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A DEVICE FOR SAFELY TRANSPLANTING LONG LEAF PINES AND OTHER EVERGREENS

By

Lionel Weil

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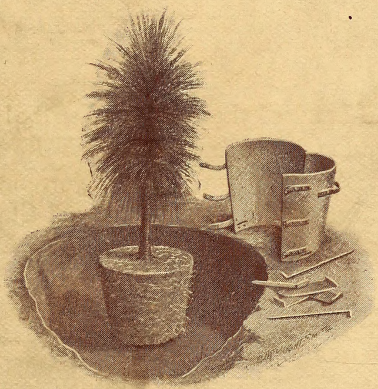

Lionel Weil

Goldsboro, North Carolina

635.977
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"Here's to the Land of the Long Leaf Pine!
The Summer Land, where the sun doth shine,
Where the weak grow strong, and the strong grow great;
Here's to 'Down Home,' the Old North State."

THE writer, in his endeavor to enhance the horticultural effect around his home in Goldsboro, N. C., brought in from the nearby woods about fifty small long leaf pines, ranging in height from two and one-half to four and one-half feet. These grew almost exclusively in sandy soil, and an effort was made to cut under the roots, so as to bring as much of the roots, together with the surrounding soil, as possible. Each tree was then carefully wrapped and tied in burlap. Owing to the nature of the soil, however, it was next to impossible to form any adhesion between the root and the soil, and after transplanting these trees and anxiously awaiting signs of life, they all died during the next spring and summer, with one lone exception. This lone survivor had been taken up on a different day during a very cold spell when the ground was frozen, and, in consequence, the ball of soil was taken up with the roots intact and thus transplanted. This tree was kept well watered during the first season and survived.

Planning and Operation of Device

The above experience has led the writer to the following conclusion:

That in order for the transplanted tree to receive as little check as possible in becoming established to its new habitat, it is essential that the greater portion of its fibrous and hair roots should be removed in their original position, encased in their native soil. Thus the roots of the tree will be enabled to take from its original soil the stored up nourishment and continue, uninterruptedly, the vital processes. This constitutes the basic idea of a device for transplanting.

After repeated trials and experiments, a transplanting receptacle was designed to meet the above situation. This is shown in Illustration No. 1. A patent, was issued for this device by the United States Government on May 31st, 1921. This illustration shows the transplanting receptical lying on its hinged back, the inserted bottom with its pins and slides being in the immediate foreground of this illustration. This receptical is preferably made of sheet iron and is provided with a pair of semicircular side walls (Illustration No. 2), which are preferaby of less width at their lower than their upper edges, these side walls being hingedly secured together so that a receptacle of tapering construction is provided.

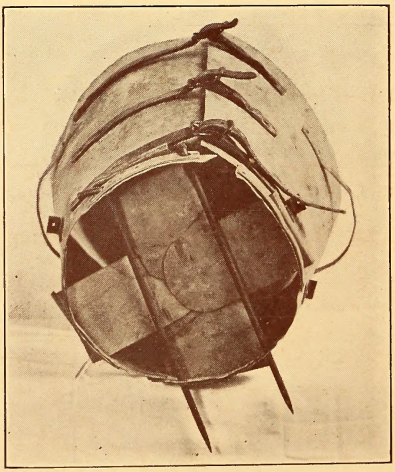

Illustration No. 1.

Transplanting Receptacle

Of Material Assistance to the Life and Growth of the Transplanted Tree.

The advantages of this tapering construction are:

First, to accomodate itself to the root system, same being developed to a greater degree nearer the surface and gradually tapering toward the bottom of the tree, as you go deeper into the soil.

Second, the lower end of the receptacle when closed, being of appreciably less circumference than the upper end, the walls of same materially assist in supporting the roots and column of soil it is intended to transplant.

How to Use the Transplanting Receptacle

In order to transplant the tree, it is first necessary to dig a circle around the tree (Illustration No. 2), a small fraction less than the size of the top of the receptacle and dig down until the larger roots disappear, the depth not to exceed the depth of the receptacle, also bearing in mind the general outline of the receptacle. The next step is to open the receptacle (Illustration No. 2), place same around the column of soil and roots and fasten securely the sides of the receptacle by drawing together the straps through the buckles. The receptacle is now ready to have its bottom inserted. Project two iron pins through holes in front at bottom of receptacle.

