

SQUARE POTS FOR TRANSPLANTS

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Soon after the Albuquerque Soil Conservation Service -nursery was established in 1935, it became apparent that the usual method of handling evergreen stock for field use by farmers would not be successful. High quality open-rooted evergreen stock was being sent to the field and turned over to farmers for planting in windbreaks. The survival of this bare-rooted stock was exceedingly low. About five percent of the farmers obtained good survival, but the remainder had either a poor survival or a complete loss.

Most of the loss was due to improper handling at the time of planting, such as exposing roots to air for too long a period, planting in dry soil, or improper planting. Close supervision at the time of planting would have eliminated a small percentage of the failures, but the only way to get high survivals was to use potted stock.

To furnish potted evergreen stock to soil conservation districts at a reasonable cost, a potting bench was developed. This has proved to be successful in handling evergreen that are from 6 to 10 inches high at potting time. This bench was developed and constructed at the Albuquerque nursery by the author with the help of G. C. Niner, assistant nursery manager, and W. A. Horton, blacksmith. Details of the bench are shown in the accompanying drawing and photographs 1-4.

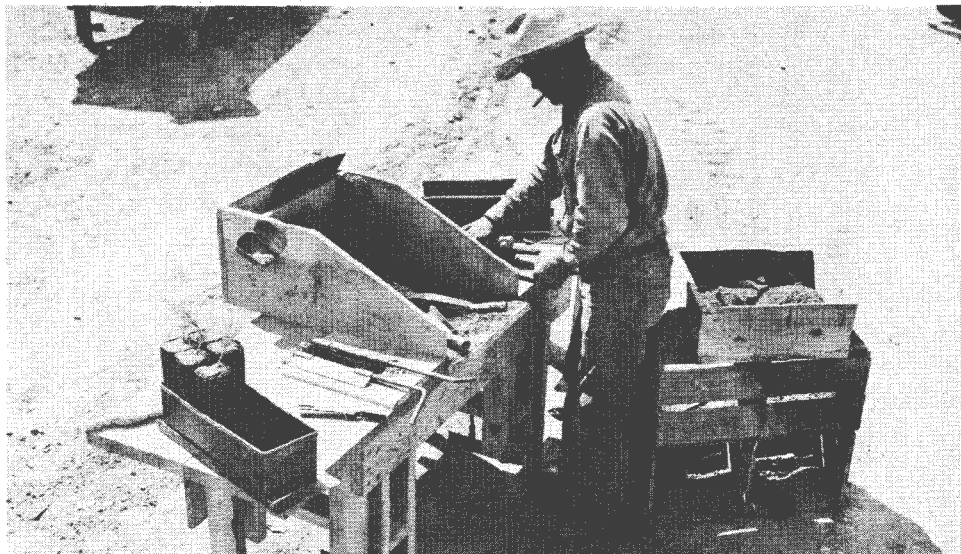
Fifteen-pound roofing felt is used as potting material. The 36-inch rolls are cut into 9-inch widths and then sliced with a paper cutter into rectangles 9 by 11 inches. The potting operations are ordinarily carried out under a large tent that affords protection to the seedlings from the sun and wind during the transplanting process.

Four men are required to handle one potting bench. Two actually pot the plants and two serve as swampers -- one to keep the operators supplied with soil, tarpaper sheets, and trees, and the other to carry away the trays of potted trees and place them in the establishment beds. Two potting benches require a crew of seven men -- four to pot the trees, two as swampers, and one as supervisor.

