clearly a foot from the ground, and smooth off the surface. Then insert back or crown grafts 1 in. apart all round. Tie a tight band of binder twine several thicknesses round, and apply grafting wax all round and over. If the operation be done as the tree is beginning to show leaf and the scions are dormant, nearly all will take, and the stem being protected from the sun by a bit of canvas, the bark will heal over the edges. The object of putting in so many grafts is to keep the bark lively all round, and to provide as many active growing buds as possible in place of the former tree top. I am sure that if a big tree has to be cut down this is the best way to reduce the shock as much as possible. The following diagram after Balat, shows how the crown graft is put in. It will be seen that the wood is in no way damaged. The graft, Fig. 1234, is shown with a shoulder; but I do not trouble about cutting one, and merely cut the scion with a long sloping cut, 1½ inches long. The bark in Fig. 1234, as shown, is lifted too much.

Fig. 3, shows the grafts inserted and the stem bandaged. It will be noted that the bark has been displaced but very little.

The following is the method to be adopted. The tree is to be first cut down, say a foot above the place intended for the grafting. When ready to graft, a clean saw cut is made at the right place, and the surface smoothed with a sharp knife or spokeshave, especially all round the sap wood and bark.

To prepare for the scions a vertical slit is made through the bark about an inch in length, then

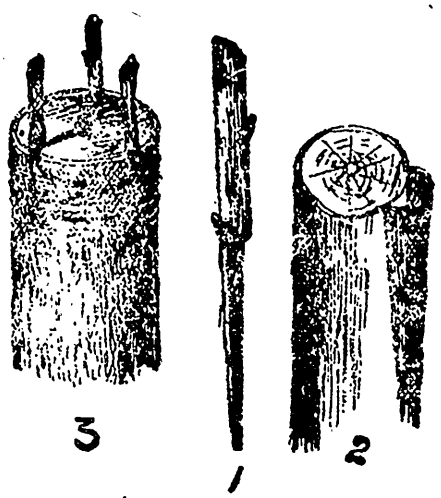

FIG. 2134.

with the handle of a budding knife or a piece of hard wood sharpened to wedge shape and smoothed, the bark is lifted from the sap wood enough to allow of the scion being inserted.

The scion having been prepared as shown, it is carefully slipped down in the place prepared for it, bound round, waxed, labelled, and the work is done."

FRUITS FOR THIRST.

CHEMICAL analysis would assign practically no nutritive value to the juicy fruits, for they consist of little more than a cellulose envelope containing a solution of sugar, the amount varying from 17 per cent., as with grapes, to about 1. 4 per cent., as with lemons. The amount of water in fruit is considerable. In watermelons it is no less than 95 per cent., in grapes 80 per cent., in oranges 86 per cent., in lemons 90 per cent., in peaches 88 per cent., in apples 82 per cent., in pears 85 per cent., in plums 80 per cent., in nectarines 83 per cent., and in strawberries 90 per cent., not a fruit in the whole category containing less than 80 per cent. The irresistible conclusion, considering these facts, is that fruit plays an important role in the diet as a thirst quencher. Certainly when fruits are freely represented in the diet less fluid requires to be consumed, and fruit would appear to be endowed with a subtle inimitable flavor which is ample inducement to imbibe fluid in this most wholesome form.

Moreover, the juice of fresh-cut fruit is perfectly free from microbes, is as sterile as freshly clean drawn milk, and the fruit acids tend to inhibit the power of those disease-producing bacteria which flourish in neutral or alkaline media.