



THE ARATOR.



Agriculture is the great art, which every Government ought to protect, every proprietor of lands to practice, and every inquirer into nature to improve.—JOHNSON.

DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS.

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TANNING AND CURRYING.

TANNING is the art of manufacturing leather from the skins of various animals, and is founded on the fact that the tannic acid contained in the barks, being an astringent, hardens the animal jelly contained in the hides, so that they become close-grained, compact, and insoluble in water. Tannin also precipitates the green vitriol, or copperas, (sulphate of iron,) that accumulates between the hair and skin.

The outer coating of the hemlock, and various species of the oak, are the principal materials generally used in the United States: the former for the great body of sole leather; the latter, for the various harness and upper leather.

The trees are felled in the season when the sap is ascending, from May 1st to September 1st, though usually only from May 15th to August; and the bark is easily peeled off in sheets of any required length, but usually four feet long. It should be suffered to lie with the inner surface exposed to the sun one or two clear days, to dry up the sap on that surface, when it should be gathered into piles of a square form, in a dry place, on poles above the ground, and be protected by large pieces, laid care-

fully on the top of the pile. The body only is peeled in this country, except the larger branches of the oak; while in England the small limbs, and even twigs, all that will peel, are saved, and thought to be stronger than the body bark. Thirty days of dry weather will cure the bark sufficiently for use. But in a large business it is drawn to a road-side, after harvest, and piled in like manner, and is suffered to remain until fall or winter, when it is drawn into the tannery, and stored in large piles in the open air, or in cheap open sheds, and taken into the tannery as wanted. At the North this is usually done in winter, which makes good sleighing almost as important to the tanner as bright skies in June and July.

Chemical tests give to hemlock bark only 3½ to 6 per cent. tannin; American oak not more than half as much, while English hedge-rows is 16 per cent. The chestnut oak, which grows very abundantly in some parts of the South, furnishes an excellent and plentiful bark for tanning purposes. Various other foreign substances contain tannin. Valonia, of Turkey, or the acorn cup and ball, gathered in the green state, is the favorite in England; and it is believed that the great burr oak of the Middle States yields an annual crop of the same material, which, if gathered, would be sufficient for all the tanning of America, and save the destruction of our noble forests now going on so rapidly. The strongest article known is kutch, imported from the East Indies, evidently an extract boiled down to salts, which contain about 55 per cent. pure tan. It is too expensive for common use in this country, but it is much used in En-

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