

prolixity. There is very much about these gardens, however, that has yet been but cursorily noticed, or that it was impossible adequately to represent within reasonable limits. And lest it should be assumed that, because these articles do not contain the usual delineations of faults and suggestions of improvements, all that has been done by Mr. Bateman is approved and praised, it must be noted that the writer has purposely adopted the critical principle of pointing out only those things which, for some reason or other, are to be decidedly commended. It is proverbially easy to find fault, and, generally, comparatively useless as well as ungracious.

Undoubtedly the chief defect of the place is the excessive multiplication of parts, which breaks up the whole area into small portions, interferes with unity and connection, and produces, in some degree, a want of breadth and repose. For this, however, a very large compensation is afforded in the surprising variety and distinctness of the numerous departments, and the greatly superior interest that thus attaches to an examination of the place or a residence in it. The relative desirableness of a large open area, with a few subordinate side scenes, or one minutely subdivided like Biddulph Grange, must consequently depend very much on individual inclinations and taste. *Edward Kemp, Landscape Gardener, Birkenhead Park.*

Miscellaneous.

Liquidambar styraciflua, commonly called Sweet-gum (says Dr. Wright in the American Journal of Medical Sciences), is indigenous to nearly every part of the United States, and constitutes one of our largest forest trees. When an incision is made through the bark of this tree, a resinous juice exudes, which possesses an agreeable balsamic odour. When this substance first exudes, it is of the consistence of turpentine, and possesses a stronger smell in that condition than it does after it has become resinified. Contrary to the statements made by Wood and Bache in their Dispensatory, this tree furnishes a considerable quantity of resin in the Middle States, particularly in the States of Ohio, Indiana, and Kentucky, bordering on the Ohio River. It is annually collected in those States, and sold under the name of gum-wax. It is a much more agreeable masticatory than the Spruce-gum, and is chewed in the West by nearly all classes. By proper incisions, one tree will yield annually about 3 lbs. of the resin. The chemical composition of the specimens collected in this latitude correspond with that given by M. Bonastre of specimens gathered elsewhere, viz.: benzoic acid, a volatile oil, a semi-concrete substance separated by distillation and ether, an oleo-resin, a principle insoluble in water and cold alcohol, termed styracine. The bark of the tree contains tannic and gallic acids, to which its astringency is due. What I wish more particularly to call attention to is the employment of a syrup of the bark of this tree in diarrhoea and dysentery, and more especially the diarrhoea which is so prevalent among children during the summer months in the Middle States, and which frequently terminates in cholera infantum. The best formula for the preparation of this syrup is that given in the United States' Pharmacopœia for the preparation of the syrup of Wild-Cherry bark, of which the following is a copy, the Sweet-gum bark being substituted for the Wild-Cherry bark:—"Take of Sweet-gum bark, in coarse powder, five ounces; sugar (refined), two pounds; water, a sufficient quantity. Moisten the bark thoroughly with water, let it stand for 24 hours in a close vessel, then transfer it to a percolator, and pour water upon it gradually until a pint of filtered liquor is obtained. To this add the sugar in a bottle, and agitate occasionally until it is dissolved." The dose of this syrup for an adult is about one fluid ounce, to be given at every operation, as long as the operations continue to recur too frequently. One advantage which this medicine possesses is that of having a pleasant taste, and of being retained by an irritable stomach when other substances are rejected. Children never object to it on the score of bad taste. *Pharmaceutical Journal.*

Calendar of Operations.

(For the ensuing week.)

PLANT DEPARTMENT.

CONSERVATORY, &c.—In changeable weather like the present this structure will require very careful management. The best plan is to keep as low and dry a temperature as can possibly be permitted, say from 40° to 45° at night, allowing it to rise a little in the day time. In mixed greenhouses see that the young stock of Heliotropes, Pelargoniums, Cyclamens, and other flowers grown especially for winter, have nice light situations and regular attention as regards watering. This is a good time to introduce the following things into the forcing pit, provided they have received the necessary treatment through the summer:—Rhododendrons, Azaleas, Persian Lilacs, Sweet Briars, Moss and other Roses, Ledums, Kalmias, Daphnes, Anne Boleyn Pinks, Dutch Bulbs, &c. Unless, however, they are in proper trim, it will be labour in vain, and no mode of forcing or form of pit can compensate for this; the great secret of success if the heat is wholly composed of fermenting materials, is to keep down accumulating damp and mouldiness by an almost constant ventilation, increasing the linings in order to raise the necessary temperature. Those who are fortunate enough to possess pits heated

by means of hot-water will of course pursue a somewhat different course. Look! well to pits and frames containing stores for next summer, and have efficient protecting material always in readiness with which to cover them whenever the weather is unfavourable.

