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R. G. OSBORNE

2,239,970

ARTICLE OF MANUFACTURE

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FIG. 1.

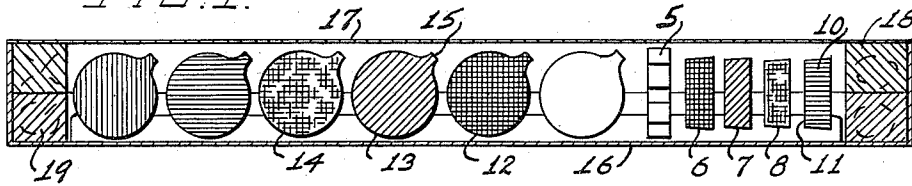


FIG. 2.

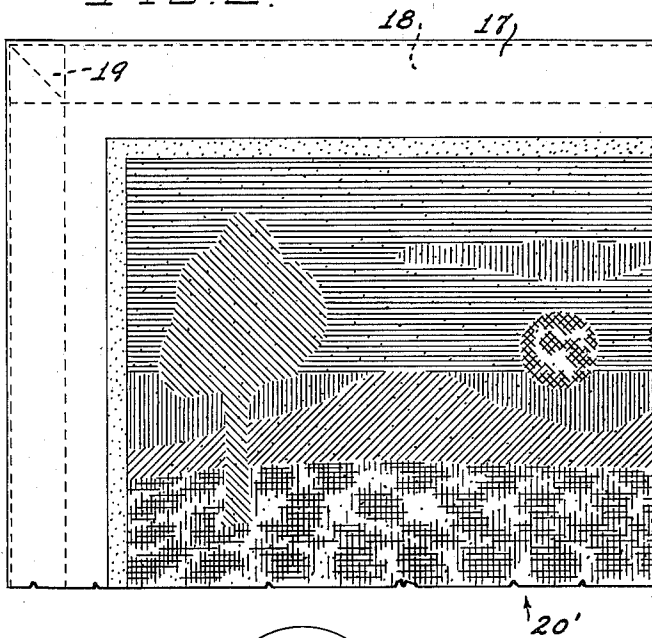


FIG. 3.

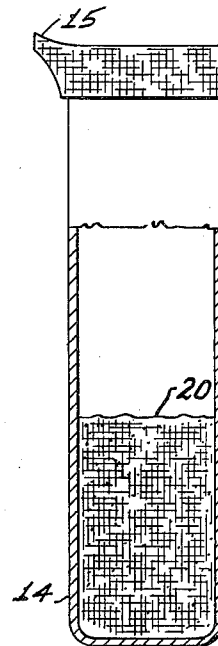
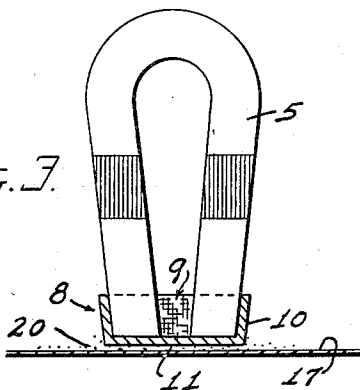


FIG. 4.

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UNITED STATES PATENT OFFICE

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ARTICLE OF MANUFACTURE

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7 Claims. (Cl. 35-26)

My invention relates in part to devices or equipment coming within the same classification as games or instructive devices for children, students, and amateur artists, although there are features of this invention that adapt it for use by those more skilled in the graphic arts.

The invention has for an object to provide the advantages of, but to improve upon the use of, colored sands and like materials which are applied to a surface to produce designs, pictures and the like. By reason of cost and limited applicability this form of instruction or pastime has not become particularly popular although some decidedly interesting effects can be created.

It is another object of this invention to provide that which I will hereinafter refer to as "dry granular paint," in contradistinction to colored sands, which paints may by my invention be provided in a greater variety of colors, shades and tints than is possible with sand and in the preparation of which the better grade of pigments can be employed.

Another and highly important object of this invention is to provide that the paints are indefinitely re-used by providing that they can be separated one from the other after use and stored in individual containers; one for each color of paint, until again needed.

Another object of the invention is to provide for blending grains of different colors to provide any desired effect, while still providing that even when so intimately mixed, grains of any one color may be readily separated from other grains until all colors repose each in their individual container.

Another object of the invention is to provide for more accurate and flexible distribution of the dry granular paints over a surface in the composition of designs and pictures, even to the extent where a student may practice the reproduction of works of art, or experiment as long as desired without cost in creating or reproducing certain colors or pigment combinations.

