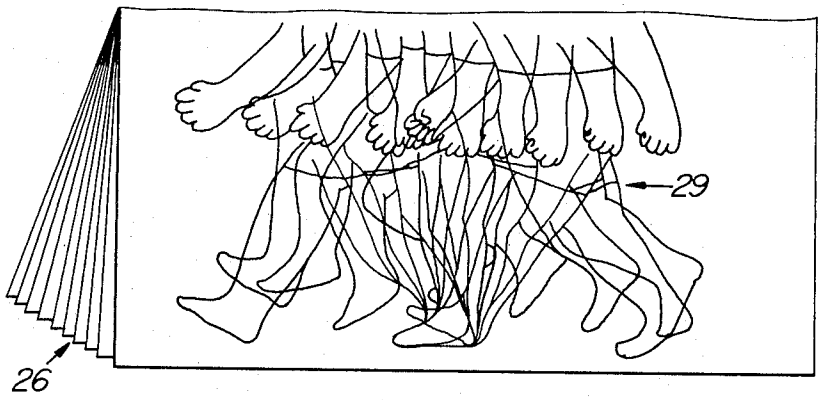
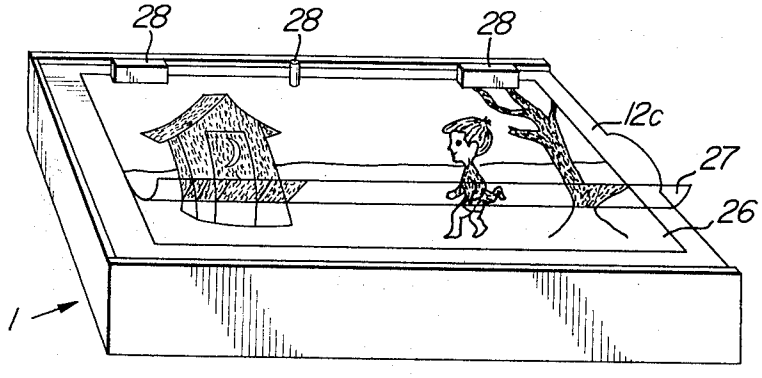



FIG 18



# SPECIAL EFFECTS BOX

## BACKGROUND OF THE INVENTION

This invention relates to a special effects box that combines the functions of several individual units, such as those of a title layout box, a contact printer, a movie titler, an animation layout box and an animation table.

Actually there are not many titlers on the market for the amateur and there are only a few varieties available to the semiprofessional. The simplest is of plastic or wooden three dimentional letters with a special adhesive backing which allows the letters to be attached to a glass, wallpaper, plastic, leather, wood or metal surface for filming. This type is usually called a Title Kit and includes several colored paper backgrounds along with the letters.

The more sophisticated titler is an extravagant apparatus which consists of a frame with a camera mount on one end and a title card mount on the other. Both the title kit and title frame can be combined in setting up a title. Some title frames can be attached to a tripod or positioned either vertically or horizontally and some have accessories such as a drum upon which letters can be mounted and then slowly turned while filming. Most of these titlers use frontal lighting equipment which means that the camera is filming light that is reflected off the title card. These lights must be carefully adjusted to eliminate any undesirable glare or reflections that occur especially when shooting animation on acetate cells. Any unnoticed glare or reflection will show up on the processed film and spoil the title.

## SUMMARY OF THE INVENTION

The object of the present invention is to provide a special effects box used as a title layout box, a contact printer, a movie titler, an animation table and the like, comprising a box having an open top, a light source mounted in said box and adapted to illuminate towards said open top of the box, one clear filter and at least one color filter, and a mask having a central cut out, the walls of said box being provided with supporting means for supporting said filters and said mask, said filters and said mask being substantially the same size so that the filters and the mask can be interchangeably inserted in said box and supported by said supporting means.

