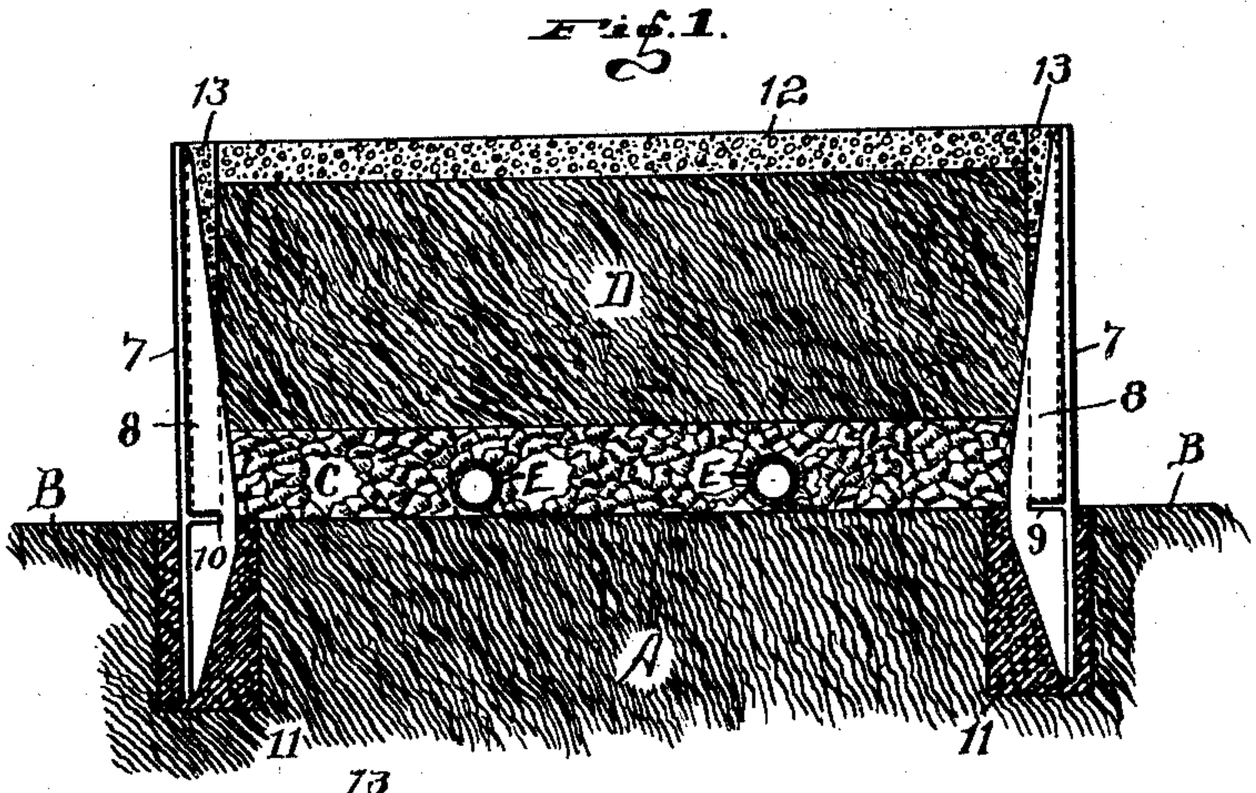
Oct. 7, 1930. J. E. JONES 1,777,798

GREENHOUSE BENCH

Filed April 19, 1928

Fig. 1.