In the use of colored sands much depends upon the original pouring or disposition of the sands; a brush or more rigid instrument being then resorted to for moving the sands into more accurate position. It is an object of this invention to provide that the grains may be moved or distributed by other means more in the form of an intangible force or attraction under control of the hand and which force may be selectively applied to one color in preference to others.

Still another object of the invention is to provide a comparatively inexpensive assembly of

parts and materials to be packaged as an article of manufacture so that one such article will provide much pastime as well as instruction at a low first cost and at negligible added cost.

While the invention is of a nature which can be explained mainly by describing the peculiar physical properties of the paints and the manner in which they are produced and handled, I employ the accompanying simplified drawing to aid in the description of at least one actual embodiment of my invention as an article of manufacture.

In the drawing Figure 1 is a view mainly in vertical section of a packaged assembly of the parts required to carry out the invention and which provides a complete article or combination for manufacture and sale.

Figure 2 is a plan view of a part known as the board and showing a simple design or picture produced thereon by this method altho it will be understood that effects or results can be produced by my invention which defy illustration in line drawings with the use of the usual graphic representation of colors.

Figure 3 is a detail vertical section of an operative combination of parts hereinafter described.

Figure 4 shows a container, partly in elevation and partly in section.

In carrying out my invention in that which I consider the preferred manner I employ high grade permanent pigments such as are used in good oil paints to provide colors better than those obtained with natural or dyed sands and to encourage the embryo artists or to appeal to the kindergarten as the case may be. Further I may employ natural mineral or manufactured compounds of varying magnetic intensity or susceptibility. Such substances may include pure iron in filings or granular form, ilmenite or ferrous-titanate, magnetite and the like. While these three in particular have widely separated degrees of magnetic intensity or susceptibility still others may be employed although I provide a great variety of degrees by incorporating various percentages in a paste or paint made up additionally of the required amount of pigment and a drying oil or other vehicle. Thus, with iron filings or the like and various pigments in varying amounts I may provide a considerable number of colors, each paint so produced having a definite color and a corresponding magnetic susceptibility. Thus "black" may be all iron filings with full light absorption and maximum magnetic susceptibility. The resultant paint is spread out to dry, and then reground or otherwise granulated to provide mag-

netically susceptible individual grains with each grain of a given color having a known degree of magnetic susceptibility. As the total pigment is increased with respect to the iron the apparent susceptibility will decrease by reason of a smaller amount of iron to the total mass of each grain.

Likewise with magnetite any range of colors of paints each of characteristic individual susceptibility may be produced. A susceptible mineral such as ilmenite lends itself to being colored by dyes or chemicals. Again I may, by using either natural fine ground white materials, having grains of varying degrees of susceptibility, or by producing a white mass of small grains of varying susceptibility, employ magnetic means to separate and classify the grains as to degree of susceptibility. Then according to susceptibility as thus determined, they may be finally dyed the corresponding color.

Having so produced a variety of dry granular paints each of a distinct color and having a magnetic susceptibility indicative of color, I provide that a given magnetic force or a given proximity of a permanent magnet can be used to first select, from a mixed mass, that paint which has the highest magnetic susceptibility; those which have lower susceptibility not having their gravity overcome sufficiently to be lifted.

A magnet such as 5 is provided and with this magnet there are provided a plurality of non-susceptible pads or spacers 6, 7, 8, etc., or an adjustable pad, any of which will fit over the pole end of the magnet by reason of each having the socket 9. These spacers may be made of moulded plastic or the like and each presents outer surfaces such as 10 and 11 which are disposed each a known distance away from the poles so that a magnetically susceptible substance cannot approach to but within a predetermined distance of the magnet. Each pad or spacer is colored or otherwise marked to indicate the color paint which it is to be used to select or pick up. Thus the thickest of all pads will be black and will be for picking up the material of greatest susceptibility. However, the thickness of the black pad is just such that while the magnet will attract and hold a film of black granules on its surface, those granules having a susceptibility of less than that of pure iron will not be held. In this way although two or more colors of paint are mixed or their grains intermingled, the one can be separated from the others.

For each mass of paint there is provided the corresponding container such as 12, 13, 14, etc. also correspondingly colored. Each is provided with a narrow spout 15 for pouring the granular paint therefrom, although of course the paints may be variously applied.

A carton 16 is provided for enclosing all parts when not in use and accommodates the magnet, the pads or spacers, and a variety of containers. Only 6 containers are here shown but many more can be used although there is a great variety of results that can be obtained by selectively mixing or intermingling where only six different colors of paints are provided, each with an individual magnetic susceptibility.

