

[54] CREATIVE OPTICAL ARTISTIC MEDIUM

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[21] Appl. No.: 134,955

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2,848,229	8/1958	Miller	272/1 A
3,106,042	10/1963	Roethler	46/240
3,160,975	12/1964	Malina	40/132 G
3,388,243	6/1968	Adler	240/1 R X
3,666,936	5/1972	Webster, Jr. et al.	240/2 R

FOREIGN PATENTS OR APPLICATIONS

[52] U.S. Cl. 240/1, 40/132 F, 240/3.1, 350/5

[51] Int. Cl. F21

[58] Field of Search 240/1 R, 2, 6.4, 10 R, 240/107, 3.1, 9 R, 46.15, 24, 2 AD, 2 D; 46/233, 239, 240, 237; 350/5; 40/132 R, 132 F, 28 C, 132 E, 132 G; 84/464; 272/8 P, 1 A; 353/1; 35/26

531,441	9/1954	Belgium	240/2 D
355,430	6/1922	Germany	240/2 D

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Attorney, Agent, or Firm—Louis Altman

[57] ABSTRACT

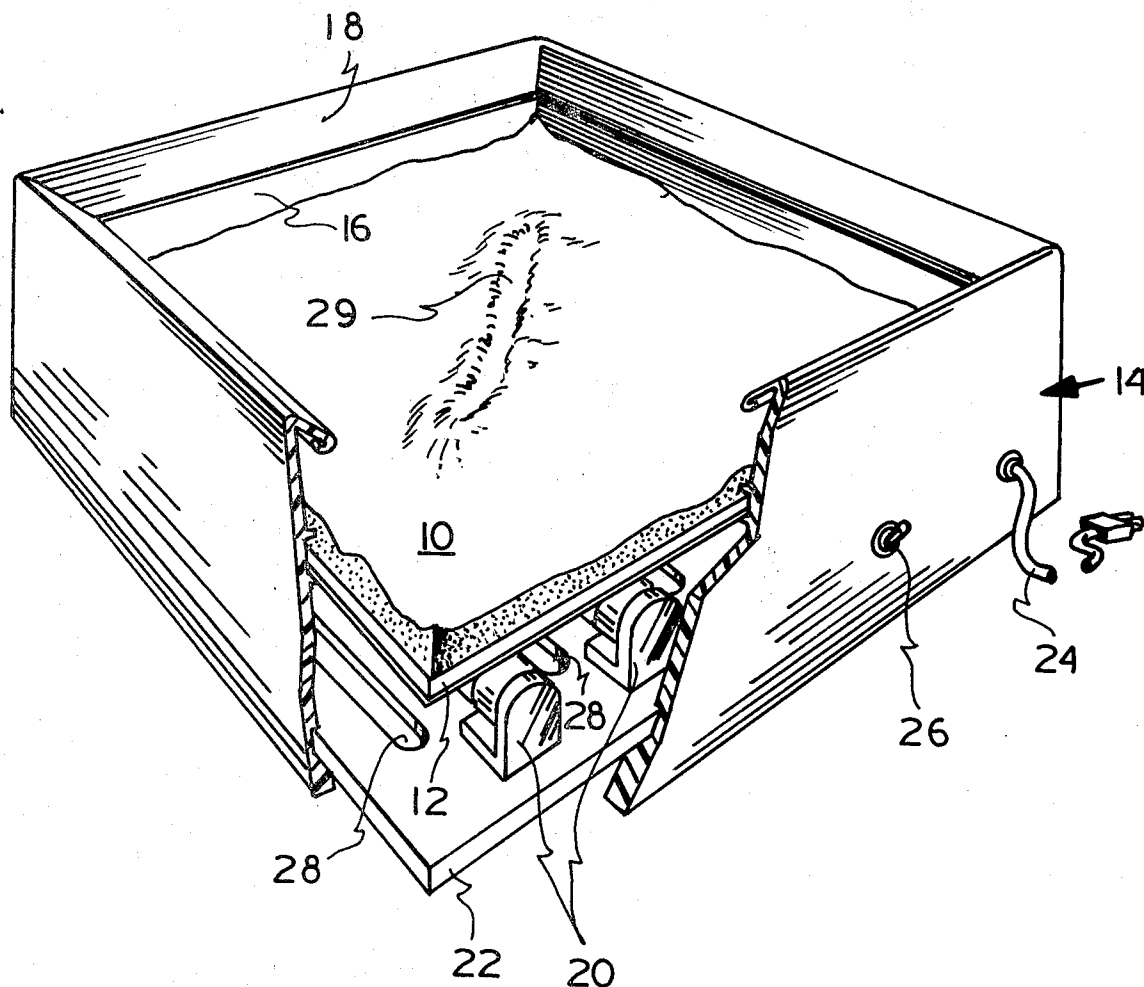
A structure providing a creative medium includes a light source directing white, colored, or variegated light through a layer of sand or comparable material supported under a light-transmissive panel. The light source and panel are supported upon a framework which also acts as container for the layer of sand. The artist inscribes lines and/or areas in the material, or otherwise redistributes it in patterns which form creative displays by virtue of the way light is passed through the material from the light source therebelow.