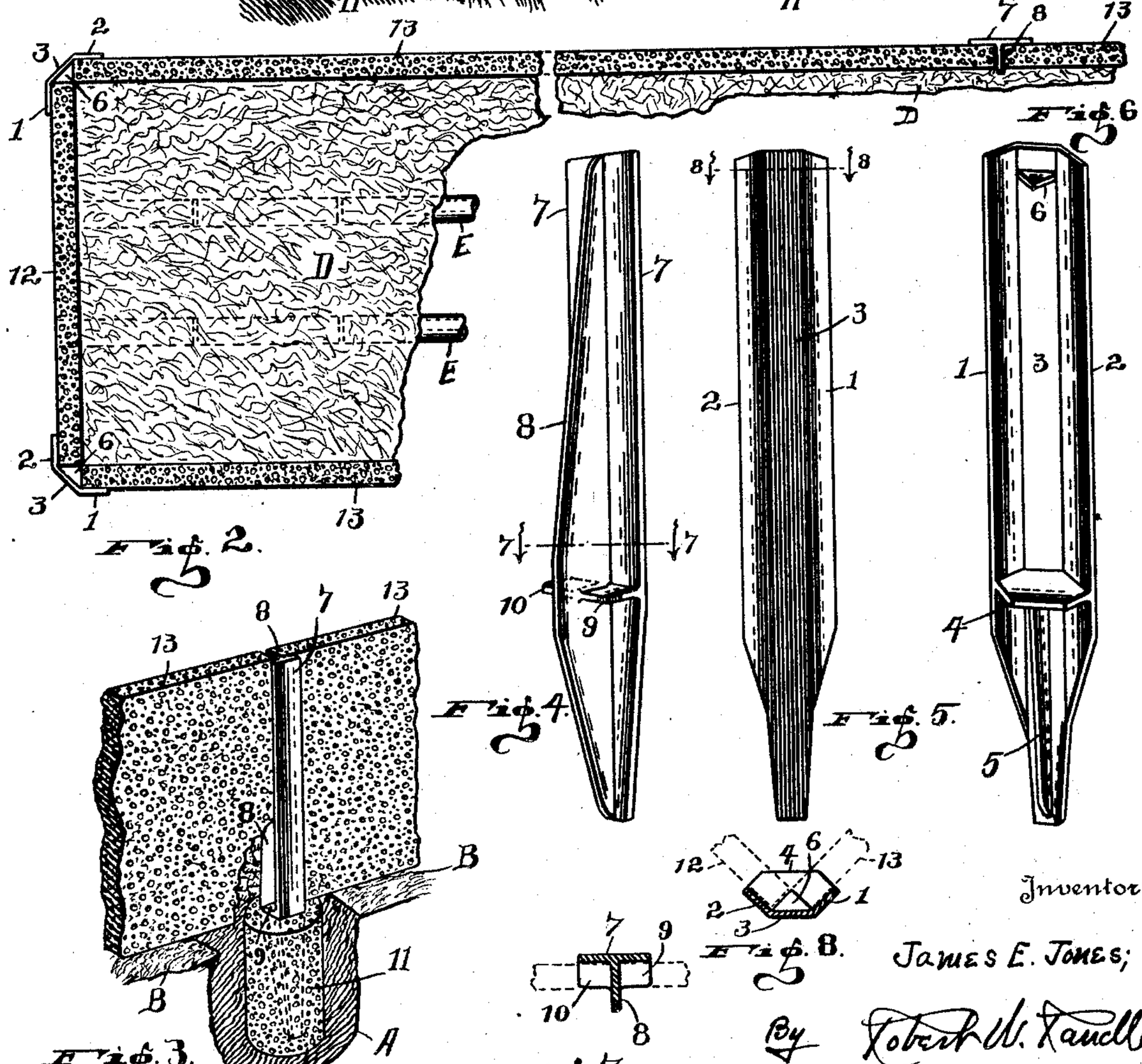


Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6

Fig. 8.

Fig. 7.

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GREENHOUSE BENCH

Application filed April 19, 1928. Serial No. 271,276.

The object of my present invention, broadly speaking, is to provide greenhouse benches in which plants may be germinated and grown, the same being strong and durable in construction, practically indestructible by fire, moisture, rust or other causes of deterioration, which may be assembled without the employment of expert labor or the employment of nails, screws or bolts, with but a minimum of time and labor in assembling; providing proper drainage and aerification; the parts thereof being adapted to be piled in a small compass of space for storage or transportation; and which can be manufactured, sold, and installed at a comparatively low price.

More specifically stated, my object is to provide a greenhouse bench, which may consist of one or a plurality of sections, in which the sides of the enclosures are formed of reinforced concrete slabs, with metal posts for retaining the slabs in position, in which the interior of the bench extends down into connection with the earth, thereby dispensing with the usual elevated bottom and by which the weight of the soil material in which the plants are grown will be carried entirely by the ground on which the bench is constructed, and providing adequate means for drainage and aerification of the soil without undue loss of moisture, as is the case where the bottom of the bench is some distance above the surface of the ground. Other objects and particular advantages of this invention will be brought out in the course of the following description, and that which is new will be correlated in the appended claims.

The preferred means for carrying out the principles of my invention in a practical and scientific manner is shown in the accompanying drawings, in which—Figure 1 shows, in elevation, the end of an intermediate section of my bench, certain of the parts being in section. Figure 2 is a plan view of portions of an end section, and a fragment of an intermediate section of my bench. Figure 3 is a perspective view of the adjoining portions of one side of two sections. Figure 4 is a perspective elevation of the inner side of one of the intermediate posts. Figure 5 is an outside elevation of one of the corner posts. Figure 6 is an inside elevation of one of the corner posts. Figure 7 is a cross section of one of the intermediate posts, taken on the line 7—7 of Fig. 4. And Figure 8 is a cross section of one of the corner posts, taken on the line 8—8 of Fig. 5.

Similar indices denote like parts throughout the several views.

In order that the construction and the advantages of my invention may be more fully understood and appreciated, I will now take up a detailed description thereof, in which I will set forth the same as fully and as comprehensively as I may.

