are essential. The inner bark, or cambium layer of cion and stock must exactly fit in each case, for here is the place at which the union takes place. Care must also be taken, in

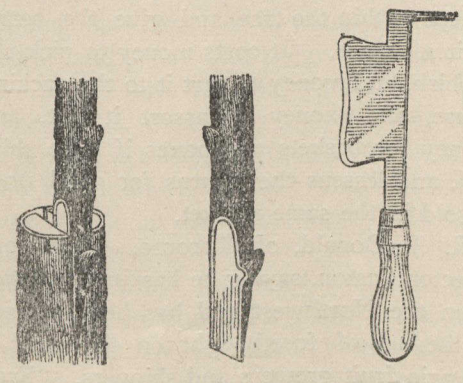

FIG. 2724. TOP GRAFTING.

applying the wax, to exclude the air from the cleft, or the parts will dry up before growth begins.

* * *

CIONS may be cut any time during the winter when the wood is not frozen, and stored in the cellar. They should be packed in new sawdust, of which the natural moisture is quite sufficient to keep the wood plump and fresh until needed in spring.

* * *

CUTTINGS of currants and gooseberries and grapes made in pruning may be also preserved in the same way as the cions until planting time, and if given a fair chance 90 per cent. of them will grow. Quinces also will grow from cuttings without much difficulty. Cut them five or six inches long, and plant to leave only one bud above the ground. The earth must be packed firmly about them.

* * *

PRUNING should be pushed forward every fine day in winter. Spring, with it draining and fencing and cleaning up and planting, is a busy time, and, if not attended to sooner, the pruning is apt to be neglected. Every tree in the orchard should be gone over with knife and shears at least once a year if the vigor of the remaining wood is to be maintained and good fruit to be harvested.

* * *

SPRAYING also is facilitated by careful pruning. A tree whose top is a brush heap, full of useless and half-dead wood, wastes much valuable material and time is money in this work. Every branch and every bud should exist for a purpose ; here is the ideal in an orchard tree, and the grower should try to attain as near to perfection as possible. If three treatments only with Bordeaux are to be applied. we would advise (1) just before leaf buds open, (2) as blossoms are falling, and (3) about a fortnight later.

* * *

THE USUAL FORMULA for Bordeaux is copper sulphate, 6 lbs.; lime, 4 lbs., and should be first diluted in water, at least a gallon to each pound, and then poured together and the balance of the water added. If not done so there will be flaky sediments which will clog the nozzle, and the spray will not be properly mixed. Possibly even this formula is too weak for the best results. Johnston, of Simcoe, used 12 lbs. of copper sulphate, 18 of lime, and 50 gallons of water, and had wonderful results last fall with his apple crop; but no doubt this was quite an extravagant quantity.

* * *

A SPRAYING RIG is a great convenience where much of this work must be done. A new power sprayer is being introduced, run by carbonic acid gas pressure, and we hope it may simplify the whole business. Where two or three growers unite in the purchase, a power machine of some kind would prove the greatest economy.