Other and additional objects and advantages will be apparent after reading the following description which refers to the accompanying drawings.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the special effects box of the present invention;

FIG. 2 is a perspective view of filters to be used in the present invention;

FIG. 3 is a perspective view of the special effects box with a white filter inserted in the box to be used for a title layout box;

FIG. 4 is a perspective view similar to FIG. 3 with a graph paper placed on the white filter to be used for a title layout box;

FIG. 5 is a perspective view similar to FIG. 4 with a blank title card placed on the graph paper to be used for a title layout box;



FIG. 6 is a perspective view of the special effects box used as a contact printer;

FIG. 7 is a perspective view of the special effects box used as a contact printer with the completed title card and film in place on the white filter;

FIG. 8 is a perspective view showing the manner of placing the transparent plate to hold the film and title card on the white filter;

FIG. 9 is a perspective view showing the present invention for use as a movie titler;

FIG. 10 is an enlarged cross-sectional view of a part of the mask taken along the line X—X of FIG. 9;

FIG. 11 is a perspective view showing one example of mounting the movie titler;

FIG. 12 is a perspective view of the box that is setting vertically and horizontally;

FIG. 13 is a perspective view of the box mounted on the wall;

FIG. 14 is a perspective view of the box fitted onto the glass window panel or mirrors by the suction cup legs;

FIG. 15 is a perspective view of the present invention used as an animation box;

FIG. 16 is a perspective view of animation box with second paper cell placed over the first paper cell;

FIG. 17 is a pictorial view of a number of paper cells having a series of characters, and

FIG. 18 is a perspective view of the animation box with an acetate cell placed over the roughly sketched paper cell.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

As shown in FIG. 1, box 1 has a bottom wall 2, side walls 3, 4 and end walls 5, 6. The top of the box 1 is left open. The material of the box 1 may be suitably selected from metal, wood, plastic or the like. On the bottom wall 2, there is mounted one or more fluorescent lamps 7 by means of a pair of connectors 8, 9 and connected to an electric power source (not shown). On the inner surface of the side walls 3, 4 and one end wall 5, there is a top groove 10 and a bottom groove 11 provided one above the other, these grooves 10, 11 being adapted to receive filters 12 and/or a mask 13 which will be described later. The other end wall 6 is provided with a slot 14 which is in alignment with the top grooves 10 so that the filter 12 or the mask 13 may be slidably inserted into and drawn out of the box 1. On the same end wall 6, another slot 15 is provided, which is in alignment with the bottom groove 11 to receive the filter 12.

As accessories to the box 1, there are filters 12 (see FIG. 2) and a black mask 13 (see FIG. 9 and 10). The filters 12 consists of a white filter 12*a*, a blue filter 12*b* and a clear plastic filter 12*c*. Other colored filters may be used in addition to these three filters 12*a*, 12*b* and 12*c* when needed. The material of the filters is not limited to plastic and other material such as glass or the like may be used. As seen in FIGS. 9 and 10, the mask 13 is made of metal or plastic material and has a central cut out portion 16 having a dimension suitable for receiving the title transparency 24. A transparent plate 17 made of acrylic resin is fitted into the central cut out portion 16. Said cut out portion 16 is surrounded along three edges thereof by frames 18 having recesses 18' to hold the edges of the transparency 24.

On the bottom wall 2 and the side wall 4, there is conventionally provided, a transformer 19 and a starter 20 respectively for the fluorescent lamp 7.

The special effects box constructed as above has several functions, and the operations of the box will be described below:

## TITLE LAYOUT BOX

To use the special effects box of the present invention to design and lay out the titles, first remove all masks 13 and filters 12 from the grooves 10, 11, and slots 14, 15. Select the white plastic filter 12*a* and insert the same into the top slot 10 of the box 1, as shown in FIG. 3. With some masking tape 21, attach a sheet of graph paper 22 to the surface of the white filter 12*a*, as shown in FIG. 4. Select one of the blank white title cards 23 and, being careful to line up the corners of the card 23 with the vertical and horizontal lines of the graph paper 22, tape the card 23 to the graph paper 22, as shown in FIG. 5. Turn on the fluorescent lamp 7 and the lines of the graph paper 22 should be visible through the blank title card 23.