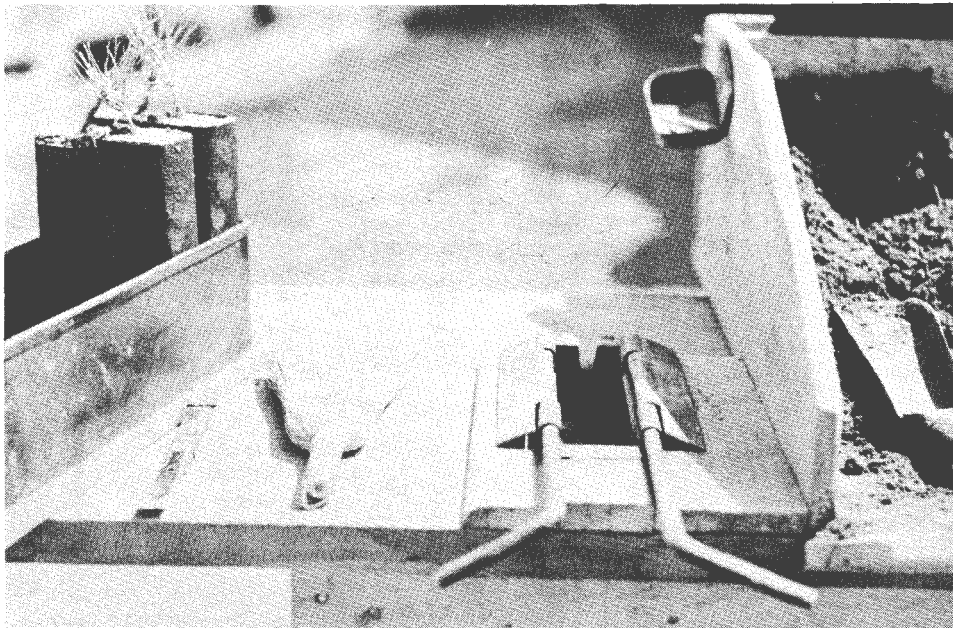
The potting bench consists of two potting units with the soil supply bin between the two operators. A 9 by 11-inch sheet of tarpaper is placed and formed in the potting box, a scoop of previously mixed soil is placed in the pot, partially forming it. The axis of the pot is horizontal. When the pot is about half full of soil, a seedling with roots spread naturally is laid in the pot with its root collar slightly below the top of the tarpaper. Filling is completed by putting another hand scoop of soil on the roots. The pot is completed by turning the handles to fold the edges of the tarpaper together and stapling them with a small hand stapler. The whole operation takes only a few seconds.

The potted plant is removed by pressing on a foot lever which pushes the false bottom of the box upward, enabling the pot to be easily grasped by one hand and placed in the carrying tray. The trays, which hold 12 2 1/2 x 2 1/2 x 9 -inch pots, are carried from the potting tent to the beds (photo 5). There the tray sides are lifted, leaving them on the tray bottom, which next is removed. The potted plants stand on the ground, 20 to the row. During the time required, the beds are held in place by 12-inch boards.

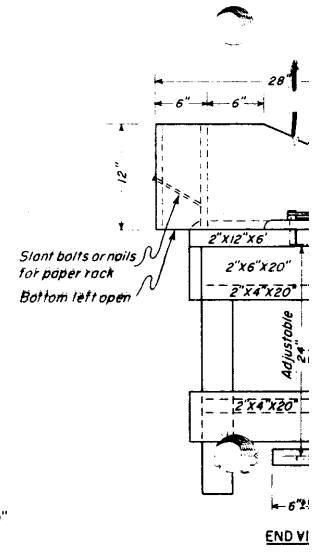
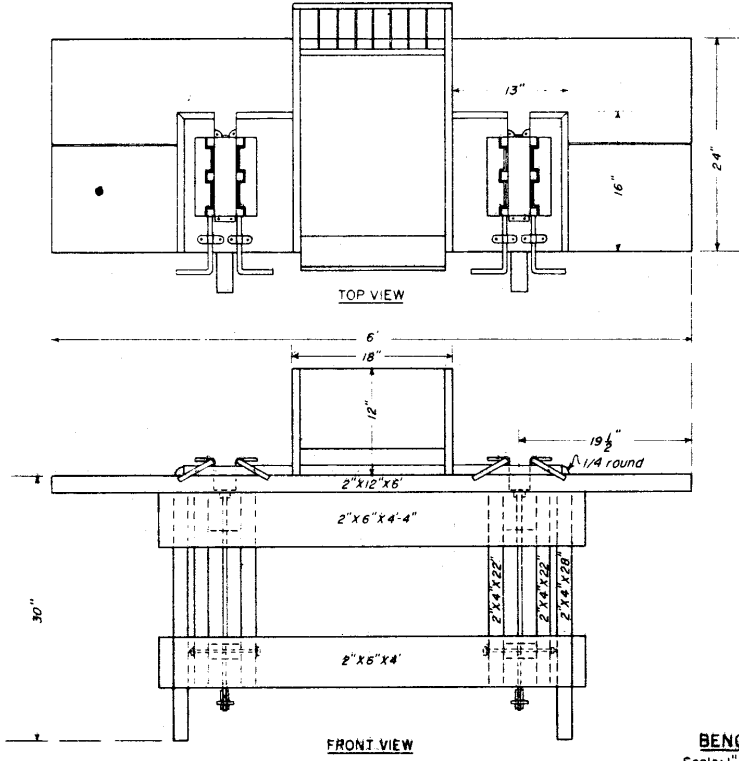
During the first few weeks of establishment, the beds are irrigated regularly by mist-type overhead sprinklers. Snow fencing is placed around the beds to reduce wind movement and lower transpiration. Stock is held in beds from potting time in late March and April until the shipping season in February and March of the next year.



