

PATENT SPECIFICATION

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COMPLETE SPECIFICATION

DRAWINGS ATTACHED

Model Tree

WE, BRITAINS LIMITED, a British Company of 186 King's Cross Road, London, W.C.1., do hereby declare the invention, for which we pray that a Patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following Statement:—

This invention relates to a model tree for a toy or for decorative purposes which is made of synthetic plastic material and to the component parts of such a model tree.

According to the present invention a model tree comprises a supporting framework simulating the trunk and main branches of the tree and a plurality of foliage units removably attached to the framework, each foliage unit consisting of a thin mat-like member simulating twigs and leaves of the tree and having fixing means formed therein which fixing means are engaged by an end of a branch or an associated fixing means formed on a branch so that the mat-like member overlies the branch with areas simulating twigs and leaves disposed on opposite sides thereof.

Highly realistic trees can be formed in accordance with the invention with a very limited number of foliage units, some species of tree requiring just one foliage unit at the end of each branch. Conveniently the fixing means of each foliage unit, which may be an apertured boss, is located roughly centrally with respect to the mat-like member.

The associated fixing means may be an upstanding peg at or adjacent to the end of a branch on which an apertured fixing portion of a foliage unit can be located.

The trunk may be moulded in a single piece integrally with the branches and is preferably formed from a plastic material which in its set or cured state can be distorted from the shape in which it was

formed and has the ability to retain its distorted shape. An example of a synthetic resin which has this property is high density polyethylene. By using such material the individual parts of an assembled model tree can be shaped and set in such positions as to give the model a most realistic appearance.

The lower end of the trunk may be moulded in the form of a base member to enable the tree to be stood on a suitable supporting surface. Alternatively, the lower end of the trunk may be removably mountable in a separate base member. The latter, which may be moulded from synthetic resin material, may be made to simulate the appearance of a landscape feature, for example a mound of earth or a grassy bank. A hole in this base member, which may be a blind hole, is adapted to receive the lower end of the trunk so as to support the tree firmly in an erect position relative to the base member. Tufts of grass or other small plants may be arranged around the hole in the base member. These plants may be moulded integrally with the base member. If desired, a base member may be provided which is capable of receiving several model trees.

An alternative range of model trees may be formed in which the trunk and at least some of the branches are removably connected together.

Preferably the fixing means is located in a concave part of the mat-like member whereby when the foliage unit is attached to a branch the areas simulating twigs and leaves droop down around the end of the branch to which it is attached.

One or more of the foliage units may be adapted to receive one or more removable shoot portions for the purpose of enhancing the three-dimensional appearance of the

[Price 4s. 6d.]

foliage units. These shoot portions may comprise a boss with a blind hole therein and one or more at least partly flexible limbs radiating from the boss as claimed in our Specification No. 878,665. The foliage unit would be provided with one or more holes, which may be blind holes, to receive the shoot portions.

The model may comprise portions which simulate the appearance of flowers and/or fruit. These portions may be moulded integrally with a branch, or branches, or with the foliage units or they may be removably mountable on the branch or branches or on the foliage units. Such flower and/or fruit portions may be provided with holes, which may be blind holes, adapted to receive suitably shaped pegs moulded integrally with the branch or branches or the foliage units. Alternatively, the flower and/or fruit portions of the tree may be provided with pegs adapted to be received in holes, which may be blind holes, in the trunk, a branch or a foliage unit of the model.

The invention also includes a set of model tree-forming parts, comprising a trunk, or trunk portions, and one or more foliage units removably mountable directly or indirectly on the trunk or trunk portions, all the parts being of moulded synthetic resin material. The set of parts may include different foliage units simulating the appearance of a tree at different seasons of the year.

Some embodiments of model trees in accordance with this invention will now be described, by way of example, with reference to the accompanying drawings, in which:—

Figure 1 is a perspective view of a first form of model tree,

Figures 2, 3 and 4 are views of component parts of the model of Figure 1,

Figure 5 is a side elevation of a second form of model tree,

Figures 6, 7 and 8 are views of component parts of the model of Figure 5,

Figure 9 is a schematic view of a steam boiler for imparting greater realism to the foliage units of Figure 8, and

Figures 10 and 11 are side views of a foliage unit before and after treatment on the boiler of Figure 9.