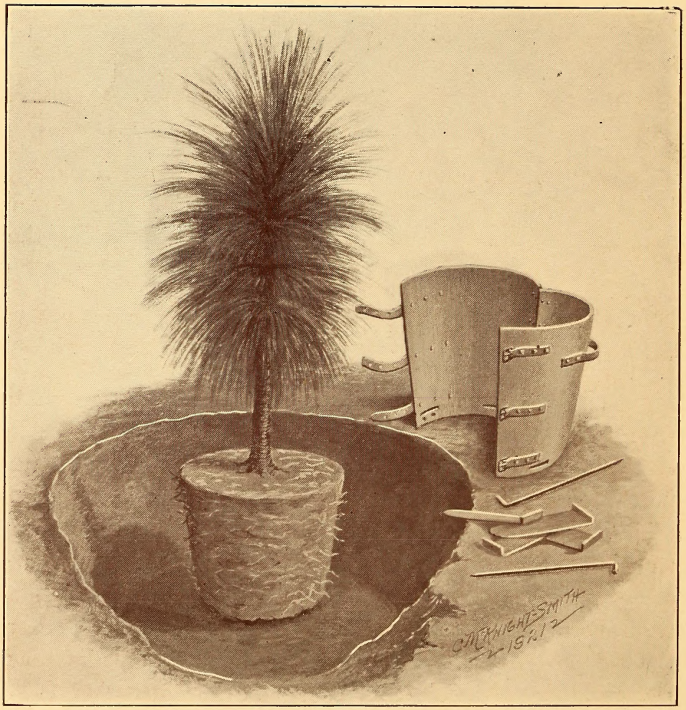

Illustration No. 2

Showing Soil Around Pine Removed in Proper Form, Ready to be Surrounded by Transplanting Receptacle.

These pins (see Illustration No. 3) are to penetrate the column of soil and are to rest in slots on the same level at the back of the receptacle. These pins form the main support for four slides, which are then to be inserted through the slots into the walls of the receptacle and column of soil.

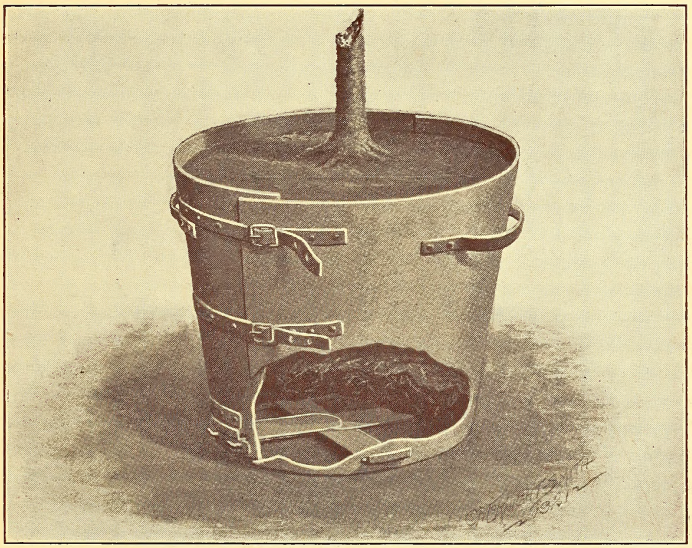

Illustration No. 3.
Transplanting Receptacle Properly Attached to Tree to be Transplanted Showing Bottom Inserted.

These slots are placed at intervals of about ninety degrees and rest immediately on the pins, thereby forming the bottom of the receptacle, covering sufficient surface and being sufficienty rigid to prevent slippage or displacement of soil and roots. The plant is then ready to be taken up and transplanted. (See Illustration No. 4.)

