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3,078,616

CONSTRUCTIONAL TOY

Filed Feb. 16, 1960

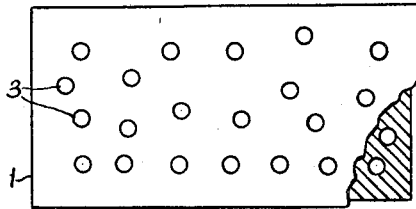


FIG. 1



FIG. 2

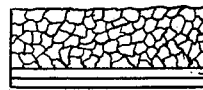


FIG. 3

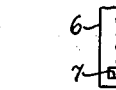


FIG. 4

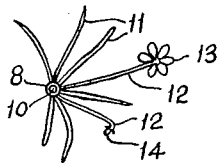


FIG. 5

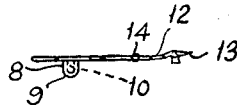


FIG. 6

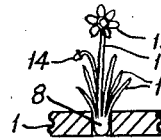


FIG. 7

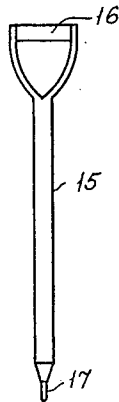


FIG. 8

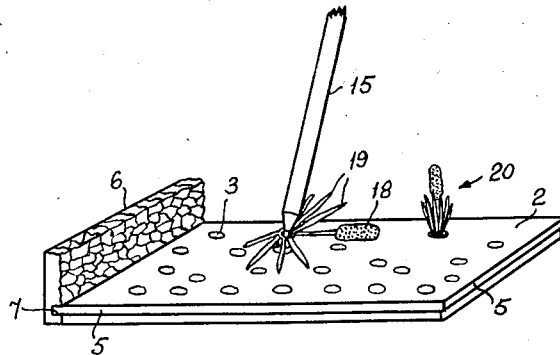


FIG. 9

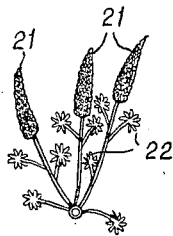


FIG. 10



FIG. 11



FIG. 12

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3,078,616

CONSTRUCTIONAL TOY

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The present invention relates to a constructional toy.

According to the invention a constructional toy comprises at least one object provided with a boss adapted to be removably mounted in an aperture or recess in any convenient base member, and one or more at least partly flexible limbs joined to the boss and projecting sideways therefrom, whereby when the boss of the object is inserted to a sufficient depth in said aperture or recess the limb or limbs of the object engage the side wall or side walls of the aperture or recess and are bent away from the plane of the base member surrounding said aperture or recess.

Although the constructional toy in accordance with the invention may simply comprise one or more objects adapted to be mounted in a base member, we prefer to provide as a part of the constructional toy, one or more suitable base members in which the object or objects may be mounted. The base member may be a plane sheet of material in which the user of the toy forms apertures or recesses at any desired places to receive the object or objects. Again the base member may comprise knock-out portions which, when removed, provide suitable apertures for the reception of the object or objects. We prefer, however, to provide the base member or base members with apertures or recesses already formed therein. According to this preferred form of the invention, therefore, a constructional toy comprises a base member having a surface with at least one aperture or recess therein, and at least one object removably mountable in said aperture or recess, said object comprising a boss capable of being inserted in said aperture or recess and one or more at least partly flexible limbs joined to the boss and projecting sideways therefrom, whereby when the boss of the object is inserted to a sufficient depth in said aperture or recess the limb or limbs of the object engage the side wall or side walls of the aperture or recess and are bent away from the plane of the base member surrounding said aperture or recess.

The boss of the object is preferably a push fit in the base member aperture and may be of cylindrical shape, preferably right cylindrical. If desired, however, the boss may have convex or concave sides or it may be conical or frusto-conical. The limb or limbs of the object may radiate from one end of the boss or from the peripheral surface of the boss intermediate its ends. While it is only essential for each limb to be flexible at the point where it is required to bend away from the plane of the base member it is most convenient to make the entire limb of flexible material, for example rubber or a flexible synthetic resin material such as polyethylene. The boss of the object may also be made of the same flexible material and it is most convenient to mould the boss integrally with the limb or limbs.

