

ever necessary by cutting back to a bud pointing in the direction you wish the new branch to take. The ideal pruning consists rather in directing growth than in cutting out what has grown. Thin out the new shoots as may be required to keep the head from becoming too crowded. Cut out any branches that cross or rub each other, and keep the top symmetrical by cutting back branches growing too fast in any particular direction, as they are often inclined to do on the leeward side.

If an orchard is pruned regularly every year, as it should be, there need be no necessity for cutting out large limbs, and the pruning at any time will be very light. Light pruning may be done at any time during the summer, but for the general, annual pruning, this had better be done early in spring before the growth starts.

PROTECTING THE TRUNKS FROM BORERS. One of the most destructive insects to newly transplanted trees is the flat-headed apple tree borer. The mature insect is an active little beetle, nearly half an inch long, which lays its eggs on the bark of the trees, generally on the southwest side. When the egg hatches the larva eats its way through the bark where it feeds upon the sap-wood, sometimes entirely girdling the tree. When full grown it is a pale, yellow, footless grub, over half an inch long, with a large flattened head. The presence of these pests in infested trees may readily be detected by the blackened and deadened appearance of the bark over the parts where the borers are at work.

When borers get into a tree there is no other remedy than cutting them out with a sharp knife, or killing them in their burrows with a stout wire. But prevention is better than remedy, and the injury from borers can easily be prevented. To do so wash the trunks and larger branches with a mixture of soft soap reduced to the consistency of thick paint with a solution of washing soda. If just enough carbolic acid is added to give it a strong smell it will be all the more repulsive to the beetles. This should be applied during the early part of June and again early in July when the beetles are most active in laying their eggs.

SPRAYING. The whole host of leaf-eating insects which feed on the apple tree, such as the Tent caterpillar, Red-humped apple tree caterpillar, Yellow-necked apple tree caterpillar, Fall web worm, Tussock moth, canker worms, etc., must be fought with Paris green, used at the rate of 1 lb. to 250 gallons of water.

Other insects which suck the juices from the leaves and young wood, such as the aphids, tree cricket and bark louse, must be destroyed by the kerosene emulsion. This is made according to the following formula: Hard soap $\frac{1}{2}$ lb. (or soft soap about $\frac{1}{2}$ gallon), hot water 1 gallon, coal oil 2 gallons.