TRAVELING TREE BALER WORKS WELL

STUART H. SLAYTON, *Nursery Superintendents*
Forest Service USDA

During the spring of 1965, the James W. Toumey Nursery converted its equipment to conveyor belt tables for grading, counting, and threading of seedling and transplant stock (fig. 1) .

A metal revolving baler was selected to replace the previously used Olson-type baler. However, with this equipment the line people would be grading faster than one baler machine could package the stock. Instead of mounting another stationary revolving metal baler, we constructed a mobile baler (figs. 2, 3, and 4) with the following advantages:

1. It can be easily moved from line to line as needed.
2. Stock-grading personnel can maintain maximum speed; no backlog of trees is accumulated.
3. It can be used as the sole baler unit in most types of stock-processing areas, or it can supplement other types of balers already in use.
4. Safety factors:
   a. Bailing unit can be moved without lifting.
   b. Work area is cleaner because materials are on baler.
   c. No metal contact with fingers and fore arms.
   d. Baler can be moved during cleanup.
   e. Operator does not have to bend over.
5. All needed material is on baler.
6. New employees can be easily trained to use it.
7. Very effective for baling heeled-in hardwoods. The unit can be moved on soil without lifting or mounting on trailer.
8. A better distribution of packing materials on and around roots is possible because of a wider bed.
9. Round, tight bales are made within the bed of roller.

[1] James W. Toumey Nursery, Ottawa National Forest, Watersmeet, Mich.

MATERIALS LIST FOR BALER

1. 2 PC. - 1/2" x 1/2" x 30" ANGLE IRON
2. 2 PC. - 1/2" x 1/2" x 29 1/4" ANGLE IRON
3. 4 - 5" x 1 1/8" RUBBER TIRED WHEELS
4. 4 PC. - 1/4" x 3" x 3" x 4" ANGLE IRON
5. 4 PC. - 1 1/4" x 14" PIPE (THREADED ONE END)
6. 4 - 1 1/4" COUPLINGS
7. 2 - 7" METAL DOOR HANDLES
8. 4 - 7/16" x 18" THREAD RODS 4/4 NUTS & WASHERS PER ROD
9. 1 - 1/2" x 32" PIPE (THREADED ONE END)
10. 1 - 1/2" x 5" PIPE (THREADED ONE END)
11. 2 - 1/2" TEE
12. 2 - 1 1/4" x 10 1/2" PIPE (TIE BAR HOLDERS)
13. 2 - 1/4" x 1/4" x 5" FLAT STOCK
14. 6 PC. - 2" x 4" x 18" PINE
15. 2 PC. - 2" x 4" x 15" PINE
16. 4 PC. - 7/8" x 3" x 17" PINE
17. 6 PC. - 7/8" x 6" x 33 3/8" PINE
18. 2 PC. - 7/8" x 8 3/4" x 33 3/8" PINE
19. 6 PC. - 7/8" x 6" x 30" PINE
20. 4 PC. - 7/8" x 8" x 30" PINE
21. 2 PC. - 7/8" x 3½" x 54 3/4" PINE
22. 4 PC. - 2" x 4" x 10" PINE
23. 12 - 1/4" x 2" LAG SCREWS
24. 4 - 1/4" x 2" x 2" ANGLE BRACES

TOTAL APPROX. MATERIALS COST = $45.50

Figure 1.—Material list for baler.