The simplest example of the preferred form of constructional toy in accordance with the invention comprises a rectangular base member with a single aperture or recess therein. This base member, which may be made of wood, rubber or synthetic resin, may have connection means along one or more of its side edges by means of which a number of similar base members may be joined together to form a composite base of any desired shape and size. Alternatively, the base member may have any number of apertures or recesses therein, the apertures or recesses

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being arranged either in a regular pattern, or irregularly, in the base member. A base member of this nature, having a plurality of apertures or recesses therein, may also comprise connection means along one or more side edges thereof so that a number of base members may be connected together to form a composite base. Preferably the apertures or recesses in the base members are of circular cross-section.

Elements of a model garden constructional toy in accordance with the invention will now be described, by way of example, with reference to the accompanying drawing, in which

FIGURE 1 is a plan view, partly in section, of an embodiment of a base member serving as the ground of the model garden,

FIGURE 2 is a side elevation of the base member of FIGURE 1,

FIGURE 3 is an elevation of a model wall,

FIGURE 4 is an end view of the wall of FIGURE 3,

FIGURE 5 is a plan of a model daffodil plant prior to planting in the garden,

FIGURE 6 is a side elevation corresponding to FIGURE 5,

FIGURE 7 is a side elevation of the model daffodil plant of FIGURES 5 and 6 after it has been mounted in a base member,

FIGURE 8 is an elevation of a dibber which may be employed for mounting model plants in the base member,

FIGURE 9 is a perspective view illustrating the use of the dibber of FIGURE 8 in the planting of a model hyacinth plant in a base member,

FIGURE 10 is a plan of a model lupin plant prior to its mounting in a base member,

FIGURE 11 is a side elevation of the model lupin plant of FIGURE 10 after mounting in a base member, and

FIGURE 12 is an elevation of a model hollyhock plant.

FIGURES 1 and 2 of the drawing show a rectangular base member 1 in the form of a substantially plane sheet having a slightly roughened upper surface 2 to simulate the appearance of the earth in a freshly-dug plot of ground. The base member 1 is moulded from polyethylene and has a thickness of $\frac{5}{32}$ inch. The upper surface 2 has a width of $1\frac{1}{2}$ inches and a length of 3 inches. In the process of moulding the base member 1 a number of circular apertures 3 are formed therein, each aperture having a diameter of $\frac{1}{8}$ inch and passing right through the base member from the upper surface 2 thereof to the lower surface 4 thereof. The apertures 3 are arranged quite irregularly in the base member, as will be seen from FIGURE 1.

The upper surface 2 is larger than the lower surface 4 so that projecting edge portions 5 are formed on all sides of the base member. These edge portions 5 serve for the mounting of other elements, such as walls, along the sides of the base member. FIGURES 3 and 4 illustrate a model stone wall 6 moulded from polyethylene which can be removably mounted on the base member 1. The wall 6 has a groove 7 formed therein to receive an edge portion 5 of the base member (as shown in FIGURE 9). It will, of course, be appreciated that the base member 1 may be detachably joined to other model garden elements, such as paths, rockeries, sheds and fences, in a similar way.

If desired, the wall 6 can be made in interlinking sections which are individually mountable on the edge portions 5. These interlinking sections may be made to simulate the appearance of the courses of a brick wall.

FIGURES 5 and 6 show a model daffodil plant moulded from polyethylene. This plant comprises a cylindrical boss 8 of circular cross-section which is provided with a rounded end 9 and has a coaxially disposed blind hole 10

in its end remote from the end 9. The boss 8 has an external diameter of $\frac{1}{8}$ inch and a length of $\frac{1}{8}$ inch and the diameter of the hole 10 is $\frac{1}{16}$ inch. Moulded integrally with the boss 8 are a number of leaves 11 and two stalks 12. These leaves and stalks radiate from the peripheral surface of the boss 8 close to the end of the latter remote from end 9. One of the stalks 12 has a fully-open flower 13 at its free end and the other stalk 12 has a bud 14 at its free end.

If the rounded end 9 of the boss 8 of the model daffodil plant is entered into one of the apertures 3 in the base member 1, and then the boss is forced down into the aperture, the leaves 11 and stalks 12 will be brought to bear against the upper surface 2 of the base member. If the boss 8 is then pushed further into the aperture 3 until its rounded end 9 is flush with the lower surface 4 of the base member, the leaves and stalks will be forced upwardly so that they adopt the positions shown in FIGURE 7 and simulate the appearance of a growing daffodil plant.