FORCING DEPARTMENT.

PINERY.—Water plants in pots as little as possible at this season; where the general stock is grown in this manner it is a good plan to cover the pots over 2 or 3 inches with the plunging material; where the bottom heat will permit that to be done it obviates the necessity of watering so frequently. **VINERIES.**—Use fire-heat sparingly in houses where the fruit is ripe, but sufficient must be used to prevent the moisture of the atmosphere being frozen to the glass inside the house, for if this is allowed to happen the moisture on thawing is liable to drop upon the bunches, injuring the bloom and causing the berries to decay. Admit air on every favourable opportunity, and examine the bunches often and carefully, so as to make sure of removing decaying berries the moment it can be perceived that they are affected. Where forcing is fairly commenced be careful to maintain a properly moist state of the atmosphere, and this must be especially attended to while severe weather lasts, particularly where the buds are bursting. The evaporating troughs must be kept constantly supplied with water, and the paths, bed, &c., should be frequently syringed, and it will also be advisable not to have the tender foliage too near the glass until the weather changes. If fermenting material is used for warming the border, this must be well covered with dry litter to protect it from the frost, and turned occasionally, adding some fresh as may be necessary to keep the heat in the border regular. It will be advisable, however, to have some dung and leaves thrown up to heat, as there would be some danger of chilling the bed by turning it in the present state of the weather, and mixing it with the dung or leaves which had not commenced fermenting. Houses which it is intended to commence forcing the beginning of next month should also have some fermenting materials placed on the borders so as to encourage the roots a little before the Vines are excited, which will be of great service towards getting the buds to push strongly and without loss of time. **STRAWBERRIES.**—Where these must be obtained as early as possible, say by the end of February, a lot should now be introduced. Any house or pit will do, provided a temperature of from 45° to 50° can be maintained with a moist atmosphere. Let them also have as light a situation as possible. **SEAKALE AND RHUBARB** may be brought forward in a Mushroom house.

FLOWER GARDEN AND SHRUBBERIES.

Now that the leaves are off the trees let lawns and shrubberies have a thorough cleaning. Examine pillar and trellis Roses, and if the weather is favourable see if the soil wants renewing, or the kinds changing. For choice sorts roomy holes should be made capable of containing three or four barrow loads of well prepared soil. Turfy loam of good quality is the chief thing; to this add a portion of rich rotten manure, and if at hand a little sandy peat or leaf mould.

HARDY FRUIT AND KITCHEN GARDEN.

Trench, dig, and ridge every spare inch of ground whenever the weather will permit these operations to be advantageously performed. This is particularly to be observed in gardens, the soil of which is of a clayey nature. If frost continues, let the manure necessary be wheeled out for the whole of the spring cropping, laying it in heaps either on the spot where it is to be used, or as near as possible to it. What is not required for immediate digging in should be piled in small mounds and soiled over, to prevent loss from evaporation. Do not uncover tender vegetables after the breaking up of frost until they have become completely thawed, and even then do not uncover suddenly; leave a very light protection on them for a day or two, in order to inure them gradually to sunlight.

STATE OF THE WEATHER AT CHISWICK, NEAR LONDON, For the week ending Dec. 4, 1856, as observed at the Horticultural Gardens.

Nov. and Dec.	Moon's Age.	BAROMETRE.		TEMPERATURE.					Wind.	Rain.
		Max.	Min.	Max.	Min.	Mean.	1 foot deep.	2 feet deep.		
Friday 28	1	29.727	29.680	40	19	29.5	42	46	W.	.00
Satur. 29	2	29.722	29.694	37	16	29.5	40	45	W.	.10
Sunday 30	3	29.940	29.752	35	14	29.5	38	44	N.	.00
Mon. 1	4	29.916	29.900	33	15	29.0	38	43	N.W.	.00
Tues. 2	5	29.918	29.897	35	19	27.0	38	42½	W.	.40
Wed. 3	6	29.964	29.750	37	24	30.5	38	42	N.E.	.26
Thurs. 4	7	30.043	29.920	38	30	34.0	38	41	N.	.12
Average		29.895	29.797	36.4	19.6	29.0	38.9	43.4		.33