3 Claims, 7 Drawing Figures

[56] References Cited

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1,348,957	8/1920	Pope	40/132 F
1,559,665	11/1925	Beery et al.	35/26
1,874,202	8/1932	Michelsen	240/3.1
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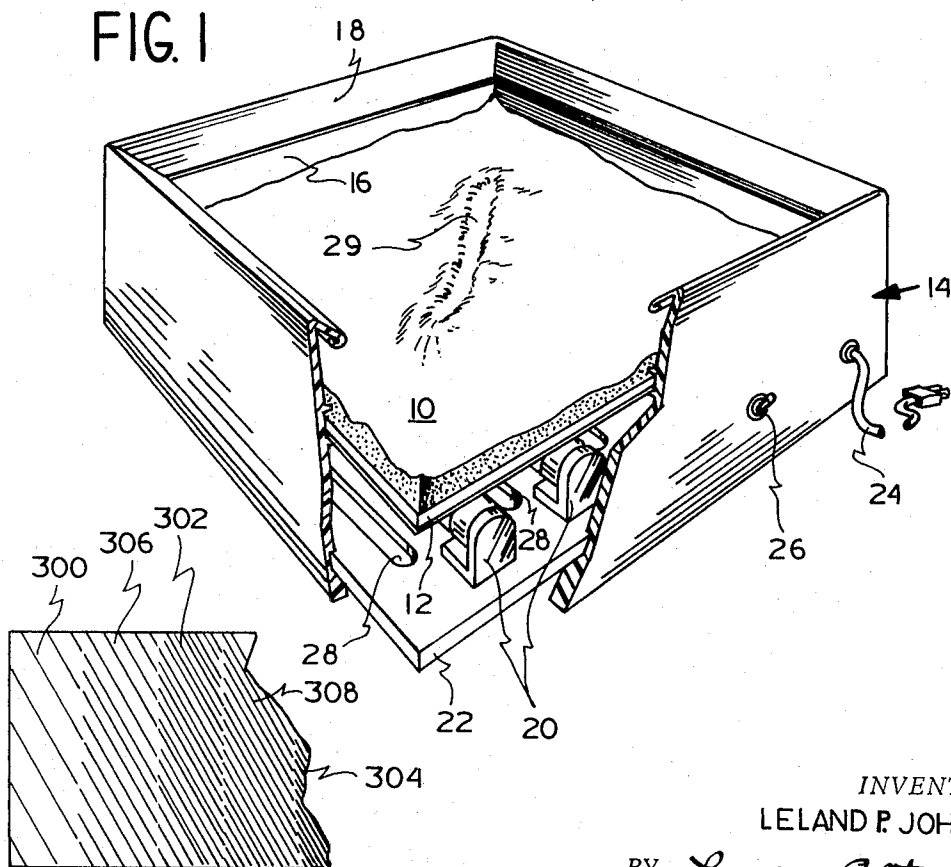
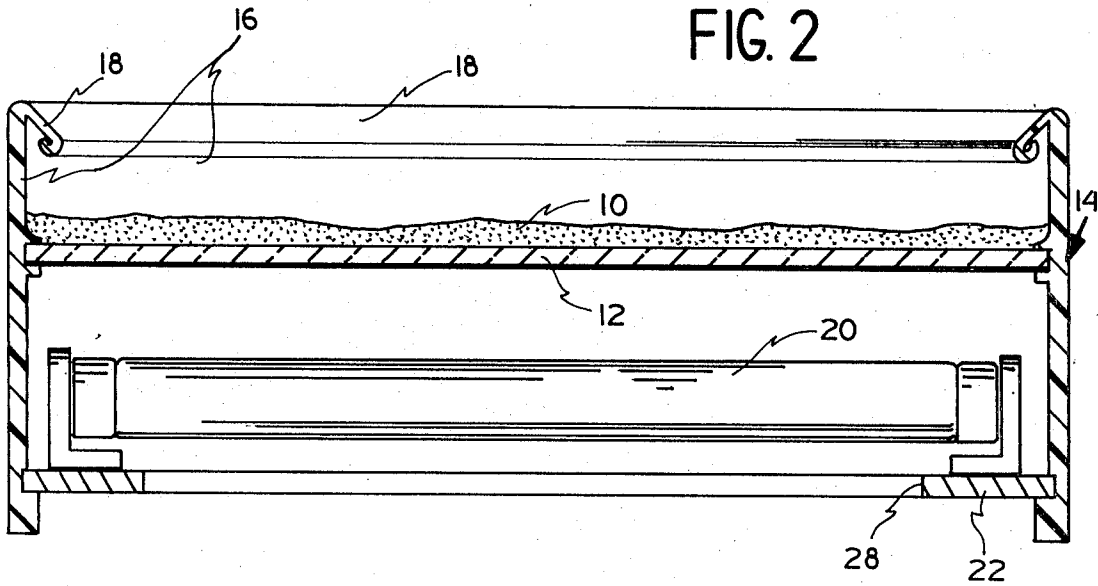


