

HAMPTON COURT PALACE AND GARDENS.

Hampton Court, a grand royal residence, with gardens and park of great extent and beauty, is well known to students of history, and to many American travelers who have visited it. It was a favorite domicile of Henry the Eighth, whose fine collection of Holbein's paintings still adorns the walls; the great Protector, Oliver Cromwell, imprisoned Charles the First here, and afterwards occupied it as his country seat; William the Third laid out the magnificent gardens, and imparted much of Batavian primness to the designs; and Queen Anne was never at home so much as under the trees of the splendid Bushey Park, which forms part of the domain. It is now almost entirely devoted to public recreation; park, gardens, and palace are daily thronged by hundreds, and on Sundays by hundreds of thousands, of pleasure seekers; and with the exception of a few apartments, the whole edifice is open to the investigation of the tourist. It was in a small villa on this estate that Faraday spent his last few years, the residence being the only favor that he ever accepted from any one. Devoting his whole life to original investigation, and living cheerfully and serenely on the very moderate stipend of about \$1,000 a year allowed him by the Royal Institution, after many years of closest application, resulting in services to mankind which no money value can adequately estimate, he retired to the beautiful shades of Hampton, and added another, and that not the least one, to the many grand memories that surround the ancient palace.

In the gardens, the Maze is a never-failing source of amusement to the young. Once inside it, hours may be spent in trying to find the way out, the paths being alley ways between high hedges, and there being no indications of a short cut to an exit. Another feature of interest is the ancient vine, which covers an enormous space, and frequently in autumn has 2,000 lbs. of ripe grapes hanging on it.

The gardens are kept up with great care, and important additions are made from time to time. Recently a conservatory, 70 feet long, 30 feet wide, and 34 feet high was constructed; it is now filled with specimens of rare beauty, especially of tropical vegetation and arborescent ferns. We give herewith a well executed engraving of the building. "Of conservatories recently erected in the neighborhood of London," says the *London Garden*, "this is one of the most remarkable, as regards its superior design and finish and the elegant character of the vegetation which adorns it. This is mainly composed of a number of tree ferns, many of which are distinguished by the slenderness of their stems—these, indeed, looking more like tall antelope's legs than the tree fern stems with which we are familiar. Among the different plants generally employed for conservatory decoration, none, except palms, can compare with tree ferns, and

even palms themselves lack that freshness of aspect and exquisite feathery beauty which are characteristic features of these ferns when well grown. Many tree ferns, now in cultivation, are Australasian species, belonging to the genera *Dicksonia*, *cyathea*, and *Alsophila*; but even these are surpassed in lightness and graceful contour by some of the less known but certainly more delicately beautiful South American kinds, of which some striking examples may be seen here. These slender-stemmed and exquisitely beautiful American species are so distinct from the ordinary kinds as to be well worthy the attention of all interested in new and rare forms of tropical vegetation. Their distinctive features, too, are all the more apparent, inasmuch as they are growing side by side with well developed specimens of other kinds, among which we remarked *Dicksonia squarrosa*, *cyathea dealbata*, and other equally well known forms. Beneath the rich South American vegetation just referred to are dwarf ferns, such as *adiantum*, *pteris*, and *asplenium*, together with an abundant undergrowth of other well arranged foliage plants, such as *dracenas*, variegated *yuccas*, *caladiums*, fine specimens of the velvety-purple silver marbled *cissus discolor*, noble crotons and alamanidas: the girders of the dome above being nearly hidden in wreaths of variegated *cobaea*, the yellow-margined leaves of which, enlivened here and there with great purple flowers, had a fine effect. On one side is a tastefully ranged piece of rockwork, half hidden among creepers, and draped with feathery ferns, selaginellas, *tradescantia variegata*, grasses, and brilliant orange yellow, dark-eyed thunbergias, the latter flowering freely, and, when backed up by cool green banks of selaginella, having a very pretty effect. At the base of this rockery is a small strip of water, replenished by a dripping cascade from the rocks above, and ornamented with aquatics. The larger ferns, and other permanent vegetation, are planted out; but flowering plants, such as achimenes, begonias, pelargoniums, etc., are grown in pots, so as to be replaced, when out of flower, by others as occasion may require. As will be seen in the engraving, however, the pots are judiciously concealed from view by means of a deep curb—an important point, and one that might be carried out in all conservatories in which the object is to show the grace and beauty of tropical vegetation to the best advantage."

Belting versus Gearing.

The largest leather belt ever made in England has just been supplied to a large cotton-spinning mill in Bolton, by W. J. Edwards, 20 Market place, Manchester. The belt is one of Messrs. Sampson and Co.'s patent, manufactured from the best English leathers, and is 38 inches wide and 90 feet long, double (or two thicknesses), and without a single cross joint from end to end, and of equal thickness throughout. The belt is for driving direct from the fly wheel of engine,

and to transmit 350 indicated horse power. The same firm have also two double belts of the same make, each 29 inches wide, driving direct from the fly wheel of engine. The driving pulley is 28 feet in diameter and 5 feet on the face, crowned or turned up for the two belts, and the belts travel through 4,500 feet per minute, transmitting 600 indicated horse power. It is claimed for this belting that it is specially adapted for main driving, and has the advantage of running perfectly straight. A prize medal for their specialties has just been awarded by the Society for the Promotion of Scientific Industry, Cheetham Hill Exhibition, Manchester (this is the sixth medal awarded at various exhibitions). This system of driving direct from the fly wheel is becoming more general in this country every day. The patentees have lately fitted up a large spinning mill, where they are transmitting 2,000 indicated horse power through this class of belting.