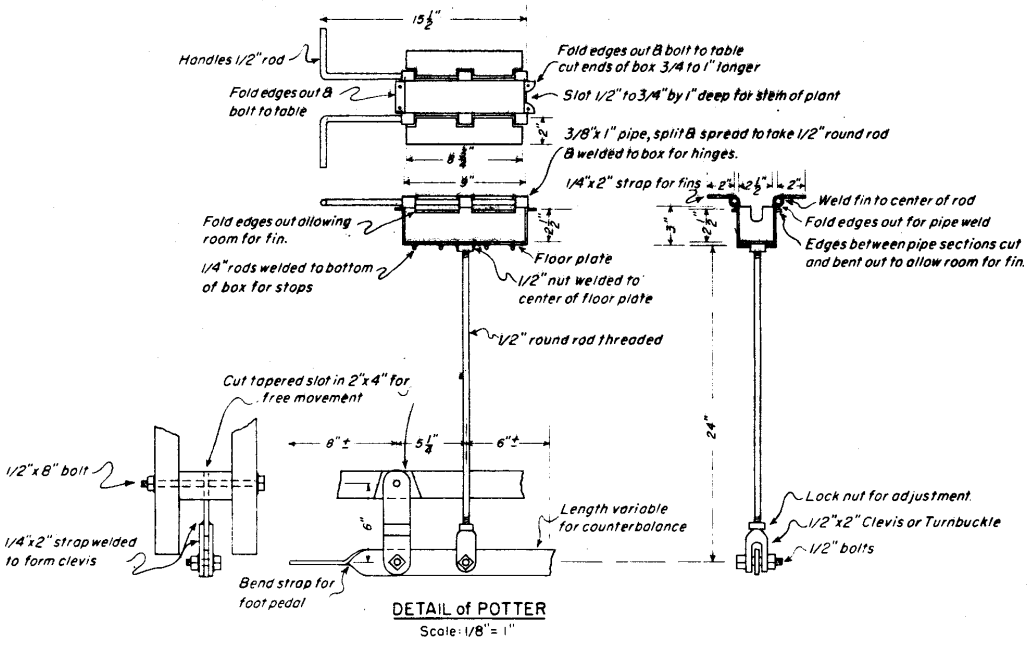
Potting bench constructed at the Albuquerque SCS nursery to facilitate placing conifer seedlings in tarpaper bands. One worker operates the device on the right side, another the device on the left. The soil supply bin is between them. The tree supply box would ordinarily be between the operators. Trays for carrying the potted trees to the growing beds are shown on either end of the bench.

