natural methods of reproducing themselves. The first is by means of shoots or buds; this is known as the vegetative reproduction or reproduction by growth. Every bud on a tree if placed under proper conditions, as is done in the practice of grafting or budding, is capable of producing a tree like the one from which it was taken. The other method of reproduction is by the seed of the fruit. If the tree is growing a great deal of wood it produces little fruit and *vice versa*. The skill of the pruner is required to maintain the proper balance between the reproduction by growth and by fruit. If one kind of reproduction is getting too much the start of the other, it is only necessary to check the predominant one. If trees are pruned in the growing period, growth will be checked and fruiting stimulated. Summer pruning should be mostly confined to heading back too fast growing branches. If, on the other hand the centre of the tree is thinned out, the fruit-bearing branches are removed, and the energies of the tree are again forced into wood growth. The growth of the tree might also be checked by stopping cultivation and sowing the orchard to some clover crop, or the plow might be made to run a little deeper so as to cut off the surface feeding roots, and root prune the tree.

Pruning for Wood Growth.—Pruning for vegetative wood growth is that which has been outlined for the young growing tree. Cut out all dead, broken and deformed limbs and those which cross or rub one another. Care should be taken to keep the tree free from suckers, so that there is a free circulation of air through the tree, and the sunlight is let in sufficiently to give the fruit a good color.

Healing of Wounds.—Limbs to be removed should be cut off as smoothly as possible with a sharp saw, and as close to the main stem as possible. When a limb enters a shoulder at the trunk, the cut should be as close to the shoulder as possible, yet never through it. There should never be any stump left because the cambium dies back, and when the stump decays there is a hole left which is apt to cause the trunk of the tree to rot and become hollow. Pruning shears are bad tools, as they pinch the bark and injure the delicate cambium beneath, and a badly healing wound is the result. Torn wounds are a source of danger

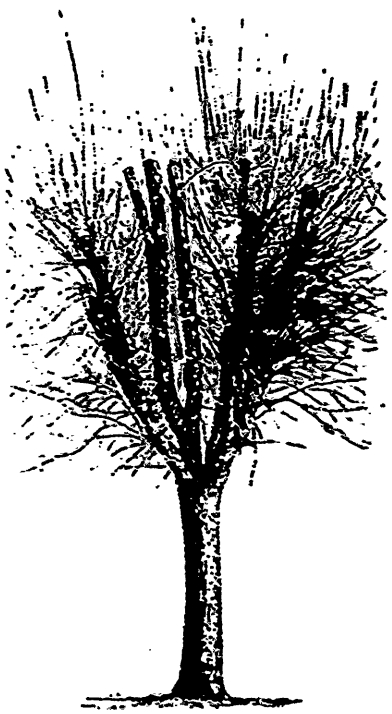

Fig. 2224.—Soft maple, cut back, giving the undesirable effect of a brushpile on a hop pole in winter, and a haycock on a gate post in summer. (By permission from U. S. Year Book of Agriculture, 1895.)

to a tree. If large limbs are to be removed, which should never happen in good pruning, there is a danger of the weight of the limb tearing the bark. To avoid this cut from below first and meet this cut with one from above, or if this cannot be done cut off the limb a foot from the tree and remove the stub. Large wounds should be smeared