Referring first to Figures 1 to 4, the first form of model tree (which for example gives a realistic model beech or birch tree) consists of a one piece trunk 1 and branches 2 moulded integrally in high density polyethylene, a base 3 and a plurality of foliage units 4. Many of the branches 2 comprise an integrally moulded peg 5 and the base of the trunk is formed integrally with a pin 6. To form the model of Figure 1, the pin 6 is located in a suitably dimensioned blind

hole 7 in the base 3 and foliage units 4 are attached to the pegs 5 on the branches 2 by cooperation of a blind hole 8 on the underside of each unit 4 and a peg 5.

Although the trunk and branches do have thickness in the direction normal to the paper the integral trunk and branches structure of Figure 2 is substantially flat when it is removed from the mould. During the construction of the model tree some of the branches can be bent at angles to the plane of the paper to give heightened realism to the model.

The second form of model shown in Figure 5 (suitable, for example, for providing a realistic model oak tree), differs from the first form principally in that the trunk 9, although having some branches 10 moulded integrally therewith, is provided with a number of pegs 11 and 12. Pegs 11 extend substantially in the plane of the paper, but the pegs 12 project from the trunk in a direction substantially normal to the paper. Only two pegs 12 are shown, but in practice similar pegs are provided on that side of the trunk not shown in Figure 6. To complete the model shown in Figure 5, a plurality of branch units 13 is attached to the pegs 11 and 12 by locating each peg in the recess 14 of one of the branch units and by attaching foliage units 15 (such as those shown in Figure 8) to pins 16 and 17 moulded integrally with each branch unit 13. The pins 16 and 17 (which extend outwards from the plane of the paper) need not be of the same length, and conveniently pin 17 is some four or five times the length of pins 16.

Although the trunk 9 and branches 10 of Figure 6 and the branch units 13 of Figure 7 do have thickness in the direction normal to the paper, they are all substantially flat when removed from the moulds. It will be appreciated however that branch units 13 may be attached to pins 11 at any desired orientation to give an array of branches having considerable depth in the direction normal to the paper. Furthermore, of course, by utilising the pins 12 for the attachment of branch units 13, an array of branches can be formed which has comparable dimensions when measured in the plane of, and also normal to, the paper.

Figure 8 shows the preferred method of moulding the foliage units 15, in which a plurality of these units is formed in one moulding operation, the separate units being connected by the moulding sprue 18. Figure 10 shows one such foliage unit, on an enlarged scale, after it has been disconnected from the sprue 18. The blind hole 20 therein is formed in a boss 19, but in the main, after moulding, each foliage unit 15 is substantially flat. It has been found that heightened realism can be given

to some models (for example a model oak tree) if the foliage can be made to droop downwardly from the branches. One convenient apparatus for obtaining such a "droop" on foliage units made from thermoplastic synthetic resin material is illustrated in Figure 9. The apparatus consists of a low pressure steam boiler 21 having a plurality of steam outlets 22 in the lid. The boiler, containing water, is heated in any convenient manner until steam issues from the outlets 22.

By suitably shaping and dimensioning the lid of the boiler (e.g. by the provision of a platform 23) and by suitably spacing the outlets 22, it can be arranged that one steam outlet is located centrally below each foliage unit of the cluster of units shown in Figure 8. The steam softens the synthetic resin material so that each foliage unit droops from the form shown in Figure 10 to the form shown in Figure 11. The time taken for this operation will of course depend on the particular synthetic resin, the temperature of the cluster when placed on the lid of the boiler and the rate at which steam is escaping from the outlets 22. In one preferred method of "drooping" foliage units, the cluster is placed on the lid of the boiler as soon as it is removed from the mould, and has "drooped" to the desired extent in some 15 or 20 seconds.

