The main stem, 91 feet long, when sided, 330 cubic feet. A branch 29 feet long, sided 17 inches, 58 —

— 24 — 19 — 60 —

— 19 — 17 — 38 —

The two main slabs produced 861/4 feet of

3 inch-plank ; other conversions ; in all, 216 —

13 sided knees, taken together, 217 —

Other minor but useful conversions, 276 —

Total, 1195

the weight of which was nearly 30 tons. The bark weighed 3 tons 17 cwt. 3 qrs. There were 313/4 cords of cord-wood, 84 hogshead, 67 barrel, and 106 kilderkin staves, 256 coopers’ ends : 28 hogshead, 38 barrel, and 49 kilder­kin heads were also converted from the slab wood.

The largest oak on record grew in Dorsetshire. It was called Damory’s Oak, and was used as an ale-house. It was sixty-eight feet in circumference, and the room formed in it was sixteen feet in length. This tree was blown down in 1703.

As a general average of the size of oak timber, 56 cubic feet for each end or log of rough timber, and 30 cubic feet for each end of sided timber, may be assumed as to­lerably correct. In order to convert rough timber into sided timber, about two thirds the diameter of the rough log, in the middle of its length, is assumed as the most advan­tageous siding; and, on an average, it is estimated that not above one third of each log or end of rough timber is used in the principal conversion from it, and this prin­cipal conversion is estimated to be about three fourths of the total conversions.

In consequence of the great value of the bark of oak, it is the practice to fell the timber in the spring of the year, because then the bark is easily detached from the tree, while the bark of winter-felled timber is lost. There can be little doubt, however, that the durability of the wood is much deteriorated by this practice. It was a received opi­nion among the ancients that timber should be felled in the fall of the year ; and not only do modem experiments con­firm this opinion, but modern discoveries as to the flow and return of the sap, and its nature at various seasons, tend to show the reason for its correctness. The practice which almost all the eminent arborists have recommended, and supported by their experiments, is to bark trees standing in the spring, and then allow them to remain in this state at least one twelvemonth. This was not an uncommon practice in some of the midland counties of England, and was first strongly recommended in the reign of James the Second by Dr Plott, an arborist of great celebrity at that time. Buffon presented a memoir in 1738 to the Royal Academy of Sciences in Paris, “ on increasing the Solidity, Strength, and Durability of Timber for which purposes it was recommended to strip the tree of its bark during the season of the rising of the sap, and then to leave it to dry completely before being felled. Du Hamel gives most mi­nute accounts of experiments made by himself, all tending to the same conclusion ; and Dr Hunter, in his notes on Evelyn's Sylva, says, “ that by stripping off the bark, and allowing the tree to stand and die before it is cut, the sappy part becomes as hard and firm as the heart.” Here is a collection of opinions, of such weight, that the general fact which they assert must be considered to be established be­yond contradiction. Buffon also says that he caused pines, firs, and other species of evergreens, to be barked standing ; and as he found them live longer after the operation than oaks which had been also stripped, he considered their wood acquired proportionately greater hardness, strength, and durability. He recommended the practice for fir trees des­tined to be converted into ships' masts.

Elm, of which there are two principal varieties, like oak, will not bear a damp soil with stagnant waters, but it thrives

well in moist declivities, provided the land be not too rich. The trees grown on too damp a soil either die pre­maturely, or their timber is of a soft spongy nature, and prone to decay. There are two British varieties of this timber, the *Ulmus Montana,* or Wych elm, and the *Ulmus campestris,* or, as they are sometimes called, the Scotish and the English elms. Of these the Wych elm is decidedly the most valuable as timber, and, when used in situations where it is kept constantly moist, is extremely durable ; but no elm timber will bear the trials of change of temperature and moisture to which oak in all its varieties is comparatively insensible. The close and interwoven grain of elm, the absence of decided longitudinal fibre, and its power to resist rending from exposure to the heat of the sun, and tl>e alternations of weather, cause its timber to be very useful for small articles, such as the blocks used in the rigging of a ship. It is valuable in many parts of the millwright’s machinery, where the wood is subjected to great friction. It is also valuable and much used both for the timbers and for the planking of ships below the surface of the water ; and the planks of clinker-built boats are very generally of elm. There is one peculiarity about elm tim­ber, namely, that the alburnum or sap-wood is possessed of nearly equal power to resist decay with that which is ma­tured ; that is, when both are used in situations where they are not exposed to alternations in moisture. A variety of timber has of late years been introduced into the market under the name of Canada elm, or American rock elm. It is a smooth, even textured, pale coloured, and strongly fibrous wood, almost devoid of knots, and admirably adapted for boat-building, and all works which require a flexible and close-textured wood. The Canada elm appears to have many of the peculiarities of toughness and flexibility which distinguish the ash.

Chestnut, *Fagus castanea,* and Beech, *Fagus,* appear to suffer the least of all the timber trees from being planted in moist sandy soils; but as the chestnuts push their roots far downwards, they require a proportionate depth of soil. The roots of beech, on the contrary, spread widely, but without going to any considerable depth. Beech is a tim­ber which easily adapts itself to and flourishes in almost any soil. Even among rocks its roots will, like those of firs and larches, insinuate themselves into the smallest fis­sures, and find means to extract sufficient nourishment to produce a useful timber. Beech-timber, when used shortly after being felled, and for works where its dampness will be continued, is a long-enduring wood. It is largely applied in the mercantile navy, for the lower planks of the bottom of ships. The best variety has its wood of a yellow tinge. Chestnut is even a more durable timber than oak, and was much used formerly ; but the cultivation of it has been so neglected that few trees remain in this country. Ash, *Fraxi­nus Excelsior,* which is another valuable timber tree, accom­modates itself to all soils. It will grow in marshy grounds and in arid lands, in depth of soil or in shallow soils. It will push its roots into hard gravelly bottoms, and even into the sandstone rocks ; but the ash-timber from very poor soils is brittle, and loses the elasticity which is the valuable peculiarity of this wood. Ash is a very useful timber for carts and implements of husbandry, for machinery, for tools of almost all trades ; and it supplies oars to our shipping. Of late it has also been much used in the construction of the beds for locomotive steam-engines, tenders, and carriages.

In consequence of the immense consumption of timber for the maintenance of our fleets, there is much imported. We import oak of excellent quality as planking, from the forests on the shores of the Baltic, especially from those ofPoland. From Italy and from both shores of the Adriatic, sided timber and plank are imported in large quantities. the Italian timber is extremely subject to rends, but is both strong and durable ; and the Adriatic oak has been