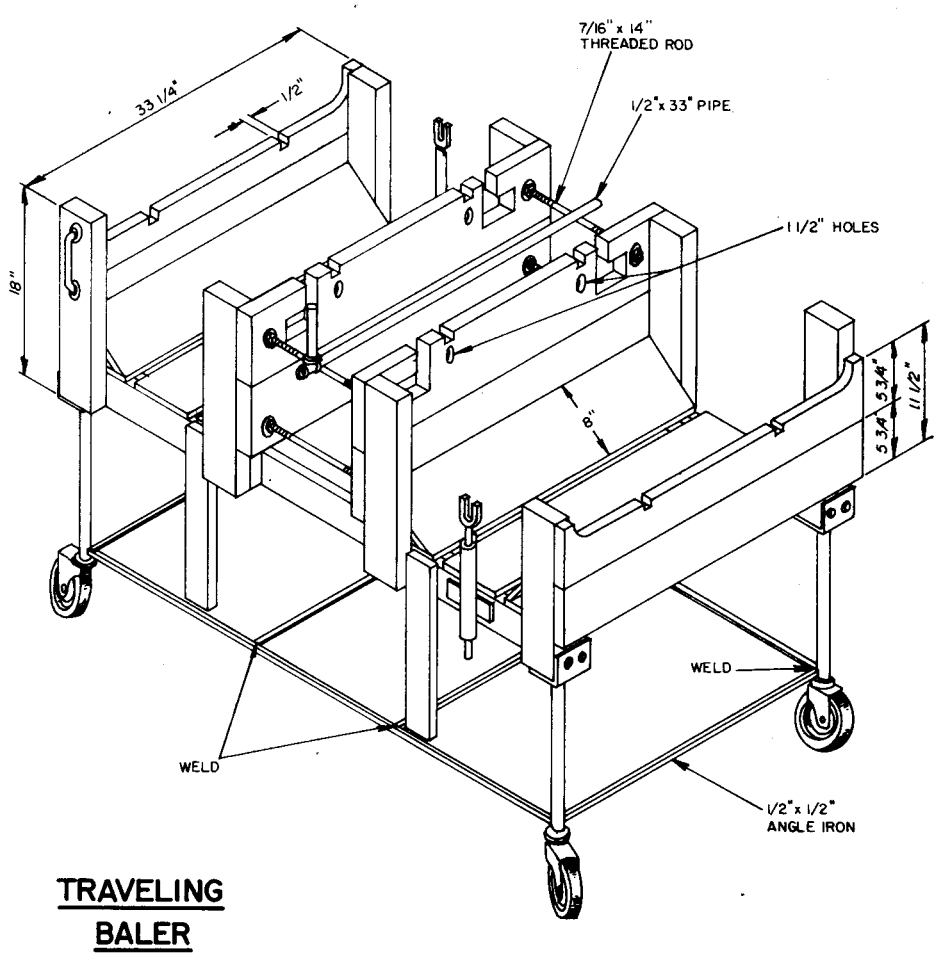
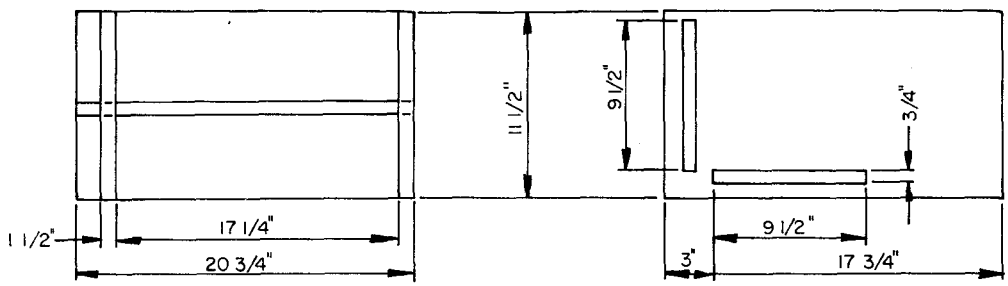


Figure 2.—Traveling baler.

10. One person can revolve the baler.
11. An experienced employee can produce 80 bales per hour of 2-2 white spruce at 250 trees per bale.
12. Operators have less chance of tying the bale to the baler or having bales break open prematurely.
13. Easier transfer of bale from baler bed to pallets.
14. Baler can be used away from the production line to bale small orders.

The mobile baler has needed no maintenance in 3 years of operation at the nursery.

The cost of materials was $45.50 plus $40 for construction. This baler offers definite advantages because of its mobility, efficiency, simplicity, ease of baling round, sturdy bales, ease of operations, and safety considerations. Most important may be the even distribution of packing materials, such as sphagnum moss, to insure moist stock upon arrival at the planting site.



