

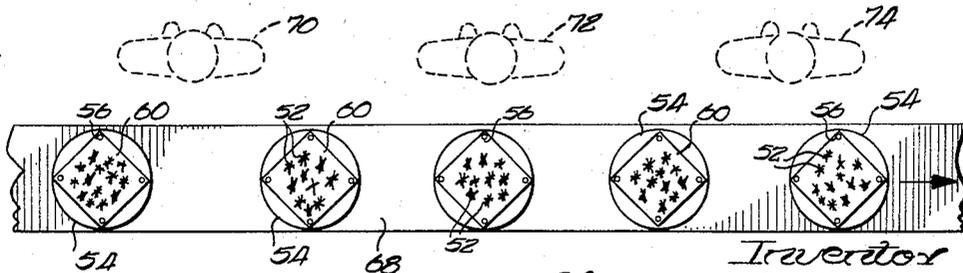
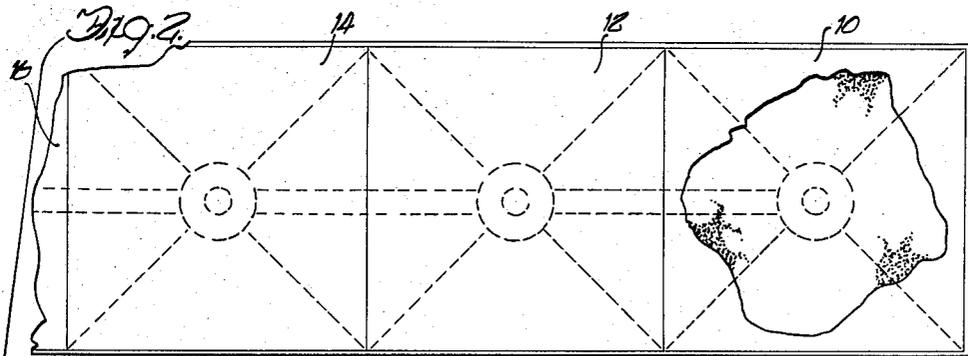
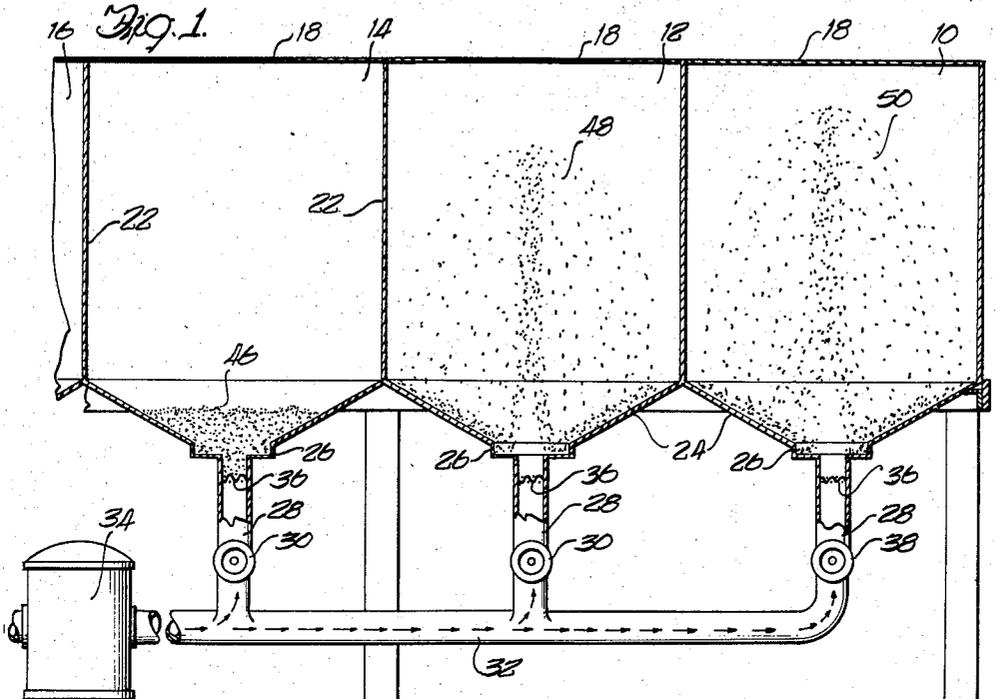
Sept. 27, 1960