FIG. 3

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FIG. 5

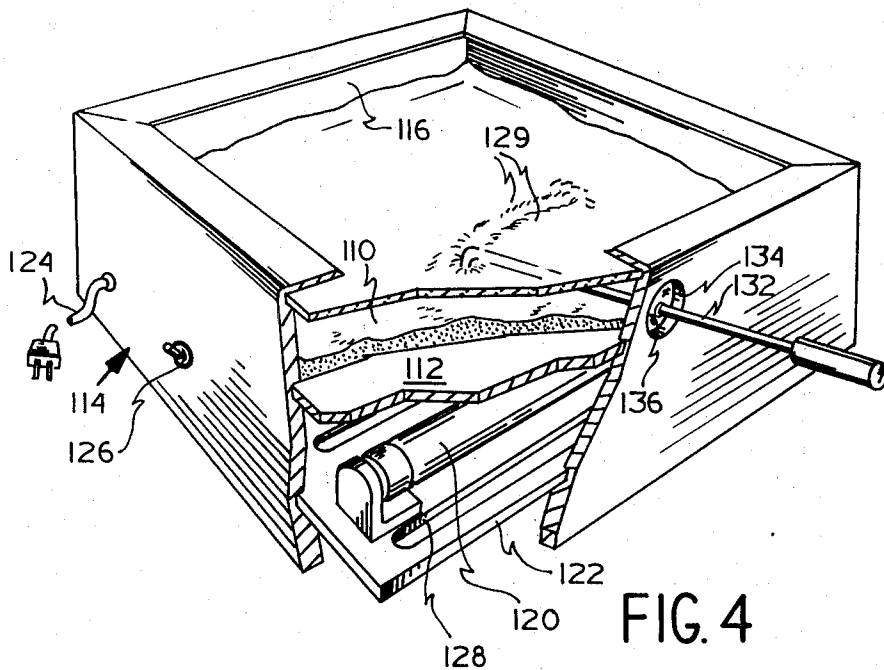
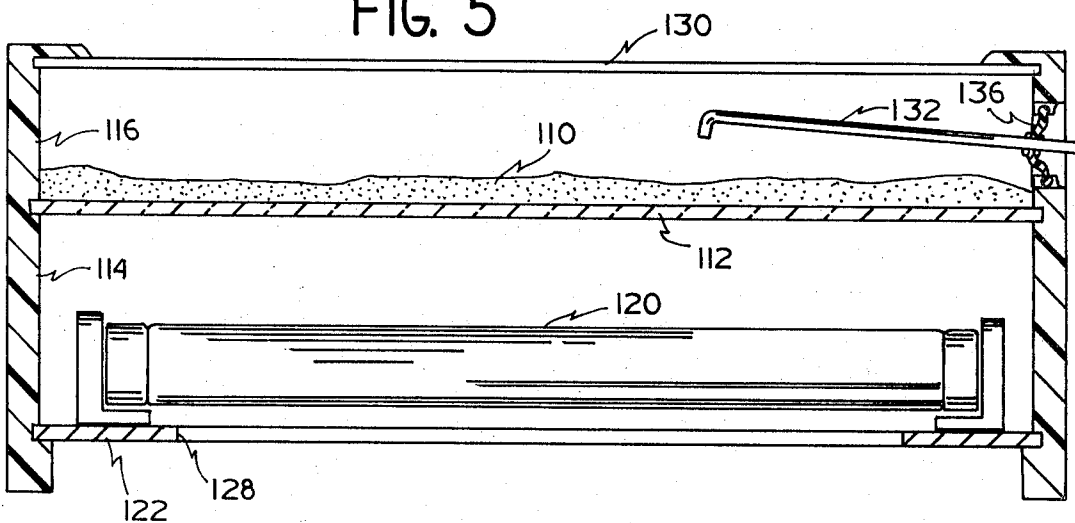


