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THE ONTARIO FARMER,

A MONTHLY JOURNAL OF

Agriculture, Horticulture, Country Life, Emigration, and the Mechanic Arts.

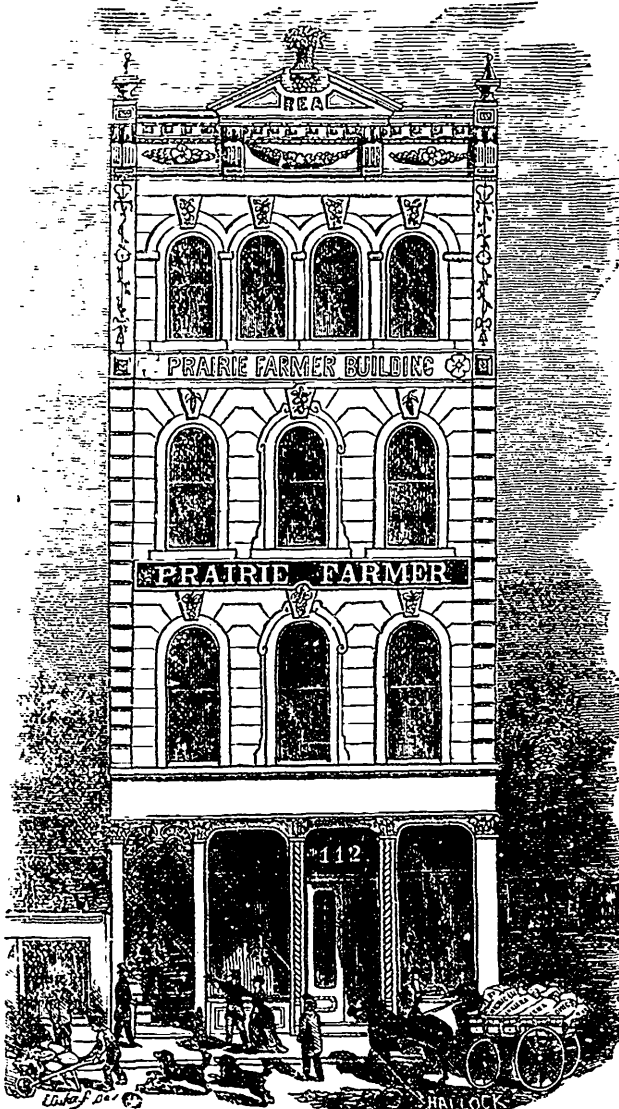
VOL. II.

HAMILTON, JUNE, 1870.

No. 6.

We were glad to find on a recent visit to Chicago, our friends of the *Prairie Farmer* snugly ensconced in a brand-new building, affording ample accommodation and conveniences for carrying on the extensive and increasing business of that journal.

Thinking it might interest our readers to see pictorial evidence of the success and enterprise of a Western Agricultural Paper, we borrowed an electrotype of the new building, and have much pleasure in using it as an embellishment to our pages. The structure herewith represented is really the front one of two buildings recently erected by the *Prairie Farmer* Company, both being connected by a covered bridge which unites the second



with an eye to business profit, is devoted to some other purposes besides those of the *Prairie Farmer*. The first floor is occupied by a firm engaged in the manufacture and sale of agricultural implements and machinery; the second floor contains the business offices, editorial and consultation rooms of the *Prairie Farmer* Company; the third floor is divided into offices for lawyers, physicians, &c.; and the fourth or upper floor consists of two halls, one of which is rented to a College Society, and the other to Cook County Agricultural and Horticultural Society. The front of the building is of Illinois, or Athens, marble, and the whole structure within and without, is well finished, presenting a

very fine appearance. Upwards of \$30,000 have been expended by the Company upon this commodious and stately pile, which we may add is in one

very fine appearance. Upwards of \$30,000 have been expended by the Company upon this commodious and stately pile, which we may add is in one

of the most desirable parts of the city, being close to the Post Office, Custom House and other public buildings. We congratulate our Western contemporary upon the ability to rear such an edifice, hope it will go on and prosper, and sincerely wish that at no distant day our pages may be ornamented with an equally beautiful engraving of an ONTARIO FARMER BUILDING.

THE SEASON.

So far, the present season has been all that the most exacting and hard-to-please farmer could wish. Though winter was tardy in departing, it left us in a hurry, and spring came promptly as if anxious to rival winter in the rapidity of its movements. Owing to the early fall and steady continuance of a large dody of snow, there was not much frost in the ground, except here and there in exposed and bare places; consequently the plough was quickly at work; a fortunate circumstance, as owing to the unfavourable weather last autumn, but little ploughing was done. Short and hurried as the spring has been, we believe that the crops have been seldom got in earlier or in better order; the weather has been superb; nature has been in holiday trim; and for once, grumblers have been at a loss what to find fault with.