Where the foliage units are to be supported above the branch to which they are attached, the bosses 10 should be on the underside of the cluster when it is placed over the outlets 22.

WHAT WE CLAIM IS:—

1. A model tree comprising a supporting framework simulating the trunk and main branches of the tree and a plurality of foliage units adapted to be removably attached to the framework, each foliage unit consisting of a thin mat-like member simulating twigs and leaves of the tree and having fixing means formed thereon which

fixing means are engaged by an end of a branch or an associated fixing means formed on a branch so that the mat-like member overlies the branch with areas simulating twigs and leaves disposed on opposite sides thereof.

2. A model tree as claimed in claim 1, in which the fixing means on the foliage unit is an apertured boss.

3. A model tree as claimed in claim 2, in which the associated fixing means is a peg integrally formed on the branch.

4. A model tree as claimed in any one of claims 1 to 3, in which the trunk and branches are moulded in one piece.

5. A model tree as claimed in any one of claims 1 to 3, in which at least some of the branches are removably attached to the trunk.

6. A model tree as claimed in claim 4 or claim 5, in which the trunk is removably located in a separate base member.

7. A model tree as claimed in any one of the preceding claims in which the fixing means is located in a concave part of the mat-like member.

8. A model tree as claimed in claim 7 in which the mat-like member is of a thermoplastic material and has been made to droop by supporting it in a jet of steam.

9. A model tree of synthetic plastic material substantially as hereinbefore described with reference to, and as illustrated in, Figure 1 of the accompanying drawings.

10. A model tree of synthetic plastic material substantially as hereinbefore described with reference to and as illustrated in Figure 5 of the accompanying drawings.

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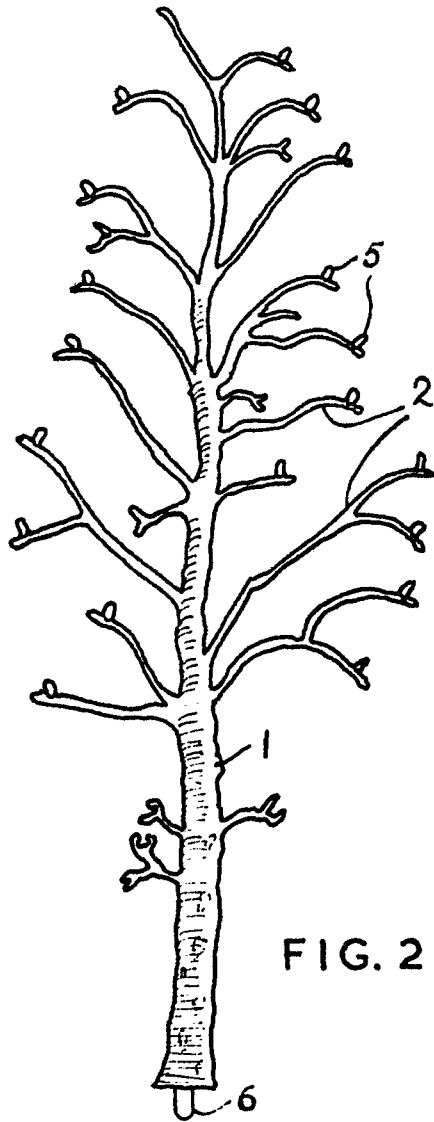