FIGURE 8 shows a model dibber made of synthetic resin material, for example polyethylene, which facilitates the setting of model plants in the base member 1. The dibber illustrated comprises a shank 15 of circular cross-section with a handle 16 at one end. At its end remote from the handle 16 the shaft 15 has a portion of reduced diameter to form a pin 17. The diameter of the pin 17 is such that it is an easy push fit in the blind holes 10 of the plants it is desired to plant in the base member.

FIGURE 9 shows a model hyacinth plant, comprising a flower 18 and leaves 19, in the process of being planted in the base member 1 using the dibber illustrated in FIGURE 8. From FIGURE 9 it will be seen that the pin 17 is inserted into the blind hole in the boss 8 of the model plant after which the boss 8 is forced by the dibber into one of the apertures 3 in the base member. When the plant has been satisfactorily set in the base member the dibber is removed from the boss 8 and the plant remains in the base member 1 as shown at 20 in FIGURE 9.

Although FIGURES 7 and 9 illustrate relatively simple model plants, it will be appreciated that models of practically any plant may be moulded according to the same principle. FIGURE 10, for example, shows a model lupin plant prior to planting in the model garden, which plant comprises three flower heads 21 and a plurality of leaves 22. FIGURE 11 shows the appearance of the lupin plant of FIGURE 10 after it has been mounted in the base member 1.

The model garden constructional toy described above with reference to FIGURES 1 to 9 may comprise other model garden elements which are moulded in their final shape and which undergo no change of shape when they are mounted in the base member 1. Such elements include, for example, lengths of fencing, trellis work, archways, walls, pergolas, summer houses, sheds and sundials, and are provided at their lower ends with one or more bosses adapted to be engaged in apertures in the base member. It may also be convenient to form some of the plants according to this principle, especially tall plants, and trees, and FIGURE 12 illustrates such a model hollyhock plant comprising a stem 23, leaves 24 and flowers 25. At the lower end of its stalk, the plant is provided with a solid boss 26 of circular cross-section which is a push fit in the apertures 3 of the base member.

It will, of course, be appreciated that only a few examples of the possible elements of a model garden constructional toy have been illustrated in the drawing. Thus, for example, the base members may take many different forms. Apart from the base member illustrated in FIGURES 1 and 2, there may be provided base members which simulate the appearance of other basic features of a garden, such as paths, lawns, flower-beds and ponds. The base members need not be rectangular, as shown in the drawing, but can have any other regular or irregular

shape (for example, square, triangular or round). Any number of base members may be placed side by side on any suitable support (for example a sheet of hardboard, or a table top) to form a model garden of any desired size and shape. If desired, some or all of the base members may be provided along their edges with means for connecting them to other base members in a readily disconnectible manner. For example small projections along the edge of one base member may be a push fit in suitable recesses in an edge of another base member. In an alternative form of construction of base member the latter comprises a thin sheet of synthetic resin material, the edges of which are preferably flanged so that when the sheet is placed on a table or other supporting surface the underside of the sheet is spaced a short distance from the supporting surface. Each base member has a number of circular apertures passing through the sheet, the underside of the sheet preferably being reinforced by webs at least in the vicinity of these apertures.

Again, although the only form of plants illustrated in the drawing are relatively small flowering plants, it will be appreciated that other parts of the constructional toy may be made to simulate the appearance of grass, bushes, flowering shrubs, weeds and vegetables. In the case of root-crop vegetables, such as carrots, beetroot, turnips and the like, the root of the vegetable forms the boss of the model plant.

Although the invention has been described in detail above with reference to a model garden toy, it will be appreciated that the invention is not limited to this particular form of constructional toy. Thus, for example, the constructional toy may comprise the necessary parts to produce a model jungle, forest, farm or other feature of the landscape.

I claim:

1. A construction toy, comprising a base member having a surface with an aperture formed therein, said aperture having a side wall defined within said base member; and an object adapted to be removably mounted in said aperture, said object comprising a boss portion having a first end and adapted to fit in said aperture with said first end inserted into said aperture at least a predetermined distance from said surface and at least one projecting portion substantially flexibly joined to said boss portion at a second end of the said boss portion opposite the first end thereof and at a distance from said first end which is less than said predetermined distance and projecting sideways therefrom in a substantially single plane so that when said boss portion of said object is inserted into said aperture of said base member with the first end of said boss portion spaced at least said predetermined distance from said surface thereof said projecting portion of said object abuts said side wall in the region where said projecting portion is flexibly joined to said boss portion so as to be bent out of said substantially single plane and out of the plane of said surface of said base member, projecting outwardly at an angle thereto.