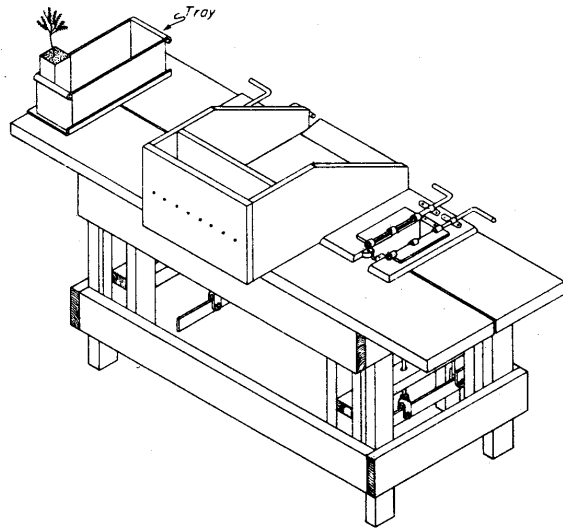
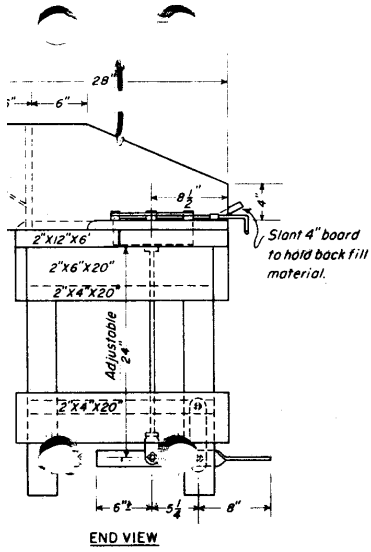


Close view from operators' side of potting bench. The box for forming the pot is shown ready to receive the sheet of tarpaper in the first step of the operation. Soil supply is on the right and completed pots in carrying tray on the left.