The layout of the title can now conveniently proceed. The titles can be painted on the card 23 with black poster paint or the alphabet and symbol sheet available under the commercial name of "Prestype Dry Transfer Lettering" can be used. The title design is limited only by the imagination of the user and any material, paint, crayon, etc., may be used to design the title on the card 23 as long as it leaves a strong black design. The special effects box of the present invention allows the user to quickly and easily set up the titles accurately on the title card 23. Because the lines of the graph paper 22 are visible through the title card 23, the letters can be easily lined up and centered. There is no chance of smudging the title because there are no pencil guide lines to erase.

When the first title card is finished, it is removed and the remaining title cards are processed in the same manner until all the titles to be included in the desired movie have been completed. To use the time most efficiently all the title cards 23 should be completed before proceeding to the next process as the special effect box of the present invention will be transformed into a new piece of equipment that will allow the user to photographically print film transparencies 24 from the finished title cards 23.

## CONTACT PRINTER

When the necessary title cards 23 have been made, the special effects box of the present invention can now be prepared to print title transparencies 24.

With reference to FIG. 6, to print the title transparencies 24, remove the graph paper 22 from the white filter 12*a*. Make sure the white filter 12*a* is clean as any dirt or marks will show up on the transparencies 24 after printing. Leave the white filter 12*a* in the top groove 10 of the box 1. Insert the blue filter 12*b* into the bottom groove 11 of the box 1. This blue filter 12*b* acts as a light reducer and will cut down the brilliance of the light for the purpose of contact printing the title onto the film 24*a*. The special effects box of the present invention has now become a contact printer.

When the special effects box is prepared as described above, the fluorescent lamp 7 is turned off, and the prepared title card 23 is placed face-up onto the white filter 12*a*. A sheet of film 24*a*, such as Sakura Konilitho Contact Film ASA-2 or the like, is placed glossy side down over the title card 23 being careful to line up the edges of the card 23 with the edges of the film 24*a*, as shown in FIG. 7.

A thick clear plastic plate 25 is placed over the film 24*a* to hold it firmly against the title card 23, as seen in FIG. 8. The fluorescent lamp 7 is turned on. After the light flickers on count out 30 or 40 seconds and then turn the light off. Hereafter, the film 24*a* may be treated in a conventional manner, such as developing, fixing, washing and drying the film, to obtain the title transparencies 24.

## MOVIE TITLER

When the title transparencies 24 have become dry, the titles are ready to be filmed. Both the white filter 12*a* and the blue filter 12*b* are removed from the box 1. The black mask 13 is placed into the top groove 10 and the desired color filter 12 into the bottom groove 11, as shown in FIG. 9. The special effects box of the present invention is now a movie titler. A desired title transparency 24 to be filmed is selected and placed into the recesses 18' of the mask 13, a selected color filter is placed into the second groove to color the transparency, then the fluorescent lamp 7 is turned on. The box 1 can be mounted directly onto the camera tripod as shown in FIG. 11, or set horizontally or vertically on the table as shown in FIG. 12. The box 1 may be placed on the wall as shown in FIG. 13 or can be mounted on a glass window panel or the mirror by attaching the suction cup legs 30 as shown in FIG. 14.

Mount your camera on a tripod. Adjust the camera distance to the title by either moving the titler box or the camera tripod. If the camera has a zoom, the size of the title can be adjusted simply by zooming in and out. A close-up lens may be needed depending upon the distance of the camera to the transparency 24. Also, note that the camera field of vision is not limited to within the area of the box 1 for filming. Because the actual filming of the title is done in a darkened room with the room lights off, the only existing light will be emitted through the transparency 24 and the surrounding area will be completely black. Therefore, the outer edges of the box 1 will not be seen, even if the camera field of view overlaps the size of the box 1. This is actually an advantage in eliminating framing errors and under or over sized titles can be compensated for by zooming in and out or by moving the camera tripod.