2. A construction toy, comprising a base member having a surface with a plurality of apertures formed therein, each of said apertures having a side wall defined within said base member; and an object adapted to be removably mounted in any of said apertures, said object comprising a boss portion having a first end and adapted to fit in any of said apertures with said first end inserted into said aperture at least a predetermined distance from said surface and at least one projecting portion substantially flexibly joined to said boss portion at a second end of the said boss portion opposite the first end thereof and at a distance from said first end which is less than said predetermined distance and projecting sideways therefrom in a substantially single plane so that when said boss portion of said object is inserted into any of said apertures of said base member with the first end of said boss portion spaced at least said predetermined distance from said surface

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thereof said projecting portion of said object abuts said side wall in the region where said projecting portion is flexibly joined to said boss portion so as to be bent out of said substantially single plane and out of the plane of said surface of said base member, projecting outwardly at an angle thereto.

3. A construction toy, comprising a base member having a projecting edge portion and having a surface with a plurality of apertures formed therein, each of said apertures having a side wall defined within said base member; and an object adapted to be removably mounted in any of said apertures, said object comprising a boss portion having a first end and adapted to fit in any of said apertures with said first end inserted into said aperture at least a predetermined distance from said surface and at least one projecting portion substantially flexibly joined to said boss portion at a second end of said boss portion opposite the first end thereof and at a distance from said first end which is less than a predetermined distance from said surface and projecting sideways therefrom in a substantially single plane so that when said boss portion of said object is inserted into any of said apertures of said base member with the first end of said boss portion spaced at least said predetermined distance from said surface thereof said projecting portion of said object abuts said side wall in the region where said projecting portion is flexibly joined to said boss portion so as to be bent out of said substantially single plane and out of the plane of said surface of said base member, projecting outwardly at an angle thereto.

4. A construction toy, comprising a base member having a surface with an aperture formed therein, said aperture having a side wall defined within said base member; and a model plant adapted to be removably mounted in said aperture, said model plant comprising a boss portion having a first end and adapted to fit in said aperture with said first end inserted into said aperture at least a predetermined distance from said surface and a plurality of projecting portions substantially flexibly joined to said boss portion at a second end of said boss portion opposite the first end thereof and at a distance from said first end which is less than said predetermined distance and projecting sideways therefrom in a substantially single plane so that when said boss portion of said model plant is inserted into said aperture of said base member with the first end of said boss portion spaced at least said predetermined distance from said surface thereof said projecting portions of said model plant abut said side wall in the region where said projecting portions are flexibly joined to said boss portion so as to be bent out of the plane of said substantially single plane and out of said surface of said base member, each projecting outwardly at an angle thereto, said projecting portions of said model plant being formed in the configurations of stems, leaves and flowers of a plant.

5. A construction toy, comprising a base member having a surface with a plurality of substantially circular apertures formed therein, each of said apertures having a side wall defined within said base member; and a model plant adapted to be removably mounted in any of said apertures, said model plant comprising a boss portion of substantially cylindrical configuration having a first end and to fit in any of said apertures with said first end inserted into said aperture at least a predetermined distance from said surface and a plurality of projecting portions substantially flexibly joined to said boss portion at a second end of the said boss portion opposite the first end thereof and at a distance from said first end which is less than said predetermined distance and projecting at substantially right angles from the axis of the said boss portion in a substantially single plane so that when said boss portion of said model plant is inserted into any of said apertures of said base member with the first end of said boss portions spaced at least said predetermined distance from said surface thereof said projecting portions of said model plant abut said side wall in the region where said

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projecting portions are flexibly joined to said boss portion so as to be bent out of said substantially single plane and out of the plane of said surface of said base member, each projecting outwardly at an angle thereto, said projecting portions of said model plant being formed in the configurations of stems, leaves and flowers of a plant.