Each of the corner posts is, in cross section, in the nature of a double oblong angle or a three sided trapezoid, that is,—the two sides, 1 and 2, are spaced apart at right angles to each other and are connected by the face portion 3 located at an obtuse angle with relation to said sides. In the angle formed by the members 1, 2 and 3 and below the center, vertically, of said parts, is a shelf 4. A short distance below the shelf 4 the sides 1 and 2 taper into the member 3. Extending inward from the center, horizontally, of the member 3, from the underside of the shelf 4, to near the lower end of the member 3, is the rib 5, as shown in Fig. 6. Extending back from near the upper end of the member 3 is a triangular lug 6. All of said parts are integral with each other, that is they are formed by a single casting of metal.

All of the intermediate posts are of the same length as said corner posts and they each comprise a flat face portion 7, whose lower portion tapers to the lower end thereof. An elongated triangular rib 8 extends back from the center of the inner face of the member 7 and at right angles thereto. And slightly below the center, vertically, of the parts 7 and 8, rectangular shelves 9 and 10 are formed and they are located in the two angles formed by the members 7 and 8. From a point near the shelves 9 and 10 the rib 8 tapers toward the member 7 to the upper and the lower ends of the intermediate post, as shown in Fig. 4. All of the parts of the

intermediate post are formed integral and of a single casting.

The total lengths of the corner posts and the intermediate posts are the same; and the shelves 4, 9 and 10 are an equal distance from the ends of their respective stakes.

Each of said posts is to be secured in a concrete base 11, as hereinafter set forth and as shown in Fig. 3. The upper end of the base is substantially level with the shelf 4, or the shelves 9 and 10, and with the surface B of the ground.

Numeral 12 denotes the end slabs and 13 denotes the side slabs. All of said slabs are formed of reinforced concrete, as set forth in a companion application for patent filed April 19, 1928, Serial No. 271,275. Said slabs are of such width, vertically, when set in place, as to be equal with the distance from the shelves 4, 9 and 10 to the top of said posts; and their lengths, horizontally, are predetermined as desired in order to meet conditions.

Letter A denotes the natural earth having the normal surface B.

Assembly.—In practice a hole is made in the earth A for each post. The lower portion of one of said posts is then inserted in said hole after which the hole is filled in with concrete whereby the upper end of the concrete base 11 and the shelf 4, or the shelves 9 and 10 will be on a level with the surface B of the earth A.

After the posts have all been set and the concrete bases 11 have solidified, then the slabs 12 and 13 may be set in position as shown in the drawings, the lower edges thereof being rested on the shelves 4, 9 and 10. After the slabs have been placed in position I next place a layer of charcoal C, or its equivalent, in the enclosure and on the surface of the ground to the depth desired, after which the enclosure is filled in with soil D, filling up the enclosure to near the upper edges of the slabs and posts, as in Fig. 1, which will of course retain the slabs in position and in contact with their posts as shown. The charcoal not only contributes to the proper drainage of the soil D but it provides proper ventilation and circulation of air with relation to the soil D. Tiling E should be placed through the charcoal C to provide proper drainage.

It is to be understood that a single-section bench may be formed by employing only four corner posts for the four slabs required. Or any number of intermediate sections may be set up, between the end sections, by using intermediate posts to connect the side slabs in direct lines, as in Fig. 3. Therefore benches may be made of almost any size required without any change whatever in the size of the slabs employed.

Having now fully shown and described my invention, what I claim is—

1. A greenhouse bench comprising a plurality of posts having their lower portions secured below the surface of the ground and projecting thereabove, sides and ends contacting with said posts and supported thereby, the enclosure formed by said sides and ends having means for drainage, a filling of charcoal or its equivalent resting on the ground inside said enclosure, and soil resting on said charcoal and extending upward to near the upper edges of the sides and ends and retaining the sides and ends in contact with the posts.

2. A greenhouse bench including metal corner-posts each being in the form of a three sided trapezoid in cross section, a shelf integral with and located in the angle of each post below the center thereof, with the sides of each post below the shelf tapering downwardly, a rib integral with each post and located in the angle thereof and extending downwardly from the shelf, a concrete base for each post with the top of each base located even with the shelf thereof, concrete slabs resting at their ends upon said shelves to complete the enclosure of the bench, and soil located in the enclosure and retaining the slabs in vertical position against the posts.

3. A greenhouse bench including metal corner posts, a shelf integral with each corner post, a plurality of intermediate metal posts, each of the metal posts being of the same length as the corner posts and each comprising a flat face, a shelf located below the center of each intermediate post and formed integral therewith, a rib extending downwardly from each shelf, the intermediate posts and their ribs being formed to taper downwardly from the shelves thereof, a concrete base for each of the corner posts and the intermediate posts with the top of each base located on a level with the shelf of its respective post, a concrete slab connecting each two of said posts and resting on the respective shelves thereof, charcoal located in the enclosure formed by said slabs, and soil resting on the charcoal and extending up to near the tops of the slabs and retaining ends of the slabs in contact with the inner faces of the posts.

JAMES E. JONES.