FIG. 2

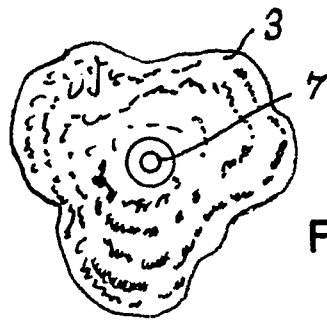


FIG. 4

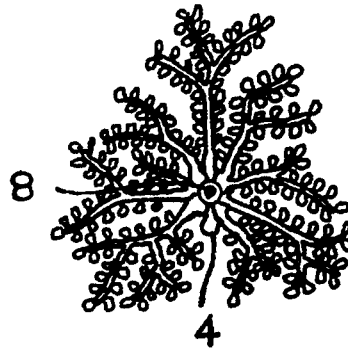


FIG. 3

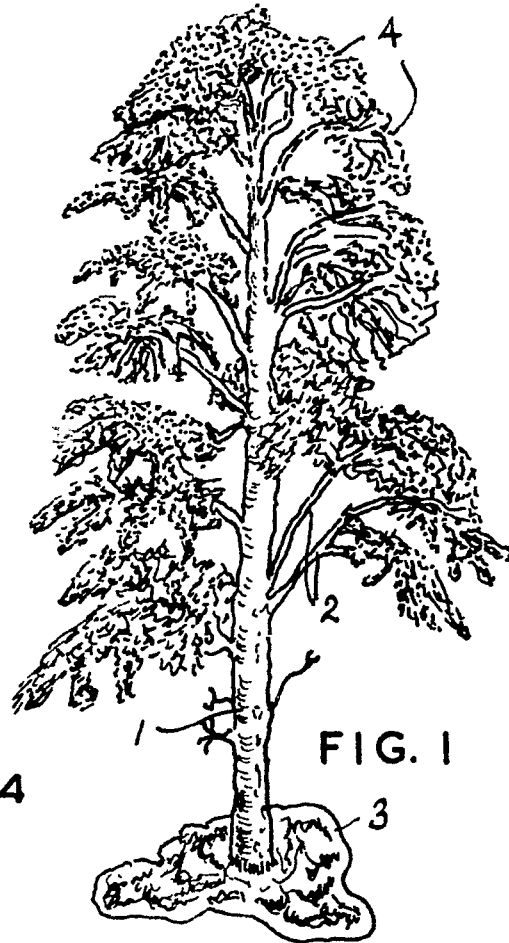
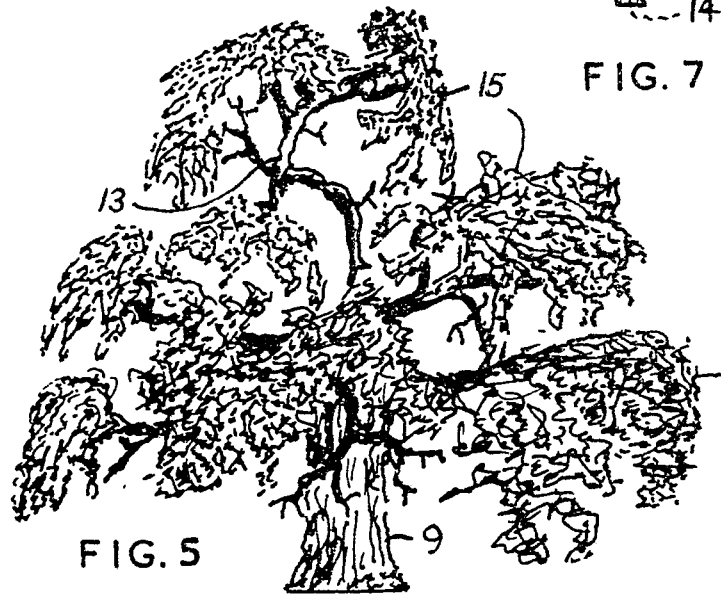
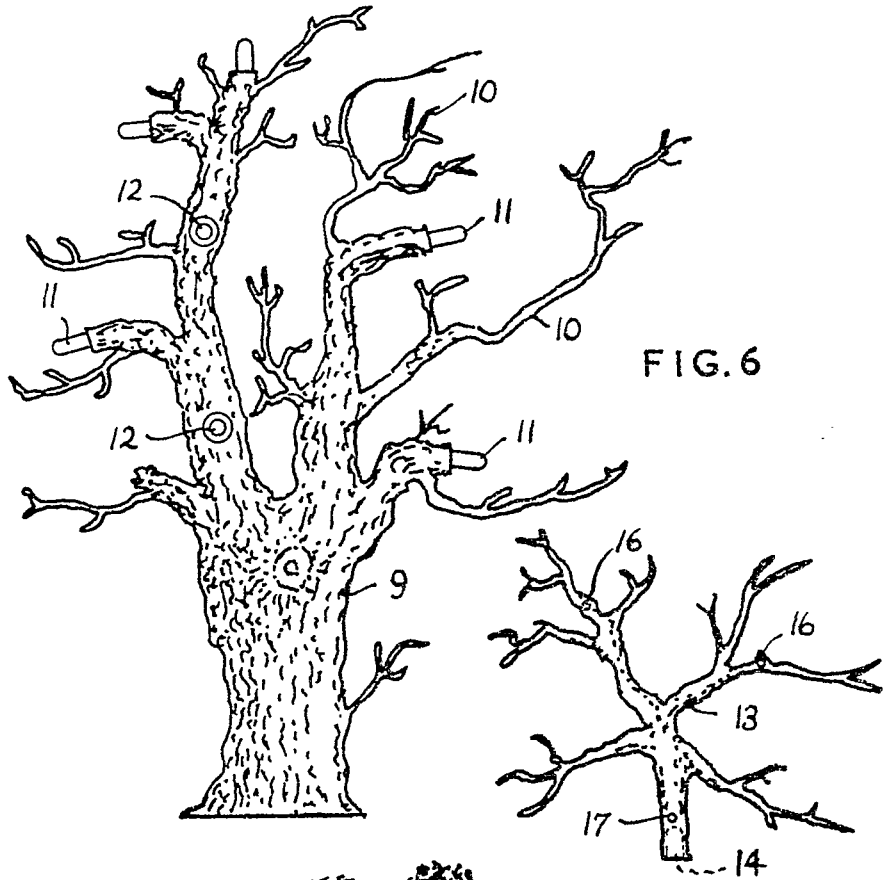