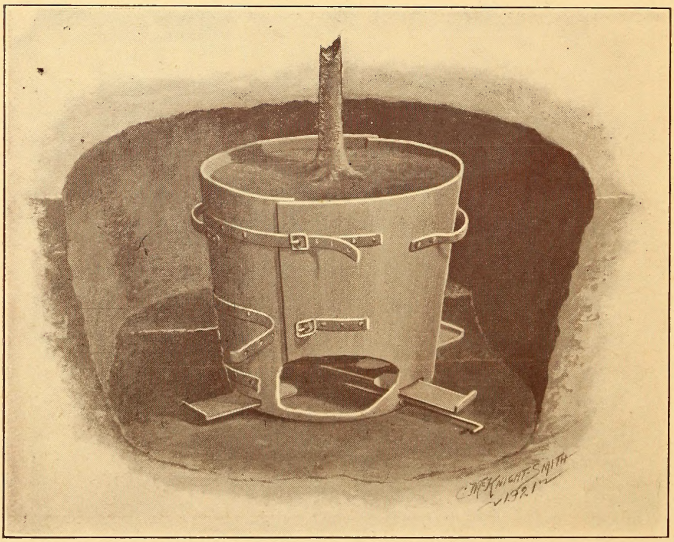

ILLUSTRATION No. 4.

SHOWING TRANSPLANTING RECEPTACLE IN ACT OF BEING DETACHED UPON TRANSPLANTING OF TREE.

This operation is quite simple. A hole is dug of sufficient size not only to admit the receptacle, but to provide for the withdrawal of the pins and slides forming the bottom. The receptacle, containing the tree, is placed in the hole, so that the original soil line will be about 1½ inches lower than the new soil line. The pins and slides are then withdrawn. The space immediately surrounding the receptacle should be filled with fine fertile soil up to the first buckle and tamped. Then the buckle is opened. The next fill is up to the second buckle, which is then released, and so on to the last buckle, which is then opened and the walls of the opened receptacle withdrawn. The new soil should be well watered after filling in. **Using this receptacle in the above described manner, the writer was successful in safely transplanting thirty-five out of forty young long leaf pine trees, ranging in size from 2½ to 5 feet.** These were brought in from the forest February, 1920, and today show a healthy, vigorous condition, making a pronounced new growth of limb and leaf. Illustration No. 5 graphically shows a small pine, its root system and "outline of can" or receptacle, it being the intention to show as near as possible the position of the roots and soil and the portion that is taken up with the tree when transplanted.

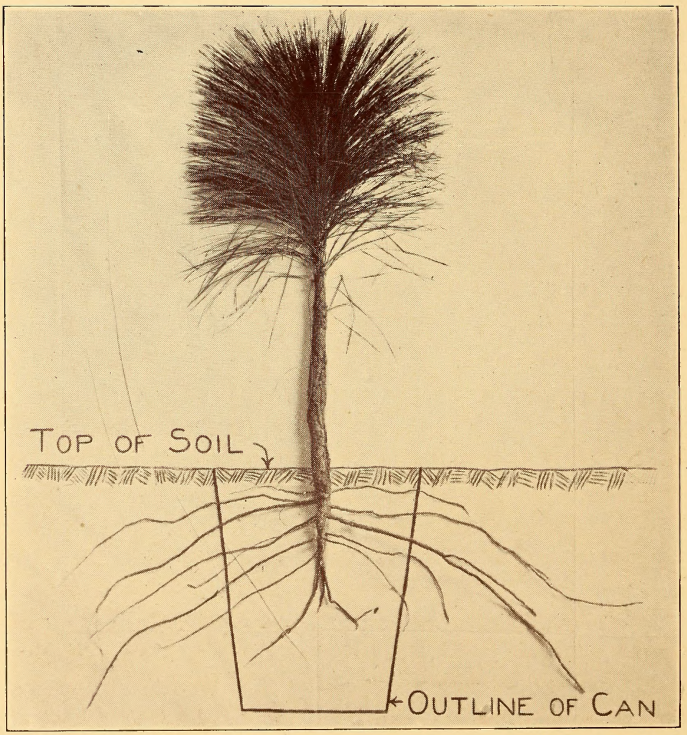

ILLUSTRATION No. 5.