FIG. 7

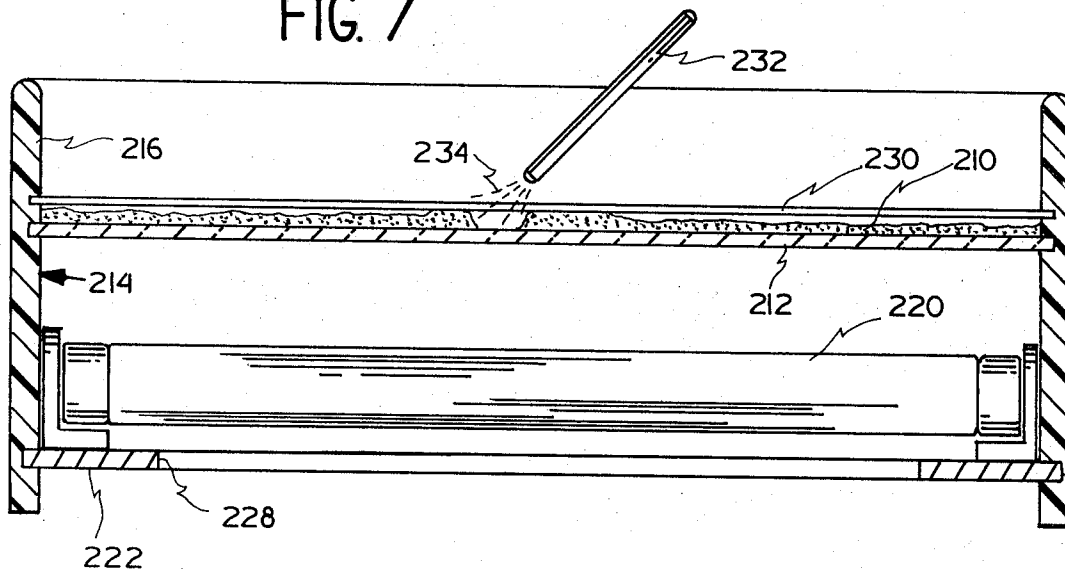
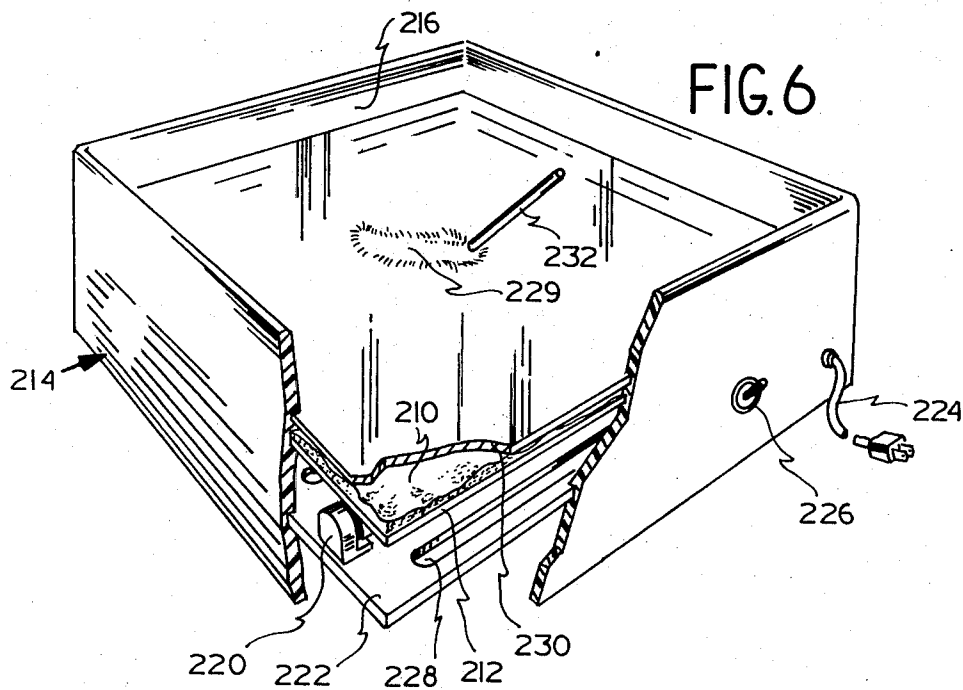