After the camera distance has been adjusted to the transparency 24 and the lens is focussed, the title is ready to be filmed. Make sure the camera exposure is on automatic then turn the room lights off and film. Title transparencies 24 are easily changed without turning the room lights back on. Simply leave the fluorescent lamp 7 on and change the transparencies 24 in between shots.

For cameras without automatic exposure system or if it is desired to use the manual setting on the automatic camera, take the light reading in the following way.

After selecting the color filter 12 desired, remove the black mask 13 temporarily from the box 1. Either with a light meter or with the automatic system in the camera, take a light reading with the mask 13 off. Set the camera f-stop at this reading, insert the black mask 13 with title transparency 24 intact, back into the box and begin filming.

When the movie film comes back from processing, it will show brilliant, burned in color titles. The old title transparencies **24** may be kept for future use. By inserting different colored filters **12** in the special effects box of the present invention, the title color can always be changed to fit the mood of the next movie production.

Depending upon the type of camera, an unlimited number of special effects are possible with the special effects box of the present invention.

## ANIMATION LAYOUT BOX

Along with being a complete titling unit, the compact special effects box of the present invention can be used for animation. As shown in FIG. **15** by inserting the clear filter **12***c* into the top groove **10** and the white filter **12***a* into the bottom groove **11** the special effects box of the present invention becomes an animation layout box.

Like laying out titles, the special effects box can be used to layout animation. A standard 16mm paper cell **26** is placed on the clear filter **12***c* of the box **1** with the lamp **7** turned on, and the desired characters **29** are drawn thereon. When placing the paper cell **26** on the clear filter **12***c*, holes formed on the upper part of the paper cell **26** may be registered over pins **28** formed on the clear filter **12***c*. After the first paper cell is completed, the second paper cell can be placed thereon, as shown in FIG. **16**, and the second characters can be drawn.

With the fluorescent lamp **7** turned on several sheets of paper cells **26** can be seen through. This will guide the user in plotting the movement of the characters **29** on the paper cells **26**. This can be easily done by drawing the characters **29** on the first paper cell **26** and then registering another paper cell **26** over the first, using the previous characters **29** as a guide in drawing the next one. Several paper cells **26** can be registered over on another as shown in FIG. **17** before the light becomes too dim, thus allowing the characters **29** to be drawn speedily and accurately, pausing periodically to remove some of the lower paper cells **26** to permit more light to pass through the paper cells **26**.

After this is completed, the paper cells **26** can be removed and transfer of characters **29** from the paper cells **26** to the acetate cell **27** can begin. This is done by placing a single paper cell **26** on the registration pins **28**, and over this registering an acetate cell **27**, as shown in FIG. **18**. Colors can then be painted onto the proper areas of the acetate cell **27** while using the paper cell **26** as a guide.

## FILMING THE ANIMATION

Without changing any filters **12** the filming of the animation can be done by simply placing the acetate cells **27**, one by one in their proper sequence on the registration pins **28** and pressing the camera shutter each time. For animation work, it is better to have a camera equipped with single exposure, however, it is still possible to film animation with other cameras that do not have this feature. This can be done by carefully and quickly pressing the shutter button so that only two or three frames are exposed. This is sufficient to produce animation.