The combination further includes a board 17 on which the designs are to be created. This board is preferably composed of very thin non-magnetic material, having a stiffening frame or rim 18 around its edge. The board is provided with legs 19 associated therewith in the manner common to "folding" card tables although the table formed is relatively small. By extending

these legs to support the board, the user has access to the undersurface of the board so that the magnet may be used directly below the work to aid in distributing the paints. In fact proper application of the magnet to the underside of the board may be used to produce results not otherwise possible. In the drawing the scale does not permit of showing actual thicknesses of the board and the magnet pads respectively.

I find that aside from the usual methods which can be resorted to for distributing paint in the creation of a design or picture, the use of the magnet from below will produce results which could not be attained by any other means. Also when in applying or spreading one paint, or in mixing or blending same with another already applied, the magnet and the proper spacer can be used as a last resort to remove some of a particular paint and permit of making a new trial. In fact the invention provides, where a particularly intricate effect is sought, for repeated attempts to finally produce a difficult result, and therein the invention contributes to encourage genius by permitting of the almost unlimited number of attempts frequently required before worthy art is produced.

Returning to the more practical side, the invention provides instructive pastime for children and this is one instance where the application of the selective degrees of magnetic attraction are so alluring to the child-mind as to make it a pleasure, for the first time, for a child to put things back where they belong; the result in any case being that the paint is salvaged and as good as new for subsequent use.

It will be understood that the most direct method of segregating the colors and returning them each to the individual container of the same color is to first select the thickest pad and place it over the magnet. Then the magnet is applied directly to a thinly spread mass of paints, the paint of greatest susceptibility clinging to the pad; all other grains remaining. When the most susceptible paint has thus been separated from the rest and restored to its container, the next thinner spacer is similarly employed to select the next most susceptible color of paint. Of course in the case of use by children some small percentage of a foreign color may find its way into a container but whenever the colors appear to have become unduly contaminated with others, the contents of a container should be spread out in a thin layer and treated with the magnet to carefully remove all foreign colors.

In the foregoing description the manner of preparing the paints and the manner of and means for picking up grains of only a given physical characteristic, and a certain combination of parts have been specifically described, but it is to be understood that this is only by way of example and explanation and shall not act to limit the scope of my invention since by providing each grain with a physical property indicative of its color other forces may be employed for separating each color.

I claim:

1. An article of manufacture for the creation of temporary designs or pictures by children, art students and the like, comprising a plurality of dry granular masses each of a magnetic susceptibility differing from that of the other masses and each composed of individual magnetic grains; those grains having the same magnetic susceptibility being colored alike and differently from those magnetic grains of different magnetic sus-

ceptibility; said grains adapted for intermixed application to a surface in the creation of a temporary design or picture made up of areas of contrasting color, a magnet normally capable of lifting from said surface the least susceptible grains, and means for successively reducing the lifting effect of said magnet.

2. The article as in claim 1 and in which said last named means comprises a plurality of pads each of a thickness differing from that of the others and each adapted to be attached over the poles of the magnet.

3. The article as in claim 1 and in which said last named means comprises a plurality of pads each adapted to be placed over the poles of the magnet; each pad having a thickness calculated to lift particles of corresponding or greater magnetic susceptibility; each pad individually colored to indicate the color of the least susceptible particles which it is capable of lifting.

4. The article as in claim 1 and further including a non-metallic board presenting a surface to which the particles are applicable in the production of such design or picture.

5. The article as in claim 1 and further including a non-metallic board presenting an upper surface to which the particles are applicable in the production of such design or picture, and means for holding the board spaced above a supporting surface to provide a space under the

board in which to move the magnet; said magnet and board coordinated to provide for distribution of said particles by movement of the magnet in said space.

6. As an article of manufacture of the class and for the purposes described a multiplicity of grains of various colors the grains composed of a magnetically susceptible substance and varying amounts of adhering non-susceptible coloring agent predetermining the magnetic susceptibility; those grains having the same magnetic susceptibility being colored alike and differently from those grains of different magnetic susceptibility.

7. An article of manufacture for the creation of temporary designs or pictures by children, art students and the like comprising combination of a plurality of granular masses each of a color differing from that of the other masses and each composed of individual grains each having a physical property other than color distinguishing it from grains of other colors; the masses adapted for intermixed application to a surface in the creation of color designs, and means for separating grains of a given physical property from all other grains to provide the aforesaid masses in such physical state as to adapt them for re-application to a surface in the creation of a temporary design or picture.

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