FIG. 6



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CREATIVE OPTICAL ARTISTIC MEDIUM

FIELD OF THE INVENTION

This invention relates to a creative artistic medium for adults, or a creative toy for children. It combines some features of a child's sandbox, a sand sculpture, and an illuminated sketching device.

BACKGROUND OF THE INVENTION

The forerunners of the present invention are the well known child's sandbox and other devices designed for creating patterns in sand for artistic or recreational purposes. Mention may also be made of Roethler U.S. Pat. No. 3,106,042 which describes a child's toy comprising a box containing a thin layer of sand which the child manipulates to simulate earth-moving operations. The manipulation is accomplished using small ferromagnetic toys that simulate earth-moving machinery, and the toys in turn are moved by a magnetic actuator which is operable by the child from outside the box. In addition the toy comprises a transparent cover which permits the child to play without removing the cover. This aids in retaining the sand within the toy enclosure. Such prior art toys, however, lack the concept of employing the sand as a flexible light-transmissive mask for shaping an optical medium.

There are some prior art patents showing devices which employ light in various creative or educational ways, and are particularly adapted for use by children. Two of these are shown in U.S. Pat. Nos. 3,321,616 and 3,388,243 of Adler, and another is shown in U.S. Pat. No. 1,559,665 of Beery. These patents are all concerned with creating two-dimensional forms upon a fixed flat surface which transmits light. But they lack the concept of using a readily reshapable layer of material as a light-structuring medium.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view, with parts broken away to reveal details of interior construction, of a first embodiment of a creative optical medium in accordance with this invention.

FIG. 2 is a sectional view of the device in FIG. 1.

FIG. 3 is a top plan view, shaded to suggest color differences, of a sand-supporting translucent panel in the device of the preceding figures.

FIG. 4 is a perspective view, with parts broken away to reveal details of interior construction, of an alternative embodiment of a creative optical medium in accordance with this invention.

FIG. 5 is a sectional view of the device seen in FIG. 4.

FIG. 6 is a perspective view, with parts broken away to reveal details of interior construction, of another alternative embodiment of a creative optical medium in accordance with this invention.

