Mill Conversion Studies.

The results of investigations into the degree of conversion of kauri at two mills (based on five months and twelve months cutting respectively) were averaged, and an all-round factor was thus obtained for application in timber-cruising. To meet the case of stands of kauri of small average dimension, with a consequently low degree of conversion, four graded conversion factors were devised. Log-conversion studies, when completed, will furnish a set of graded factors for permanent use in connection with kauri.

The taper of kauri was also investigated, and eighty-seven merchantable trees in the Coromandel district were measured. This study will be continued in North Auckland, and the data obtained will be applied in kauri-cruising practice.

6. Forestation Studies.

As a result of experimental trials and small-scale operations carried out in past years, the large-scale nursery and plantation operations have again shown definite advances in procedure. Experimental work under way in March, 1926, has been continued or finalized and further investigations have been undertaken.

Weed-eradication Experiments.

Trials in connection with the eradication of weeds by the application of zinc sulphate have yielded negative results, and have been discontinued. Other methods of eradication will be investigated.

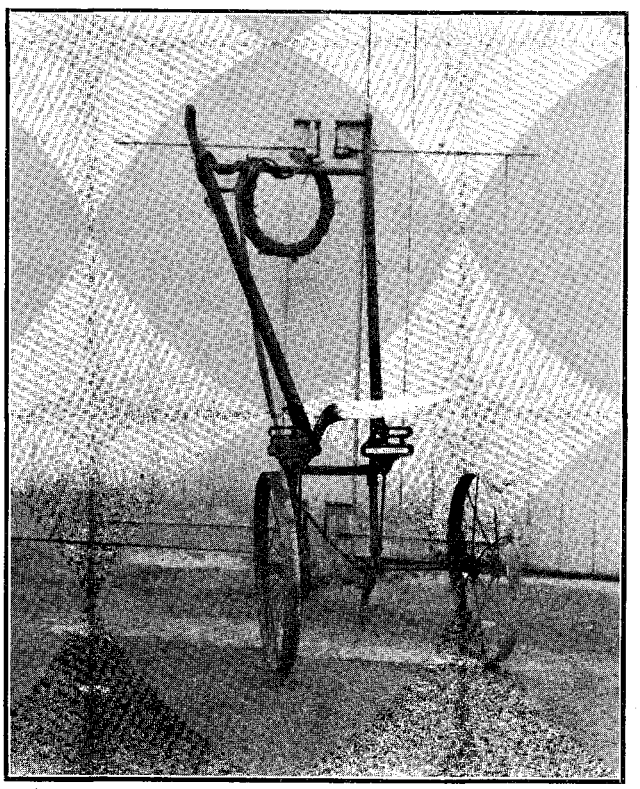
Nursery-line Method of Propagation.

The importance of soil conditions in connection with mass production of crops was demonstrated this year at Rotorua and at Tapanui nurseries, where line crops sown on virgin, newly broken land have produced a much better and heavier crop than those grown on nursery ground which has been for some time in use.

At Rotorua a trial was made of sowing a line of oats between lines of *P. radiata* seed, with the object of (1) preventing the light pumice sand from blowing off the lines, thus exposing the germinating seed, and (2) providing a natural shelter from wind and sun to determine the effect on prevention of damping-off in lines. Owing to there being very little wind and plenty of rain during this season, there was no movement of soil and no sign of damping-off either in experimental or control lines. A slight advance in growth is shown in the lines between oats; these latter were hoed out in February, an experimental plot being left to determine any influence on root or height growth over the whole growing period.

Wrenching.

A wrenching-machine has been developed for use in Rotorua Nursery which has reduced the cost of this operation to approximately one-quarter of the previous cost. This consists of an L-shaped knife attached to a Planet hand wheel hoe, which can be worked by two boys, and operates equally well in seed-beds, seed-lines, and lined-out trees, producing a well-wrenched plant by its operation.



Wrenching-machine developed by the Forest Service.