C. E. BUSSERT  
ORNAMENTATION

2,953,867

Filed Feb. 19, 1957

3 Sheets-Sheet 1



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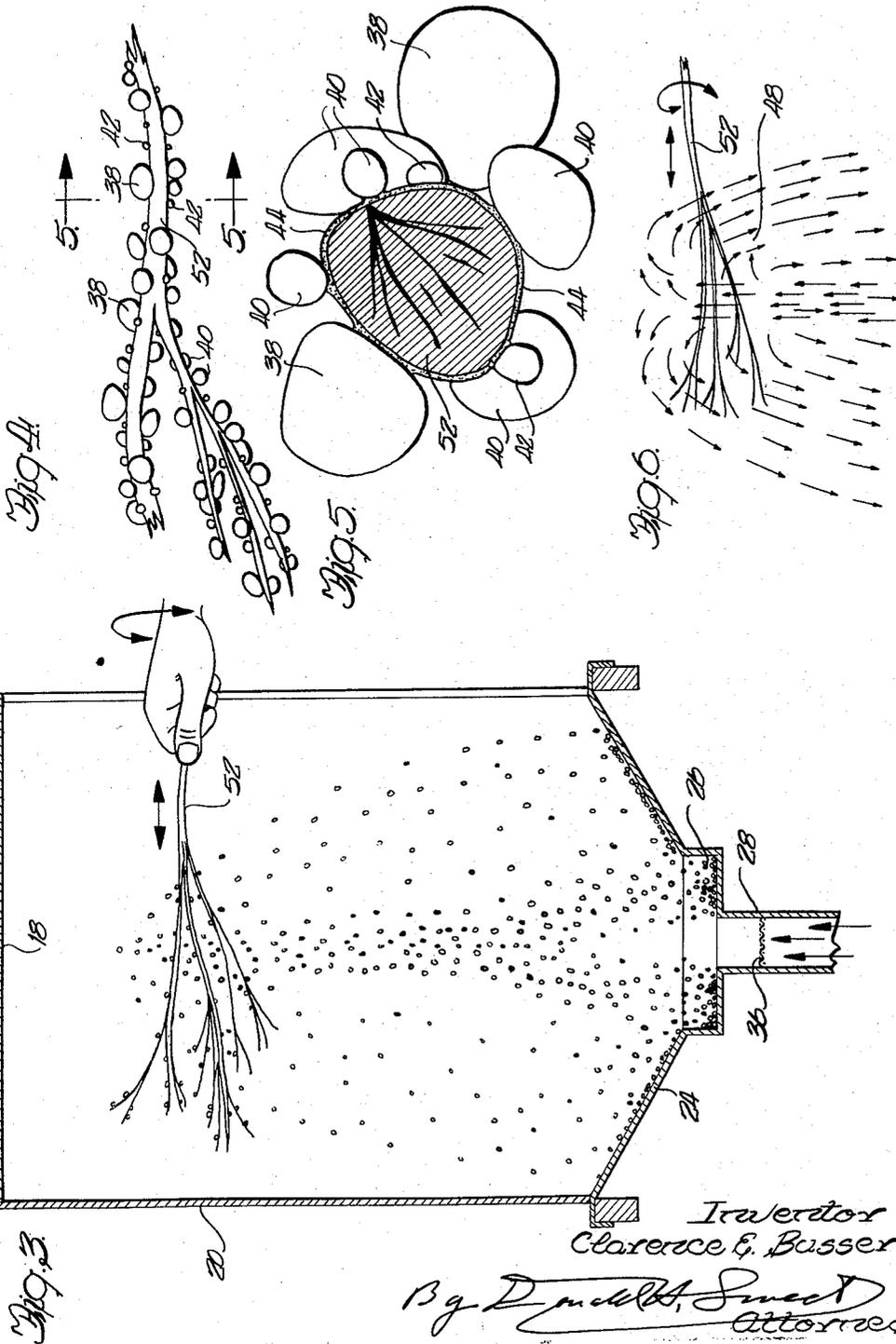
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3 Sheets-Sheet 2