6. A construction toy, comprising a base member having a surface with an aperture formed therein, said aperture having a side wall defined within said base member; and a model plant adapted to be removably mounted in said aperture, said model plant comprising a boss portion having lower and upper ends and a hole in the upper end thereof adapted to accommodate a tool for inserting said boss portion into said aperture, said boss portion being adapted to fit in said aperture with said lower end inserted into said aperture at least a predetermined distance from said surface, and a plurality of projecting portions substantially flexibly joined to said boss portion at the upper end of said boss portion and at a distance from said lower end which is less than said predetermined distance and projecting sideways therefrom in a substantially single plane so that when said boss portion of said model plant is inserted into said aperture of said base member with the lower end of said boss portion spaced at least said predetermined distance from said surface thereof said projecting portions of said model plant abut said side wall in the region where said projecting portions are flexibly joined to said boss portion so as to be bent out of said substantially single plane and out of the plane of said surface of said base member, each projecting outwardly at an angle thereto, said projecting portions of said model plant being formed in the configurations of stems, leaves and flowers of a plant.

7. A construction toy, comprising a base member having a surface with a plurality of substantially circular apertures formed therein, each of said apertures having a side wall defined within said base member; and a model plant of molded synthetic resin material adapted to be removably mounted in any of said apertures, said model plant comprising a boss portion of substantially cylindrical configuration having a first end and adapted to fit in any of said apertures with said first end inserted into said aperture at least a predetermined distance from said surface and a plurality of projecting portions substantially flexibly joined to said boss portion at a second end of the said boss portion opposite the first end thereof and at a distance from said first end which is less than said predetermined distance and projecting at substantially right angles from the axis of the said boss portion in a substantially single plane so that when said boss portion of said model plant is inserted into any of said apertures of said base member with the first end of said boss portion spaced at least a predetermined distance from said surface thereof said projecting portions of said model plant abut said side wall in the region where said projecting portions are flexibly joined to said boss portion so as to be bent out of said substantially single plane and out of the plane of said surface of said base member, each projecting outwardly at an angle thereto, said projecting portions of said model plant being formed in the configurations of stems, leaves and flowers of a plant.

8. A construction toy, comprising a base member having a surface with a plurality of substantially circular apertures formed therein, each of said apertures having a side wall defined within said base member; and a model plant of molded synthetic resin material adapted to be removably mounted in any of said apertures, said model plant comprising a boss portion of substantially cylindrical configuration having a first end and adapted to fit in any of said apertures with said first end inserted into said aperture at least a predetermined distance from said surface and a plurality of projecting portions substantially flexibly joined to said boss portion at a second end of the said boss portion opposite the first end thereof and at a distance from said first end which is less than said prede-

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terminated distance and projecting at substantially right angles from the axis of the said boss portion in a substantially single plane so that when said boss portion of said model plant is inserted into any of said apertures of said base member with the first end of said boss portion spaced at least said predetermined distance from said surface thereof said projecting portions of said model plant abut said side wall in the region where said projecting portions are flexibly joined to said boss portion so as to be bent out of said substantially single plane and out of the plane of said surface of said base member, each projecting outwardly at an angle thereto, said projecting portions of said model plant being formed in the configurations of stems, leaves and flowers of a plant.

9. A construction toy, comprising, a base member having a surface with a plurality of substantially circular apertures formed therein, each of said apertures having a side wall defined within said base member; and a model plant of molded synthetic resin material adapted to be removably mounted in any of said apertures, said model plant comprising a boss portion of substantially cylindrical configuration having lower and upper ends and a hole in the upper end thereof adapted to accommodate a tool for inserting said boss portion into said aperture, said boss portion being adapted to fit in any of said apertures with said lower end inserted into said aperture at least a predetermined distance from said surface, and a plurality of projecting portions substantially flexibly joined to said boss portion at the upper end of said boss portion and at a distance from said lower end which is less than said

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predetermined distance and projecting at substantially right angles from the axis of the said boss portion in a substantially single plane so that when said boss portion of said model plant is inserted into any of said apertures of said base member with the lower end of said boss portion spaced at least said predetermined distance from said surface thereof said projecting portions of said model plant abut said side wall in the region where said projecting portions are flexibly joined to said boss portion so as to be bent out of said substantially single plane and out of the plane of said surface of said base member, each projecting outwardly at an angle thereto, said projecting portions of said model plant being formed in the configurations of stems, leaves and flowers of a plant.

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