FIG. 7 is a sectional view of the device seen in FIG. 6.

The same reference characters refer to the same elements throughout the several views of the drawing.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Three different embodiments of the invention will be described below, each having its own distinctive advantages. What they all have in common is that one or

more lamps are employed to shine light toward a thin layer of sand or comparable masking material. The three embodiments described represent specific examples of various means by which the masking material may be conveniently retained in place relative to the light source. In the embodiment of FIGS. 1 and 2, for example, a layer of sand 10 is distributed over a flat horizontal translucent sheet of glass or plastic material 12 which in turn is supported within a suitable channel 14 formed on a rectangular framework 14. The upper portion of the frame 14 forms a rectangular containing wall 16 which helps prevent the escape of the sand 10. It is aided in this by a downwardly sloping flange 18 formed around the upper edges of the containing walls 16, which serves two purposes. First, the flanges 18 tend to prevent sand from being thrown upward and out of the container 16. Secondly, sand which is carried out of the container but falls back upon the flanges 18 then tends to slide back into the sand layer 10.

A plurality of lamps 20, such as conventional fluorescent devices, are supported upon a horizontal panel 22 received within appropriate sockets at the lower portion of the frame 14. A conventional electrical cord 24 (FIG. 1) provides power to operate the lamps 20, and a conventional on-off switch 26 is mounted on the exterior of the frame 14 to turn the lamps on and off as desired. The lamp-supporting platform 22 is preferably provided with ventilating openings 28 for dissipating the heat generated by the lamps 20 during operation.

In using the invention, the child or adult user reaches into the device manually to inscribe lines (e.g. line 29) or areas or other patterns in the sand 10 which permit the light of the lamps below to come through in a desired artistic pattern. Thus, if the sand is brushed away from large areas of the underlying translucent panel, then large areas of light are visible from above. If only outlines are traced in the sand, then those outlines are visible as lines of transmitted illumination. The user can also feather the edges of the various sand areas from an opaque thickness of sand in one region to another region from which the sand is completely removed, with various gradations of translucence in between. The calculated effects which can be produced with the device of this invention depend only upon the imagination of the person using it, and that is its principal advantage. It therefore provides a novel medium in which the user can express himself in his own way.

The material 10 need not be sand. It could instead be any other material which is "fluent" in the sense that it is yieldable and thus redistributed easily, yet retains its new distribution either until disturbed again, or at least for a substantial period of time before flowing. Such materials either do not flow spontaneously, or at least are so viscous that they flow only over relatively long periods of time compared to ordinary fluids, i.e. gases and liquids. Most granular materials and viscous creams are fluent in this sense. Here again, the imagination of the user is called upon to supply the most suitable material. One can easily imagine that an aerosol shave cream, or a layer of talcum powder, might make suitable media for certain types of creations.

The panel 12 which supports the fluent material 10 could be transparent instead of translucent, but that alternative is less preferable. A translucent panel obscures the details of construction below the panel 12,

and also causes a certain artistic blurring or merging of the lines or other patterns traced in the material 10.

If desired, a color effect can be achieved, for example by adhering color filter sheets to the underside of the translucent panel 12, even though ordinary white lamps 20 are employed for illumination. This creates different colored fields of light across the translucent panel, and permits the additional option that a particular pattern drawn in the fluent material 10 may extend across two or more different color fields, changing color as a function of its position across the face of the device.

As a preferable alternative, the color effect may be achieved by using lamps 20 of different colors. When used in conjunction with a translucent panel 12, the color fields then tend to merge imperceptibly into one another. Thus, the field seen from above the device might have the appearance indicated in FIG. 7. At one side there might be a pure red area 300, in the middle a pure blue area 302 and at the opposite extreme a pure green area 304. In addition intermediate color-blended areas would be formed, such as area 306 in which the red merges into the blue, and area 308 in which the blue merges into the green.

Notwithstanding the containing effect of the upstanding walls 16 and the inwardly sloping flanges 18 thereof, the embodiment of FIGS. 1 and 2 presents some danger that some of the sand or other material 10 may escape, particularly if children are using the device. The embodiment of FIGS. 4 and 5 and the additional alternative embodiment of FIGS. 6 and 7 are both designed to overcome this problem.