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3 Sheets-Sheet 3

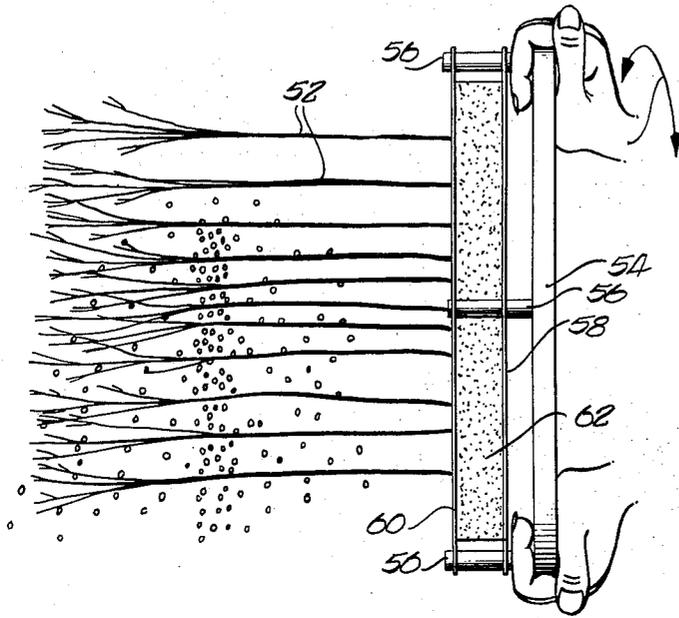


Fig. 7

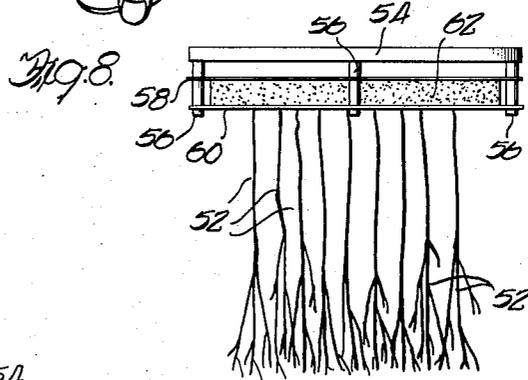


Fig. 8

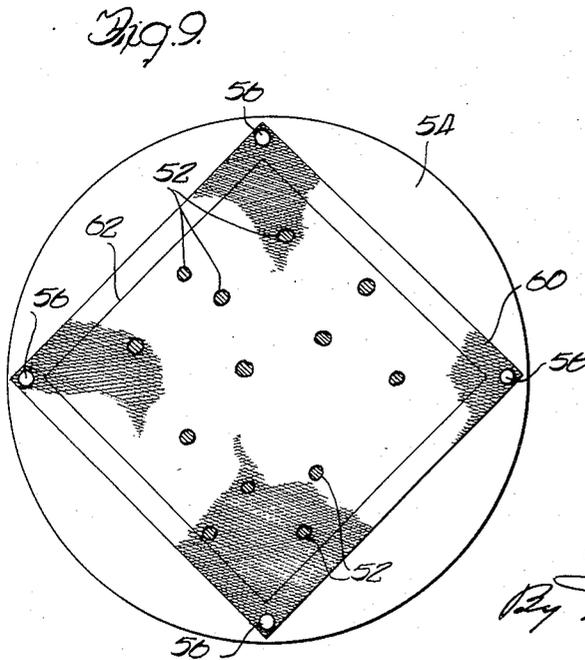


Fig. 9

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4 Claims. (Cl. 41—15)

My invention relates to ornamentation and includes among its objects and advantages an improved process for producing an artificial floral product simulating a twig or bush in bloom or covered with ornamental berries.

In the accompanying drawings:

Figure 1 is an elevation, partly in section, of a set of booths;

Figure 2 is a partially diagrammatic plan layout of the same booths and an adjacent conveyor belt;

Figure 3 is an enlarged transverse section of one booth indicating the method of coating a single twig;

Figure 4 is a fragmentary view of a type of twig that can be produced according to Figure 3;

Figure 5 is a greatly enlarged sectional view on line 5—5 of Figure 4;

Figure 6 is a kinetic diagram of the operation to Figure 3;

Figure 7 is a view similar to Figure 3 indicating the simultaneous processing of a plurality of twigs;

Figure 8 is a side elevation of a holder for processing twigs as in Figure 7, illustrated in draining position; and

Figure 9 is a plan view of the tray of Figure 8 positioned with the twigs extending upwardly and viewed from above.