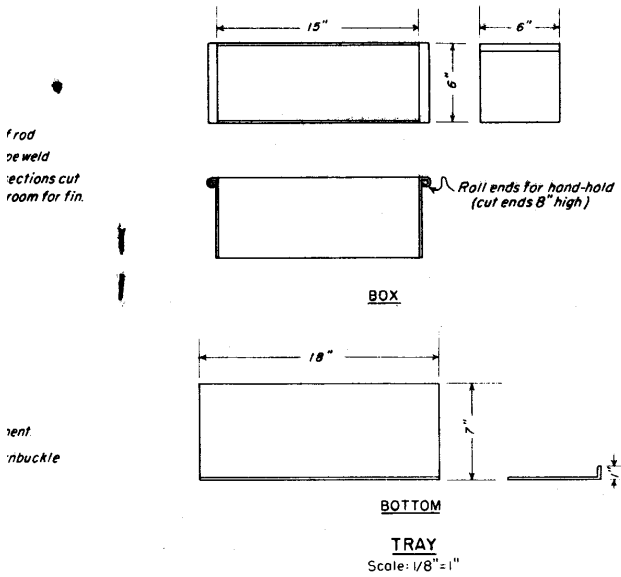


**BENCH**  
Scale: 1"=1'-0"

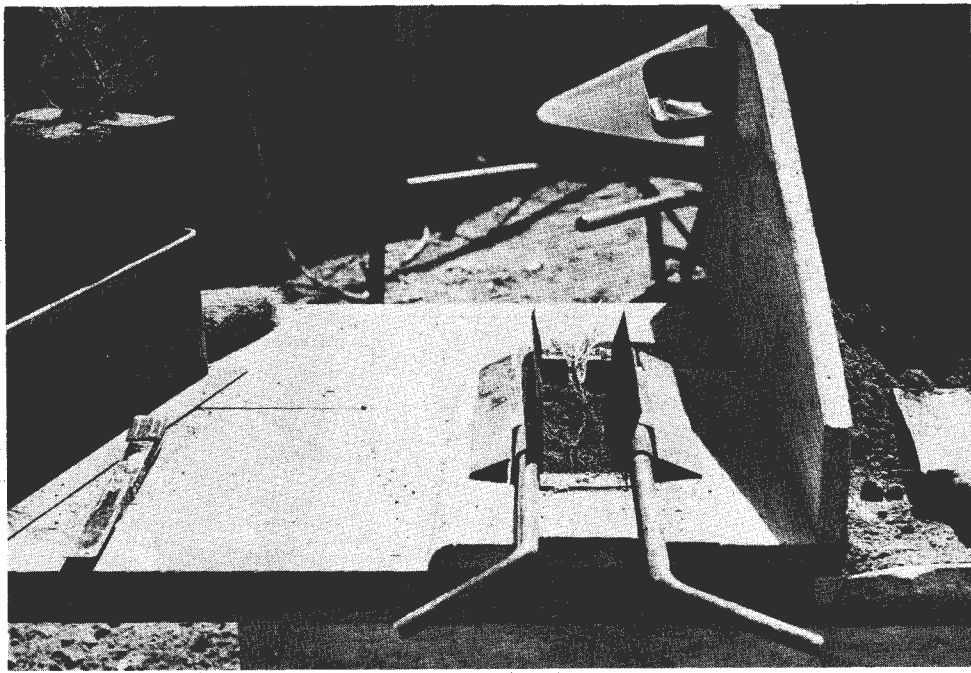




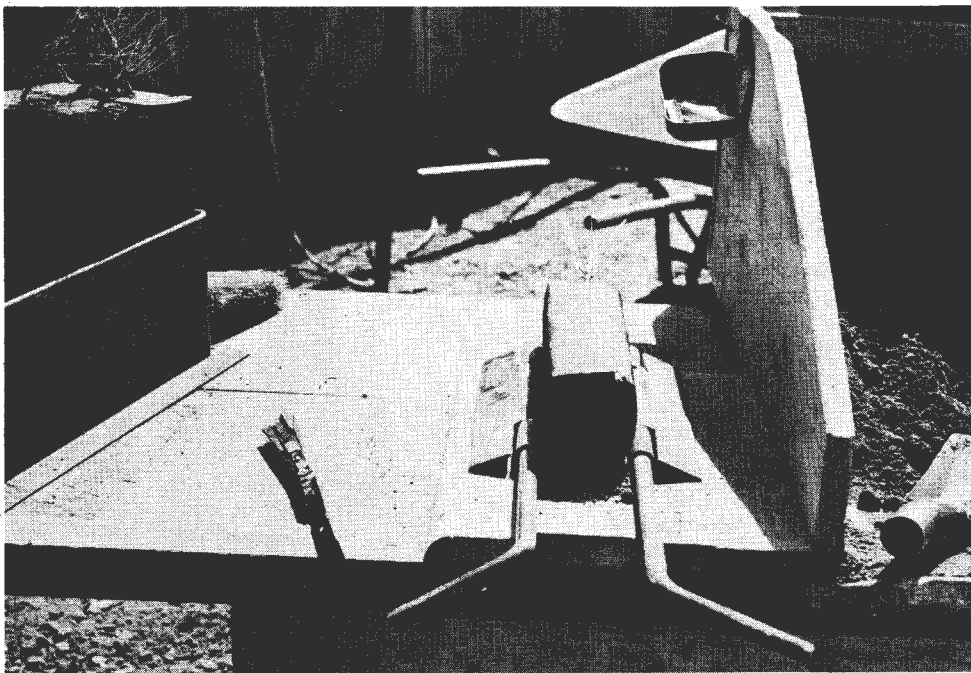
ISOMETRIC



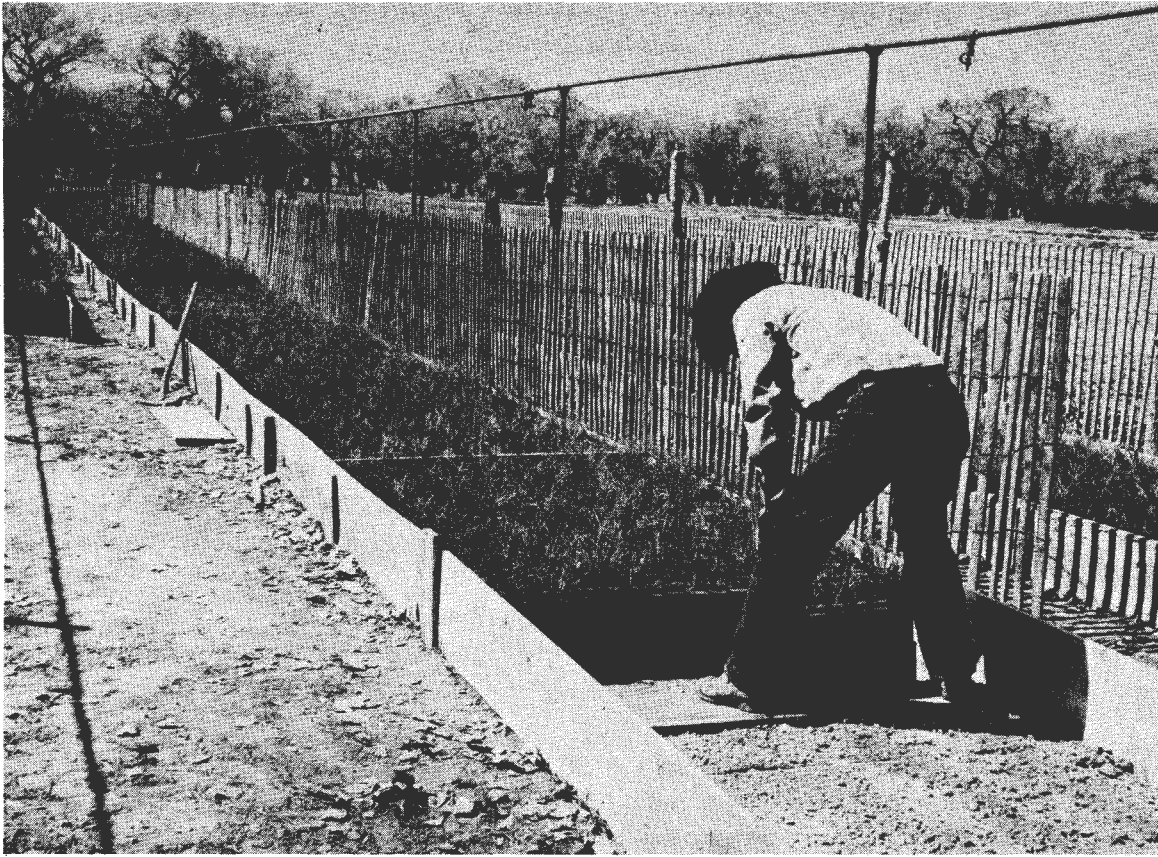
POTTING BENCH					
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE ROBERT M. SALTER, CHIEF					
SOUTHWEST REGION		CYRIL LUKER, DIRECTOR			
DESIGN	DETAIL H.D.G.	TRACE H.D.G.	CHECK	DATE	SCALE
	5-22-52	5-22-52			As Shown
APPROVED			FILE NUMBER		
			6-0-13608-2(2)		



Close view of partially potted Ponderosa pine seedling in device.



Potted Ponderosa pine seedling raised from box of potting unit and ready to be placed in carrying tray at left. The edge of the tarpaper is tacked down with small hand stapler shown. The completed pots are 2 1/2 x 2 1/2 x 9 inches.



The beds where the potted conifers are placed for establishment. Stock is held in these beds from the time of potting in March and April to the following shipping season when they are removed from the beds, placed in boxes containing 30 pots each, and transported to the planting sites

The roofing felt costs \$5 per thousand pots and the labor for cutting it runs \$10 per thousand. Labor costs for potting the evergreens are approximately as follows: Four potters at \$6 a day, \$24; two swampers at \$6 a day, \$12; one foreman at \$11.50 a day, \$11.50.

A crew of this size will dig the seedlings, pot, and put into beds an average of 2,400 plants per day. The total cost of materials and labor will average about \$35 per thousand. This, of course, does not include the cost of the nursery stock used.