SHOWING ROOT SYSTEM OF SMALL PINE AND PORTION TAKEN UP WITH THE TRANSPLANTING RECEPTACLE.

The roots outside the "outline of can" are cut away and removed. The height of this particular tree is 3¼ feet above the soil line. The depth of the receptacle is 21 inches, its diameter at top and bottom is 18 and 12½ inches respectively. Approximately sixty-five per cent of the tree's root system is retained. Trees up to five feet in height can be safely transplanted with a receptacle of the above dimensions. If it is desired to transplant larger trees, all that is necessary is to increase proportionately the size and strength of receptacle. Theoretically, this device can be applied to any class of evergreen or deciduous trees with fair prospect of success. Its limitations on large trees, however, are primarily due to considerations of practicability and expense.

Transplanting the Holly

The holly, unlike the pine, has no tap root. Most of its roots are lateral ones and the larger portion is near the surface. Accordingly a receptacle of less depth is required. Illustration No. 6 shows a holly in transplanting receptacle ready to be transferred to its new habitat. Its height is 11 feet and diameter 3¼ inches at soil line.

A receptacle was provided with a diameter at the top and bottom of 29 and 21 inches respectively, the depth of the same being 16 inches. Such a receptacle accomodated about sixty per cent of its root system. Nearly all branches and leaves were retained, only a few top ones being cut off for convenience. This tree was transplanted in March, 1920, and the accompanying illustration (No. 7) shows its vigor on May, 1921. Although the holly is of slow growth, the development of this particular specimen has been continuous and uninterrupted, the limbs and foliage showing decided growth, accompanied with an abundance of large green berries, a gratifying result only fourteen months after transplanting.

With such an arrangement, it is practicable to transplant native or nursery grown evergreen shrubs and trees from one locality to another with a reasonable degree of safety. It is likewise easy to conceive of the transference of distinct groups of plants or trees—perhaps a new young forest—to another region that has hitherto contained none of these beautiful specimens.

ILLUSTRATION No. 6.

HOLLY BROUGHT IN FROM FOREST IN RECEPTACLE AWAITING TRANSFERENCE TO ITS NEW HOME. MARCH, 1920.

Illustration No. 7.

The Transplanted Holly. May, 1921.

(See Illustration No. 6)

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THE STORY OF THE PINE

THE pine belongs to the Forest Primeval—it is the oldest living representative of geological time and has retained its simplicity of floral structure, typifying the vegetation of earlier ages. Its distribution in the United States is widespread. There are thirty-nine species. New England and the Middle Atlantic States contain seven, and seven grow principally in the Costal Plain Region of the South, while the west contains twenty-five varities.

The long leaf pine—the emblem of the South, found from Virginia to Tampa Bay and west to the Mississipppi is not only a most beautiful tree horticulturally, but it is of great utility in a commercial way. The trees often reach one hundred feet in height, the trunks are slender, rarely exceeding three and one half feet in diameter. Their leaves, or needles, are from ten to eighteen inches long and form dense tufts at the ends of the branches, "being flexible, they droop and sway on ends of erect branches like shining fountains, their emerald lightened by the silvery sheaves that invest each group of three." Their appeal has already been made known to the northern tourist passing through the Southland, and the sapling long leaf pine has already begun to enter the northern market as an important evergreen for Christmastide.

Although the pine has come down to us from the countless ages of the past, it nevertheless has suffered in its race for life on account of its inability to reproduce itself with the vigor of other trees. As soon as it is cut down, the root dies, and there exists no power of sending forth shoots from the stump and forming new growth. As we have seen, it is likewise most difficult to transplant, except by using the Transplanting Receptacle.

459 Cheermans

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7 Va Kenk
11 Va Grahm
17 Va Corse

Gen Stonewall's alert
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9 Cheermans in action
459

R. H. Anderson
4th S C Bat
5 S C Gile
6 S C Brall
Pal. Shop Je
Bat – Sr Foot Rifle

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Pickett
8 Va
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Weil, Lionel.
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