As described heretofore, the heart of the present invention lies in the interchangeable filters which are used for illuminating transparencies, coloring transparencies, cutting down the brilliance of light for contact printing transparencies, and supplying rich colors for title backgrounds to be filmed, so that this box that combines the functions of several individual units, such as a title layout box, a contact printer, a movie titler, an animation layout box and an animation table into one compact unit. In the present invention, stationary, internal, enclosed light is the only light used for all the light process so that only a small amount of light is emitted for the title and, there is no reflection to worry about while filming titles or animation, because the light is filtered though all transparencies instead of being front lit. This is a particular advantage when filming acetate cells, since the acetate cells are made from a flexible plastic which has a high degree of reflectability. If filming with external lighting, these acetate cells create glare and reflections and much adjusting of the external light is needed to eliminate this condition.

As explained heretofore, the new concept is the combination of these separate pieces of equipment into one compact unit that performs a series of different tasks that are related to the overall process of which the end result is a title, animation or special effect that the user wants to achieve.

Other and additional advantages of the present invention are as follows:

1. More versatile and economical titles can be made at less expense as compared with other methods as the cost for the film is low and film transparencies can be used over and over in different movies by just changing color filters. As more title transparencies are made, cost of titling declines since certain transparencies can be used over again in new movies, thus cutting down the cost of printing and the time involved in printing. Titles are easily labeled and stored in envelopes and are practically indestructable and can be used over and over for years.

2. You do not need to be an artist to produce beautiful titles. If you merely write your titles on the title card with a black crayon your titles will look professional because when using color filters to color the transparencies, the color becomes uniform and brilliant.

3. The cost of the special effects box is very low when comparing the price to other titlers on the market. More specifically, the special effects box can be manufactured at a cost of one tenth that of the conventional titlers, because the special effects box is compact in size and simple in construction.

What is claimed is:

**1.** A special effects box used as a title layout box, a contact printer, a movie titler, an animation layout box, an animation table, an animation stand or the like, comprising a box having an open top, a light source mounted in said box and adapted to illuminate towards said open top of the box, one clear filter and at least one color filter, and a mask having a central cut out, walls of said box being provided with supporting means for removably supporting said filters and said mask, said filters and said mask being substantially the same size so that the filters and the mask can be interchangeably inserted in said box and supported by said supporting means and wherein said mask cut out has a predetermined dimension adapted for receiving a title transparency or the like and said cutout is surrounded along three edges thereof by frame means with recesses adapted for receiving said title transparency or the like.

2. A special effects box defined in claim 1 in which said supporting means includes at least two supporting grooves.

3. A special effects box defined in claim 1 in which said box is provided with suction cup legs to support the box against an other object.

4. A special effects box defined in claim 1 in which said clear filter is provided with registration pins.

5. A special effects box defined in claim 1 comprising one unit that can be changed into different types of equipment by changing movable filters and masks.

6. A special effects box defined in claim 1 in which said mask is a black mask for the purpose of blocking out undesired light and for the purpose of inserting film transparencies to create brilliant fluorescent color titlers.

7. A special effects box defined in claim 1 in which said filters are different filters adapted to be inserted into the box so as to change the colors of the titles.

* * * * *

# UNITED STATES PATENT OFFICE
# CERTIFICATE OF CORRECTION

Patent No. 3,802,102 Dated April 09, 1974

Inventor(s) Robert P. Licciardi

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Claim 6, last line, change "titlers" to --titles--.

Signed and sealed this 5th day of November 1974.

(SEAL)
Attest:

McCOY M. GIBSON JR.
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents

FORM PO-1050 (10-69)

USCOMM-DC 60376-P69
* U.S. GOVERNMENT PRINTING OFFICE : 1969 O—366-334.

# UNITED STATES PATENT OFFICE

# CERTIFICATE OF CORRECTION

Patent No. 3,802,102 Dated April 09, 1974

Inventor(s) Robert P. Licciardi

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Claim 6, last line, change "titlers" to --titles--.

Signed and sealed this 5th day of November 1974.

(SEAL)
Attest:

McCOY M. GIBSON JR.
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents

FORM PO-1050 (10-69)

USCOMM-DC 60376-P69
* U.S. GOVERNMENT PRINTING OFFICE : 1969 O—366-334.