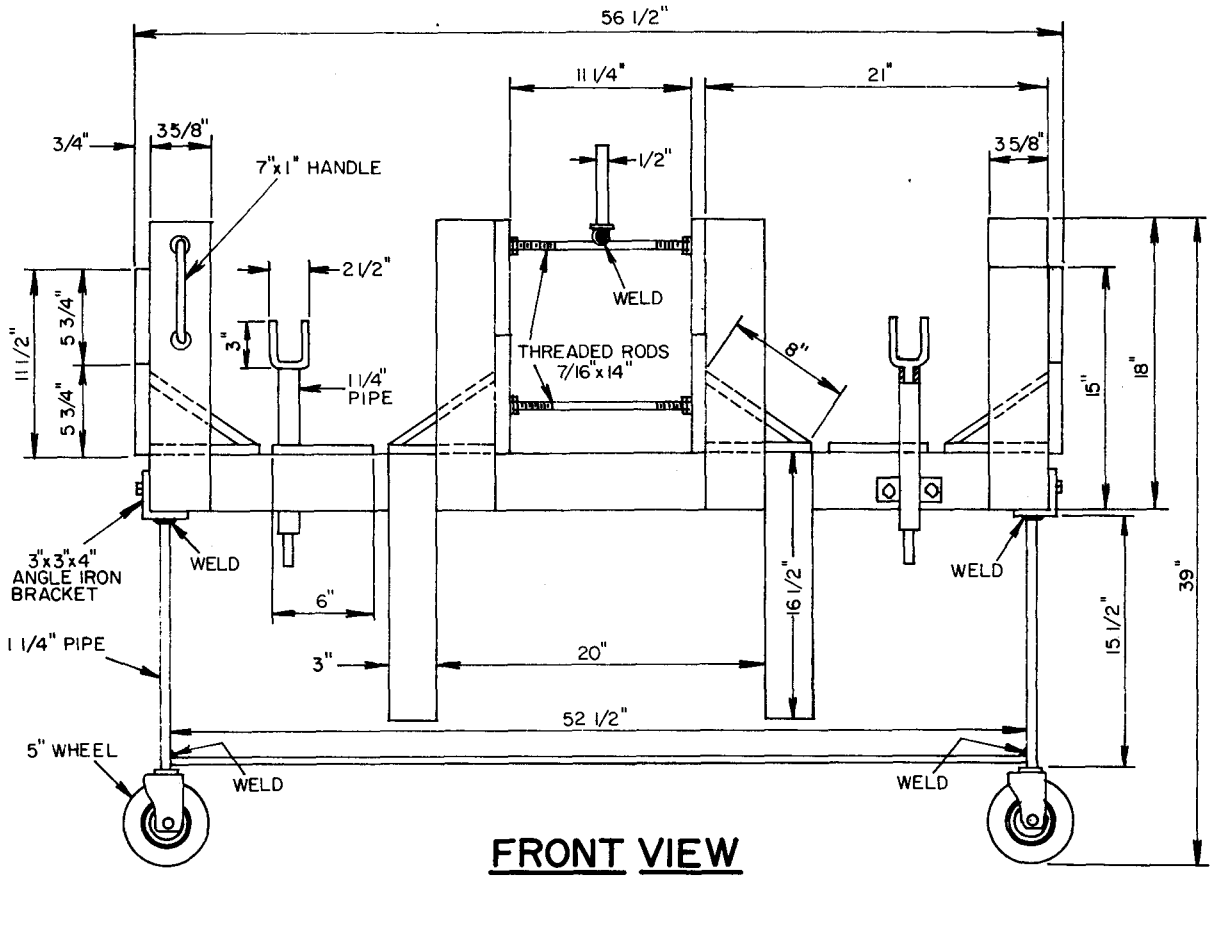
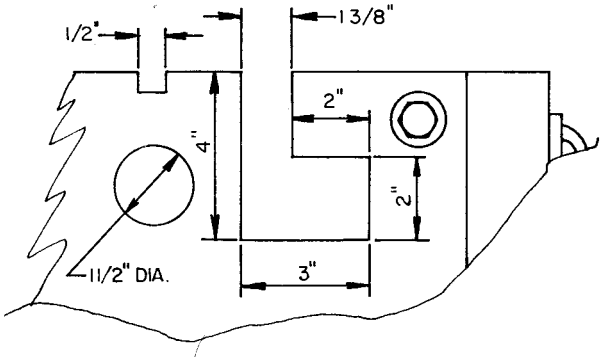
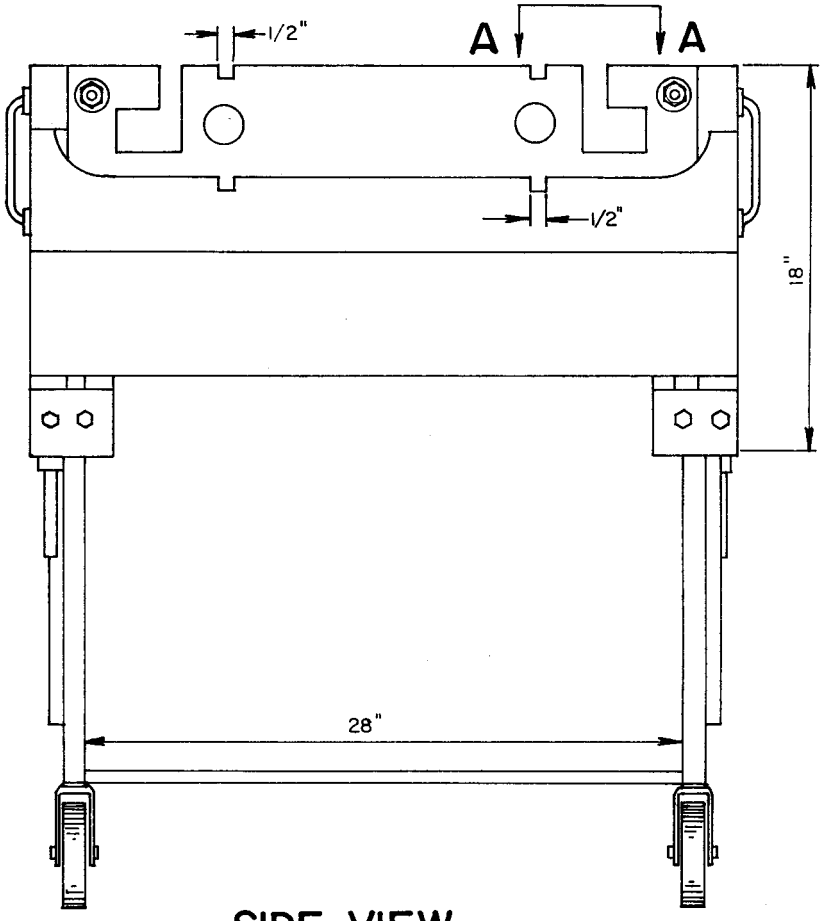


Figure 3.—Detailed front view of baler.



SECTION A-A



SIDE VIEW

Figure 4.—Detailed side view of baler.