In the embodiment of FIGS. 4 and 5 there is a thin layer of sand 110 supported upon a translucent panel 112 mounted on a frame 114. Lamps 120 are mounted upon a panel 122 having ventilation openings 128 and supported upon the frame 114 below the sand panel 112. Once again there is a power cord 124 and an on-off switch 126.

In this embodiment, however, there is an enclosure which completely confines the sand in layer 110. The enclosure is formed by the upstanding containing walls 116 of frame 114 plus a transparent glass or plastic cover 130 mounted upon the containing walls 116. The transparent cover 130 permits the user to see the layer 110 and the light passing upwardly therethrough, while at the same time fully enclosing the material 110 and preventing its escape.

Since the material 110 is fully enclosed, a line 129 or other patterns in the layer 110 are formed by means of a rod 132 which extends through an opening 134 formed in one of the containing walls 116. A flexible rubber boot 136 crimped to the edges of the opening 134 seals it against the escape of material 110 through the opening, while still permitting movement of the rod 132.

The third alternative embodiment of FIGS. 6 and 7 is similarly designed. Once more there is a power cord 224 and on-off switch 226. There is also a frame 214, on which is supported a panel 222 having ventilation holes 228 and a plurality of lamps 220. It also supports a translucent panel 212 on which, however, is placed a thin layer of granular iron particles or other magnetically responsive fluent material 210. A transparent glass or plastic cover 230 is also used in this embodiment for full enclosure, but is placed quite close to the magnetically responsive material 210, because the effective range of magnetic forces is small. The redistri-

bution of the fluent material 210 in this embodiment is done with a magnetic implement such as a permanent magnet 232 giving off a magnetic flux 234 which passes through the transparent cover 230, and affects the magnetic responsive material 210 immediately therebelow, for example to inscribe line 229. Thus the fluent material 210 is completely enclosed, but is visible, and is redistributable from outside the enclosure by a device having effect inside it.

It will now be appreciated that this invention provides a creative medium which allows a great latitude of individual expression, and in which a child at play or a serious artist can make an infinite variety of light-filled patterns, and these can have various color gradations if desired.

Since the foregoing description and drawings are merely illustrative, the scope of protection of the invention has been more broadly stated in the following claims; and these should be liberally interpreted so as to obtain the benefit of all equivalents to which the invention is fairly entitled.

I claim:

1. A creative medium comprising:

an upwardly opening container;
the bottom of said container including a light-transmissive panel;

a layer of fluent material in place over said bottom panel;

said container including a containing wall upstanding from the periphery of said bottom panel;

and means on said device including an artificial light source below said bottom panel for illuminating the lower surface thereof;

whereby the pattern of artificial illumination visible through said bottom panel is a function of the distribution of said fluent material thereover.

2. A creative medium comprising: a light-transmissive panel; a frame for supporting said panel in a generally horizontal attitude; a light source supported on said frame below said panel and arranged to shine light upwardly through said panel; a fluent material layer in place over said panel; containing means on said frame rising above said panel and bounding an area of said panel, said containing means including a transparent cover over said panel and substantially enclosing said fluent material to prevent spillage; and remote control means operable from outside said containing means and effective to redistribute said fluent material therein, said remote control means comprising an opening in said containing means, a rod extending through said opening, and flexible means surrounding said rod to seal said opening while permitting articulation of said rod.

3. A creative medium comprising: a light-transmissive panel; a frame for supporting said panel in a generally horizontal attitude; a light source supported on said frame below said panel and arranged to shine light upwardly through said panel; a layer of magnetically responsive fluent material in place over said panel; containing means on said frame rising above said panel and bounding an area of said panel, said containing means including a magnetic-flux-transmissive transparent cover over said panel and substantially enclosing said fluent material to prevent spillage; and remote control means operable from outside said containing means, said remote control means comprising a magnetically effective implement located entirely outside said containing means and operable through said cover to redistribute said fluent material.

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