Nov. 28—Cloudy; hazy; sharp frost at night.
— 29—Frosty; clear; frosty.
— 30—Severe frost; clear; freezing nearly all day; severe at night.
Dec. 1—Severe frost; fine but cold; severe frost.
— 2—Clear and frosty; clear at night; snow at night.
— 3—Rain, and thick fog; cloudy.
— 4—Frosty and foggy; cloudy; rain at night.
Mean temperature of the week 13½ deg. below the average.

RECORD OF THE WEATHER AT CHISWICK. During the last 30 years, for the ensuing week, ending Dec. 13, 1856.

Dec.	Average Hightest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.							
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sunday 7	46.9	35.9	41.4	17	0.52 in.	4	2	3	2	6	4	5	4
Mon. 8	45.9	35.2	39.5	17	0.36	2	4	2	1	2	9	5	2
Tues. 9	45.6	35.5	40.5	14	0.31	2	7	2	1	1	11	6	1
Wed. 10	45.9	35.8	39.8	10	0.20	2	4	2	1	7	7	4	3
Thurs. 11	45.5	32.3	39.9	7	0.62	1	3	1	4	5	9	5	3
Friday 12	45.3	35.5	39.4	12	0.26	2	2	2	1	6	10	5	2
Satur. 13	46.6	32.6	39.6	10	0.16	1	5	4	1	8	9	2	2

The highest temperature during the above period occurred on the 13th, 1842—therm. 61 deg.; and the lowest on the 13th, 1816—therm. 11 deg.

Notices to Correspondents.

BOOKS: *F. J. H. Williams's* or *Moore's* small work on *Ferns* may possibly answer your purpose. The Index for 1851 may still be obtained.

CROSS BREEDING: *Mr. Darwin*, who has been much occupied in an inquiry into subjects of this kind, would be greatly obliged to any practical correspondent who may favour him with his experience as to Leguminous crops. Perhaps our friend at Bromsgrove may have something to say. The main questions are—do Leguminous crops, when grown together, sometimes cross; or may they be invariably grown together without any chance of deterioration? We should like to have the inquiry extended, and to know whether Leguminous plants with papilionaceous flowers ever cross accidentally. The case of the Laburnum and Purple Cytisus producing the Cytisus Adami should be disregarded, its history being very obscure, and probably wholly unconnected with cross breeding.

EVERGREEN OAK: *Hex.* Cut it down by March; cover the wound, while dry, with some melted rosin to keep the wet out, and let the wound slope at 45°.

HEATING: *A Constant Reader.* The meaning is already sufficiently explained. It is useless as well as wrong to continue the discussion.—*H. W.* asks us to inform him as to the best means of heating a greenhouse under the following circumstances:—It is to be built against the drawing-room, one window of which will open into it; a chimney anywhere visible would not be advisable, and he asks if he could heat it by a coke fire inside? Whether that would require a chimney? And whether the fumes from the coke would injure the flowers? To this we answer certainly they would; and so would gas if recourse were had to it. In short, a good mode of warming very small greenhouses has still to be discovered. Perhaps it could be covered at night with a thick straw mat, or some such material, which would keep out severe frost. To *Diamond* we must give the same reply.—*A Sub.* Use common 4-inch spigot and fosset pipes, such as are sold by thousands from the Carron and other foundries. They are a quarter of an inch thick. According to Hood, 1 foot in length of such pipe will heat 222 cubic feet of air 1° per minute, when the difference between the pipe and air is 125°. He reckons that when the external air is at 10° 200 feet of 4-inch pipe will be required to heat 1000 cubic feet of air to 60°. In your case we suppose that a double row of pipes all round would be necessary.

HYOSCYAMUS: *C. E. H.* Yes.

MELON PIT: *A Constant Reader.* One circle of 3-inch pipes is enough. We recommended rough slabs for the flooring because they are very cheap. It is true they will not meet, but by laying straw or turves across their joints the earth of the bed will be prevented falling into the chamber. Slate is neater and more expensive, but not better. The space between the earth and front wall should be 4 inches. Undoubtedly some water will find its way down into the chamber between the slabs, but nothing to signify if the turves or straw are packed closely. The chimney pots should be empty, and their base should be 6 inches above the slabs, resting on the earth.