FIG. 1



This drawing is a reproduction of the Original on a reduced scale.

SHEETS 2 & 3

6

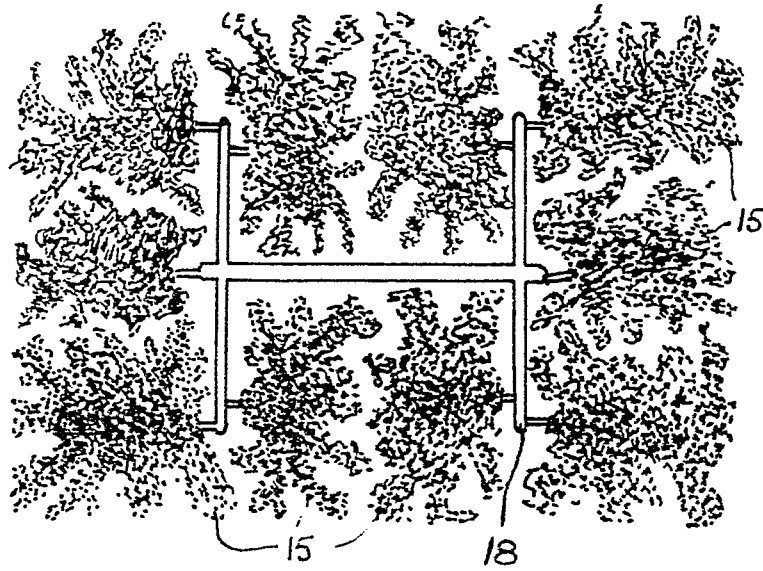


FIG. 8



13



14

7

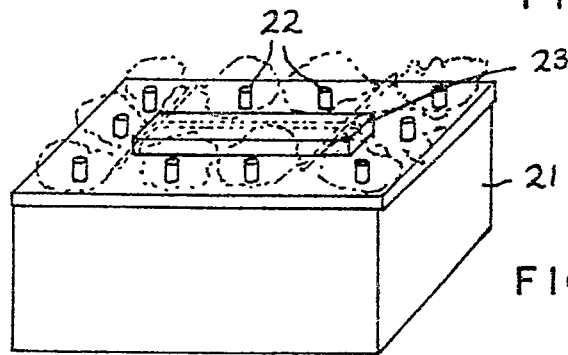


FIG. 9

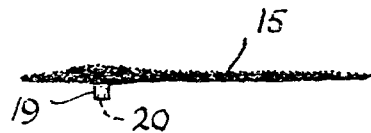


FIG. 10

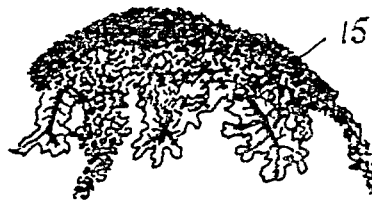


FIG. 11

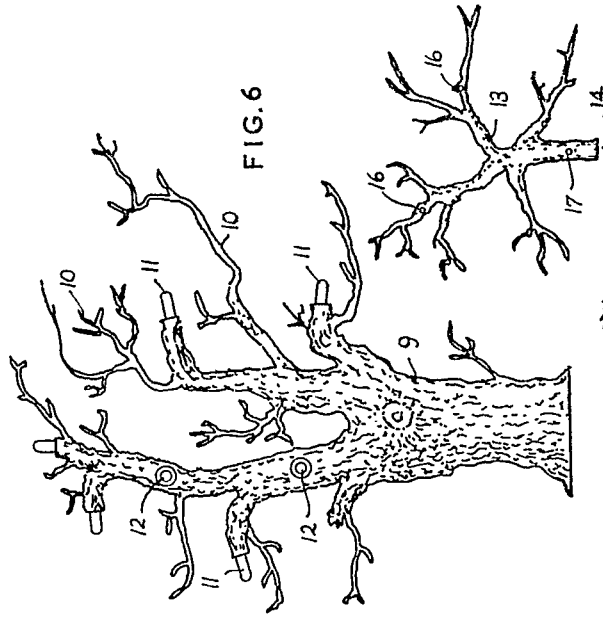


FIG. 6

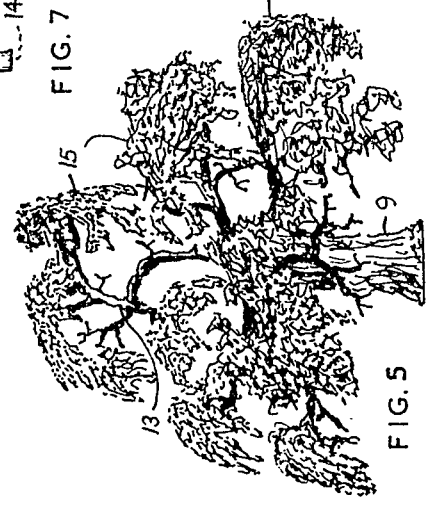


FIG. 7

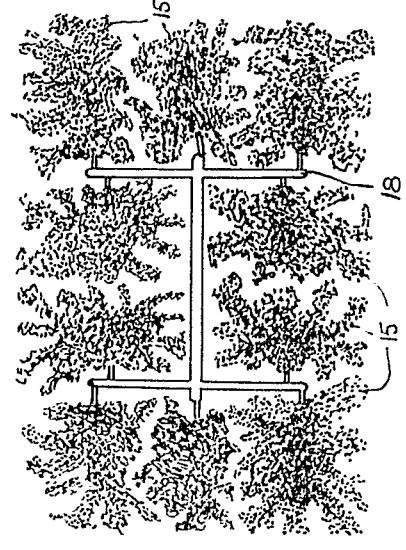


FIG. 8

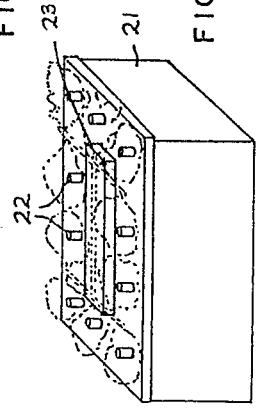


FIG. 9

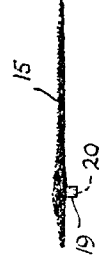


FIG. 10



FIG. 11

FIG. 5