Whip and Saddle Grafting Fruit Trees

James Udale, early 1920s

Selected pages from Handy Book on Pruning, Grafting and Budding.

Compare illustrated grafting cuts and see where the stock and scion meet in whip and saddle grafts.

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CHAPTER X.

METHODS OF GRAFTING:

TONGUE GRAFTING, OR WHIP GRAFTING.

TONGUE grafting is best used on stocks about the size of a man's finger. In this style of grafting we first take a one-year-old and mature shoot (figure 1), and selecting a place just below a bud, as at *a*, draw the knife with one clean sweep and bring it out at *b*. It is important to have a bud just above the cut, and one on the other side, as at *c*. The bud above the cut helps to draw the sap to heal the crown of the stock when the graft is growing, and the one at the back, as *c*, will often grow and form a tree when the top has been broken off by some accident. Next proceed to cut out the curve as shown at *c* (figure 2), taking out all the pith, and cutting down with a straight slope from the curve to the lowest point at *d*. If we now look at figure 4 we see a similar shoot, but which has a straight cut at *c*, instead of a curved one. This is given to show how the work should *not* be done, because the straight cut weakens the shoot more than the curved one does, and is frequently the cause of the shoot being broken by a slight knock or by a bird settling on it. It will also be observed that the tongue is cut out much deeper, which weakens the graft behind it. Again, the cut leading from the tongue to *d*, is very uneven, instead of being

cut to the straight line which is drawn through it. This is just how a learner makes his cuts, and it can at once be seen how impossible it would be for this to fit perfectly level on such a straight line as shewn at *g* (figure 5).

The scion being now ready, the stock should be prepared for its reception. Select a smooth clean place from four to six inches above the soil and proceed to behead the stock, bringing the knife out just above a bud, as shewn at *h* (figure 3). This bud is important, because its mission is to draw up the sap to keep alive the wood behind the scion until it has healed over and become joined to the stock, but this bud should only be permitted to grow two or three leaves, when the point should be removed. The top should be slightly rounded off with a curve from *k* to *h* to correspond with the curve in figure 2 at *c*.

We now measure the cut from *c* to *d* (figure 2), by placing it against the stock and then cutting from *g* to *k* in figure 3 the same length. The knife should enter at *g* and come out at *k*, removing only a thin slice of wood and bark. Now place the prepared part of the scion (figure 2) on to the cut made from *g* to *k* (figure 3), and it should fit exactly, as shewn in figure 6, with a narrow space of the outer bark showing all round the scion in nearly all cases.

Figure 6a, shews the inside parts of both scion both and *d* is the bark, shewn also in both scion and and stock. *C* is the wood, which is the same size in stock; but it is very much wider in the stock than in the scion, owing to the stock being two or three years older than the scion; it being very important that the

inner edges of the inner bark should meet, because that is the only place where the stocks can unite. If by any chance the inner bark of the scion and stock cannot meet on both sides be sure to have them to perfectly meet on one side.

A (figure 6a) shews the lower extremity of the wood in both, at a point where each should meet, and the scion must not in any case come below this point;

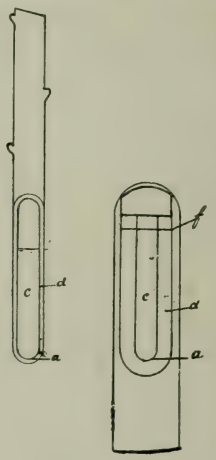

Fig: 6 a

TONGUE-GRAFTING.

it would be better to be a little above than to be below. F shews the tongue on the scion, and the place cut for its reception on the stock.

After the scion and stock (figures 2 and 3) have been made to fit well together, a thin slice of wood should be cut to form a tongue, as shewn at *e*, figure 2, and a

corresponding incision in the stock to receive the tongue as shewn at *m* (figure 3). A thin slice only in each case should be cut, because wide cuts weaken both scion and stock; and they also cause a bulging, which frequently prevents the scion and stock meeting close together. The tongue should be made to exactly fit, in order to hold the scion in its place until it has been securely tied with matting or other kind of ligature. The two (scion and stock) should then be bound firmly together to hold them in their proper position; but not so firmly as to prevent the movement of sap under the bark, or the result may be a failure. The whole of the junction should then be covered with grafting wax, or clay; and the labels securely attached on the stock below the graft.

SADDLE GRAFTING.

Stocks from the size of one's thumb to that of a broom handle are the most suitable for saddle grafting (or what is a modification of saddle grafting), which is the system much favoured in Worcestershire.

Figure 7 shews the system with the scion and stock cut and fitted; thus slightly raised above the stock to shew how each are cut and fitted together—the base of the scion being drawn too large.

Figure 8 shews the scion in readiness. The knife first enters at *a*, and a thin slice is cut up to *b*; the blade is then turned across towards *d*, and the whole of the centre wood (including all the pithy part) is removed from the angle *d* down to *c*, taking care to finish with a straight and smooth cut from *d* down to *c*. The lip from *a* to *b* must be cut very thinly, so that it can be bent over

the top of the stock, as shewn in figure 7, without breaking. Now place the scion by the side of the stock and take the measurement of the cuts to be made to receive

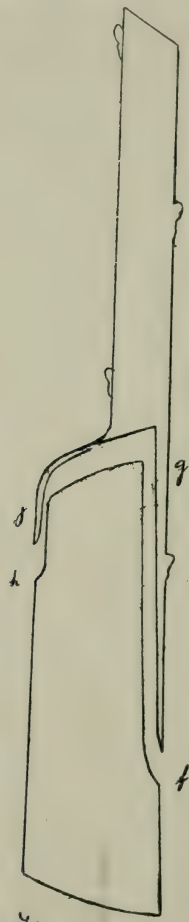

Fig: 7

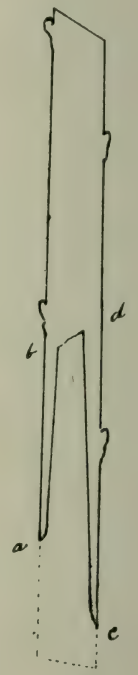

Fig: 8

SADDLE-GRAFTING.

the lip from *a* to *b* and from *c* to *d*, then cut them accordingly, as shewn in figure 7, from *f* to *g* and from *h* to *j*. Fit together and bind safely, taking care that the inner bark of both scion and stock meet together.

The advantage of this system is that the scion unites to both sides of the stock, and is not nearly so easily broken or displaced, and the cut surface of the stock is much more quickly healed over. Grafting wax or clay must be used to cover every part of the junction.

When the young shoots on the grafts have grown about six inches the wax or clay should be removed and the matting untied; then they should be re-tied with fresh matting, taking care not to tie it too tightly. Fix a stick in the ground and tie to the stick the stock below the graft, and the scion above it, to prevent the wind from blowing them out or breaking them. The best way of removing the clay is to hold a brick, or half a brick, to one side of the clay and strike the opposite side with a hammer, when it may be taken away without injuring the growing scion. The clay and wax are often left on until worn away, but this is a mistake, because the matting under it is sure to be cutting into the wood and doing serious injury long before it is broken by the expansion of the wood.

When large trees are beheaded the branches are often too large for either of the previously described systems of grafting, but they may either be Cleft-grafted, Knotch-grafted, or Crown-grafted; the latter is sometimes termed Rind-grafting.