In the embodiment selected to illustrate the invention, a plurality of booths are arranged in a row side by side. I have indicated only four such booths 10, 12, 14, and 16. Each booth includes an imperforate roof 18, an imperforate rear wall 20 and imperforate side walls 22 defining an enclosure about 48" square and 54" high. The bottom of the booth has the form of a four-sided inverted pyramid having trapezoidal sides 24 extending inwardly and downwardly at an angle of about 30° to the horizontal. The inner ends of the sides of the pyramids merge with a cup 26 about 5" in diameter and 1" deep. In the center of the cup is a bottom opening about 1½" in diameter receiving an air current from the blowing tube 28 under the control of a conventional adjustable valve 30. All the booths can have their blowing tubes 28 connected to the same supply main 32 receiving air under pressure from a power source 34 indicated as a conventional commercial vacuum cleaner unit. Each blowing tube is provided with a wire mesh screen 36 to prevent material falling down the tube when the blower is not operating.

The product to be produced is best illustrated in Figures 3, 4, and 5. Figure 3 is a somewhat stylized view of a natural twig of the repeatedly bifurcated branching configuration, common in some bushes and in certain small trees. In the finished product, as best illustrated in Figure 4, the originally naked twig carries affixed to it a random assortment of spherical particles made up substantially of relatively large size particles 38 and relatively small size particles 40. In practice it can also have a few quite minute particles 42.

The particles illustrated are no part of the present invention per se. Briefly, they are approximately spheri-

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cal masses of expanded styrofoam having a density of the order of magnitude of 2 pounds per cubic foot. Thus, they float readily in a gentle upwardly moving air stream and their negligible weight facilitates their retention on the twig by means of an attachment of relatively small strength.

To attach the particles, the twig itself is first coated over its entire surface area with a thin tacky integument 44 of glue. The glue employed is a latex base glue. After it has been allowed to harden and dry, it can stand exposure to the weather.

While the integument 44 is still tacky, the particles 38, 40, and 42 are brought into gentle contact with it and thus retained.

The basic principle of the method of getting the berries affixed in random distribution to the tacky twig, is indicated in Figures 3 and 6. The booth is charged or loaded with about two bushels of berries, which are all large size berries 38 or all small size berries 40, but in each instance, a small percentage of fines 42 will happen to occur. When the booth is not operating, these lie in the bottom of the booth as indicated at 46 in Figure 1. To put the booth in operation, the operator adjusts the valve 30 so that the upward current or spout of air rises through the mass of berries and blows a relatively concentrated stream of berries vertically upward to a height which may be accurately controlled by adjusting the valve 30. At the top of their trajectory, the berries tend to diverge in all directions and cascade back down. In Figure 1, I have indicated a relatively low fountain 48 and in Figure 2 a somewhat higher fountain 50. Referring again to Figure 3, when the tacky twig 52 is inserted into the position shown and rotated gently and slowly by the operator about its own longitudinal axis, it will be obvious that rising berries near the top of their trajectory will strike the twig gently at low velocities with just sufficient force to contact the integument 44 and stick there.

It will be apparent that if the twig receiving the berries lies from 3" to 6" or 8" below the level of the top of the trajectory, the linear velocities of the particles striking it will be of the order of magnitude of one half foot per second or less.

Repeated experiment has demonstrated that if the particles strike the twig with velocities of the order of magnitude of two feet per second or more, a substantial percentage of them will bounce or glance off and in so doing will remove and carry away with them a tiny gob of the glue 44. Aside from the loss of glue, which might easily be ignored, this results in serious waste because the particles that ricochet in this way fall back to the bottom of the booth and practically always cement themselves to an adjacent particle. In this way, the charge in the booth builds up into conglomerates of from 2 to 10 or 20 particles, and all these larger masses are too large to be suitably affixed to any twig. They get in the way and have to be screened out or otherwise eliminated.

The critical velocity for optimum results with large berries varying in size from about ¼ to ¾ of an inch, and small berries about half as big, and fines ranging from ¼ to ½ the diameter of the small berries is about ½ foot per second. At working velocities of one foot per second, the effectiveness of the procedure is somewhat impaired, but still workable. With velocities at about two feet per second, the accumulation of conglomerates reaches the point where the process becomes impractical.