MOSS ON FRUIT TREES: *Reader.* We can scarcely decipher your writing. You may kill Moss by local applications or you may remove it by scraping, but you do little good; it will come again as badly as ever. You must invigorate your trees if the growth of Moss is to be prevented.

NAMES OF FRUITS: *F. S.* Your Apple is the Court of Wick.

NAMES OF PLANTS.—We have been so often obliged to reluctantly decline naming heaps of dried or other plants, that we venture to request our correspondents to recollect that we never have or could have undertaken an unlimited duty of this kind. Young gardeners, to whom these remarks more especially apply, should bear in mind that, before applying to us for assistance, they should exhaust their other means of gaining information. We cannot save them the trouble of examining and thinking for themselves; nor would it be desirable if we could. All we can do is to help them—and that most willingly. It is now requested that in future, not more than four plants may be sent us at one time.—*F.* *Salvia splendens*, one of the earliest imported of the brilliant scarlet kinds.

NAPTHA WORKS: *H. M. Herts.* We have no personal knowledge, but we are assured, upon what we believe to be the best authority, that there is nothing deleterious in connection with them if they are properly managed.

ORCHIDS: *Flora* will be obliged by some of our correspondents informing her whether there are any Orchidaceous plants sufficiently hardy to grow and flower in a conservatory, the heat of which is sometimes as low as 45° at night.

STEEL FORKS: *W. C.* The size of this tool must depend on the soil it has to work, and the strength of the workman. Undoubtedly the best size is that with four prongs or tines. But take care that the fork is steel; we have seen most rascally tools of this kind, the tines of which bend like iron wire.

STRAWBERRIES: *A Grower* will not easily identify either Sir Harry or any other sort by comparing what he has with coloured prints; nor is there any such representation of that variety that we remember.

THE BOWOOD MUSCAT GRAPE. We speak from personal knowledge of its excellence. It is not yet for sale, but will doubtless be advertised in the spring, when you will learn where to order it.

THE HORTICULTURAL SOCIETY.—So many inquiries reach us as to the new regulations respecting the admission and privileges of Fellows that we find it desirable to print them as they are now described in the official Circular of the Society. **Payments.**—The annual contributions to be paid by the Fellows are either four guineas or two guineas, as they may determine when elected. All annual contributions become due and payable on the day of the anniversary meeting in each year for the year following. Every person who shall cease to be a Fellow of the Society, or whose payments shall have been suspended as herein provided, after the 1st day of May in any year, is liable to the payment of his subscription for that year.

Privileges.—The Fellows of the Society are entitled to the following rights and privileges: If paying Four Guineas a year, to participate in the distribution of plants and seeds from the garden, and to hold a Transferable Ivory Ticket, which gives the bearer all the personal privileges of the Fellow, except attendance at Special General Meetings of the Society held for the transaction of Corporation business. If paying Two Guineas a year, to participate in the distribution of seeds and cuttings in London. And also, whatever the rate of payment may be, to be present and vote at all general meetings; to introduce visitors at the ordinary general meetings of the Society; to have access to the library and other public rooms of the Society, and there to consult the printed books, plates, and drawings and to belonging to the Society; to have personal admission, and to introduce personally or by order, visitors to the garden of the Society; to receive gratis such publications of the Society as Society; to may appear during the time they continue to be Fellows; to purchase, at a reduced price, Tickets for Special Exhibitions, with such limitation and under such regulations as the Council may from time to time direct. **Ladies.**—Every lady, Fellow of the Society, may appoint any gentleman, being a Fellow of the Society, to vote for her at the general meetings of the Society, upon the production of a proxy, which shall not be changed more than once in each year. If any lady, Fellow of the Society, is the wife of any person not a Fellow of the Society, he will not be entitled in her right to any of the rights or privileges of a Fellow, but she will, so long as she continues to conform to the regulations of the Society, continue to enjoy separately all her rights and privileges as a Fellow of the Society.

Misc: *Sub.* You may prune your Camellias and Gardenias immediately they have done flowering, or before they have begun to make their next year's growth.—*W. P.* You will find the information you seek for at p. 675 of the present year's volume.