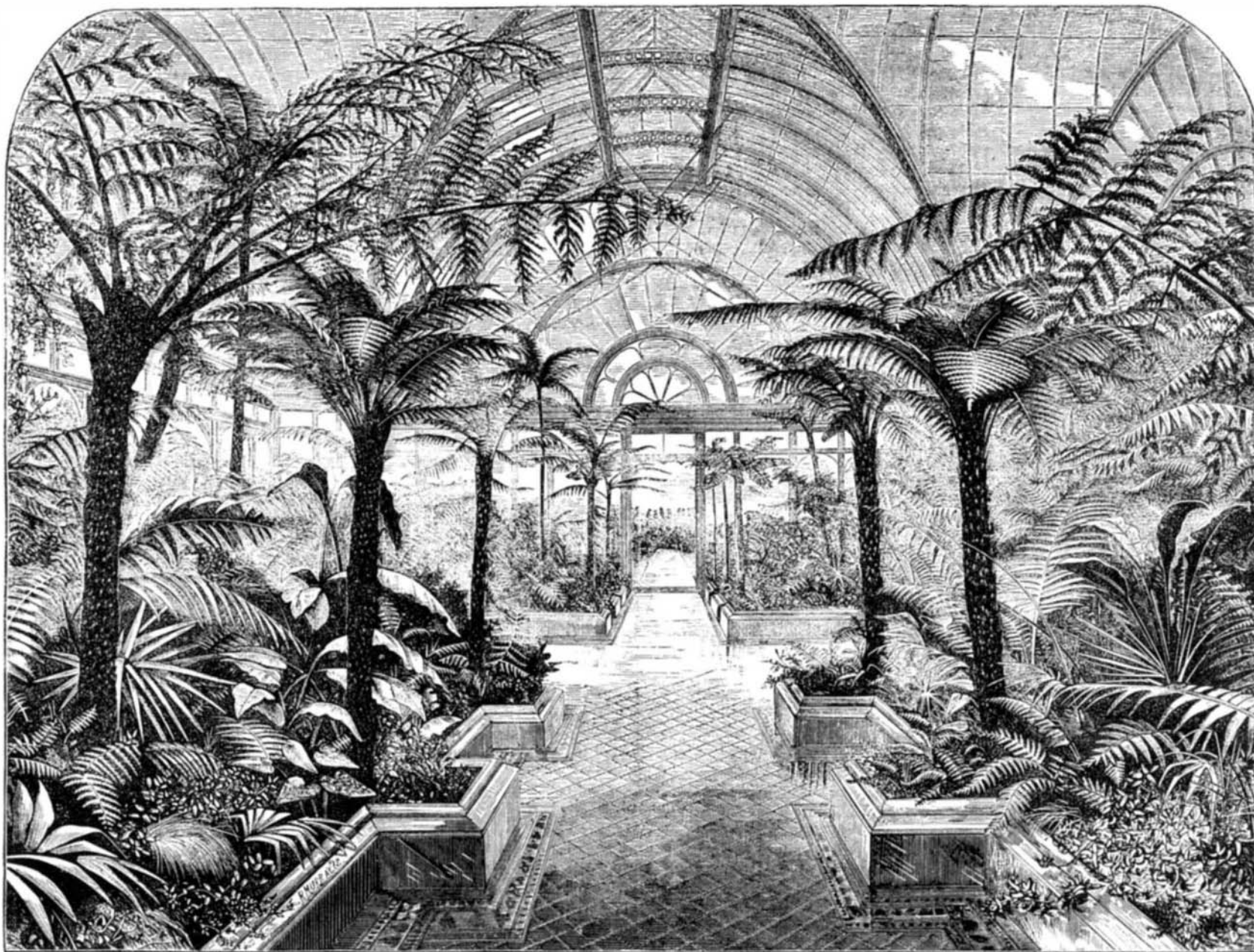
The belt system having been in general use in the United States for the past thirty years, it is gratifying to observe that our British cousins are at last beginning to appreciate its advantages.

Influence of Season on the Skin.

Donhoff calls attention to the fact that the obvious difference between the fur of animals in summer and in winter is associated with an equally striking difference in the texture and thickness of their skins. Thus, for example, the average weight of an ox hide in winter is 70 lbs., in summer 55 lbs.; the hair in winter weighs about 2 lbs., in summer 1 lb., leaving about 14 lbs. to be accounted for by the proper substance of the skin. These differences are quite as decided in foetal animals as in adults. Calves born in winter have a longer and thicker coat than those born in summer; moreover, there is a difference of more than a pound in the average weight of their skins after the hair has been removed. Similar fact may be observed in the case of goats and lambs. That these differences are not to be ascribed to any corresponding change in the diet and regimen of the parent animals is proved by the fact that they are equally manifest in the young of individuals kept under cover and on the same food all the year round.

Utilization of Plaster Rubbish.

Gaudin, Paris, patents a method of treating plaster rubbish with carbonate of soda, by which it is rendered fit for use over again. Old plaster, even after it has been re-burned, sets too quickly for use. By calcining the rubbish and mixing it with some saline solutions instead of pure water, this is prevented. Alkaline solutions are best, and of these a solution of carbonate of soda in water is the cheapest. Plaster from old walls and ceilings when thus treated sets at the end of two or three hours, and has all the properties of fresh plaster.



NEW CONSERVATORY AT HAMPTON COURT ENGLAND.