It is entirely practical to put the large berries 38 and the small berries 40 intermingled for a single booth if the charge is kept very small and the fountain at near maximum height. However, much better results are obtain-

able if each booth contains berries of only one size, large or small, in each instance accompanied by a trifling percentage of fines. An attractive product can be produced with large berries only or with small berries only. To produce the product indicated in Figure 4, I apply first a random assortment of large berries of sufficiently low density so that substantial areas of the twig remain easily accessible to the smaller berries. The twig is then immediately withdrawn from the fountain of large berries and exposed in an adjacent booth to a mountain of small berries and a product according to Figure 4 is easily obtained.

Near each fountain, I provide a supply of additional berries, and the operator replenishes the supply by pouring in about a peck at a time whenever the charge gets a little low.

It will be obvious that the berries in any such booth may be all of the same color or an assortment of berries of various colors, so that a wide variety of attractive color combinations more or less suggestive of an Ishihara diagram can be produced in a wide variety of attractive color combinations.

For volume production in large quantity, the process of exposing one twig at a time as in Figure 3 is too time-consuming and is rarely employed except for the most meticulous of customers. Referring to Figure 8, I have illustrated a circular plywood base 54, 16" in diameter, and 3/4" thick. Four small posts 56 positioned at the corners of a rectangle and affixed to the periphery of the base 54 support the first wire mesh screen 58 spaced away from the base and a second wire mesh screen 60 spaced from the first wire mesh screen. In the space between the screens, I insert a slab 62 of conventional expanded styrofoam adapted to receive and retain any pointed object thrust into it. To secure the best drying and drainage, the workman first affixes from 12 to 15 twigs 57 by jabbing their pointed ends 66 about a half inch into the styrofoam block. The frame is then turned upside down into the position of Figure 8 and lowered so that all but about three inches at the butt of the twig is immersed in glue. The tray is then withdrawn and left in the position of Figure 8 and drains for about three minutes, in which time the glue drains off and the remainder congeals sufficiently not to flow under the action of gravity, but it is still very tacky.

A good way to time the drying is to let the operator who mounts the twigs in the styrofoam have a rack or working space for storing about seven draining supports. After loading and dipping seven trays, he finds no place for the eighth tray. Then he removes the tray he dipped first and sends it down the conveyor, to make room for the next one. Thus each tray drains while the operator makes up seven more, and then goes down the assembly line.

The tray is now right side up and positioned on a con-

veyor 68, which guides it along parallel to the booths and past a series of operators indicated in Figure 2 at 70, 72, and 74. Each operator applies berries to an entire tray by picking up the tray bodily and holding it in the position of Figure 7 and rotating it gently through about 180° or so. Even if the twigs are only within the trajectory of the berries to the extent of 1/2 or 2/3 of the entire collection of twigs, the berries moving around and through the twigs are intercepted in such a way as to secure application of the berries in a pattern that is uniform over-all, but locally random. The operator now returns the finished tray to the conveyor and it passes on for complete drying and packaging.

Others may readily adapt the invention for use under various conditions of service by employing one or more of the novel features disclosed or equivalents thereof. As at present advised, with respect to the apparent scope of my invention, I desire to claim the following subject matter.

I claim:

1. The method of affixing to a support, in random arrangement, compact, smooth, ornamental particles prone to ricochet when striking at an oblique angle, which comprises: projecting a multiplicity of particles upward in a spout of air having an initial upward velocity materially greater than the falling speed of the particles in still air; retarding the stream gradually to below said falling speed, to cause the particles to arrive at zero upward speed and fall back again; coating the support with a tacky adhesive; and holding the support in the space where the particles hover and start down again, until the desired sprinkling of particles has stuck to the support.

2. A method according to claim 1 in which the support is rotated to cause it to seize particles on all its exposed surface.

3. A method according to claim 1 in which the spout is directed vertically upward and the particles tend to diverge laterally in all directions at the top of the spout.

4. A method according to claim 1 in which the particles that fall back are confined in a downwardly tapered space surrounding the bottom of the spout, and the action of the spout keeps the surrounding mass agitated to prevent segregation of particles of different sizes.

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