In some sections, fall wheat sustained injury, and we have heard of a few instances in which fields or parts of fields have been re-ploughed and re-sown; clover too has been damaged to some extent; and what is very remarkable, some of our hardiest native trees, the balsam fir, for example, have suffered a species of winter kill, the cause of which it is conjectured was the setting in of cold weather so early in the fall that the young wood had not time to harden and toughen. In our own grounds there are several balsams that look as if they had been scalded or scorched, and are either half or quite killed. Meantime that right noble evergreen, the Norway Spruce is wholly unscathed, proving itself as it invariably does, the king of Evergreens in this climate. In some cases, fruit-trees have suffered similiar damage, especially plums, and we note that although the winter has by no means been severe, as it respects the degree of cold indicated by the thermometer, yet grape-vines and other plants show signs of having passed through a trying ordeal.

The prospect of a fine yield of fruit was never better. If we escape a June frost, there can be little doubt that we shall have one of the most abundant fruit seasons the country has ever known; and as people who have never got into the spirit of fruit-planting, behold the richly-laden orchard and lawn trees of their more provident neighbours, we trust they too will resolve to plant, and that next year our nurserymen will be deluged with orders, and overwhelmed with business.

AGRICULTURAL AND ARTS ASSOCIATION OF ONTARIO.

The Council of the above Association held a special meeting on the 12th and 13th ults. Most of the business consisted of the usual routine preparations for the coming Exhibition. The Chairman stated that a copy of last year's prize list had been sent to each member of the Association for suggestions, and that in consequence a number of communications had been received proposing changes. In reference to the ticket frauds at London during last Exhibition, it was formally reported to the Board, that owing to the admirable manner in which the case had been worked up, conviction had been had of one Scanlon as the guilty party, who had been sentenced to six months' imprisonment for the crime. The thanks of the Board were tendered in a resolution to Mr. James Young, M. P. for South Waterloo, for the efficient service rendered by him in obtaining the passage of a Bill through the Dominion Legislature, abolishing the duty on animals imported for breeding purposes.

THE ASSOCIATION V. DENNISON.

Mr. RYKERT, M. P. P., read a long report from the Master in Chancery in this case. Mr. Rykert characterized the report as being a most extraordinary document, and highly worthy of a place in Barnum's Museum as a curiosity, inasmuch that while it brought the Association in debt to the late Treasurer in the large sum of \$6,338; it also stated that Mr. Dennison had no legal stand in Court. Some desultory conversation took place upon the matter, and finally the report was referred to the Solicitor of the Association.

THE MODEL FARM.

The SECRETARY stated that the awards of the arbitrators in the matter of the Model Farm buildings, between the University and the Association had been given; but there was a difference of £300 between them, so that it would be necessary to appoint a referee.

It was then resolved:—"That the Secretary be instructed to notify Mr. Crooks, of the University, that the Board would prefer that the arbitrators should themselves select a referee, and decide upon the valuation to be placed upon the Model Farm buildings."

LOCAL COMMITTEE.

It was resolved that the Secretary (Mr. H. C. Thomson) and the Treasurer, (Mr. Graham,) be appointed a Committee to select the gentlemen to serve on the local Committee, the number not to exceed twenty.

In the course of a discussion on the rules of the Exhibition, it was resolved to make it incumbent on all male animals, above one year old, that they should be in and serve in the Province, either one season before showing, or that their owners should guarantee that they remain for one year afterwards.

[Who is this meant to hit?—Ed. O. F.]

REPORT ON HON. JOHN CARLING'S LETTER TO THE COUNCIL.

A Committee, consisting of the Chairman, Dr. Beatty, and Mr. White, submitted a report in reply to a communication from the Minister of Agriculture, which appeared in our April issue. This report, which after some discussion was adopted in full, is as follows:

"Your Committee to whom was referred the letter of the Hon. Minister of Agriculture of the 22nd February, beg to report.

In reference to the letter of the Minister of Agriculture, addressed to the President of this Council under date of 22nd February last, the following considerations are respectfully submitted:—

1st. The meeting of the Agricultural Association exhibits a constant and most gratifying evidence of progress in the increase of entries and prizes offered from the year of the first Exhibition, 1846, when the entries were 1,150, and prizes offered \$1,600, to the Exhibition of 1869, when the entries were 7,649, and prizes offered \$13,248.

2nd. The improvement in the quality and variety of articles exhibited, whether in the department of Agriculture, Horticulture, Mechanics, or Arts, has been quite as marked and gratifying as has been the increase in quantity.

3rd. The observations of the members of the Council made during frequent visits to the Annual Exhibitions of New York and other States, and the acknowledgments of distinguished Americans visiting our Exhibition, freely and impartially given, warrant the assertion that the Annual Exhibitions of Ontario not only stand in the very first rank, but really excel any and every other of the same mixed character on the continent.

4th. The successful establishment of the Veterinary College, under the charge of Andrew Smith, V. S., of Edinburgh, and the number of qualified Veterinary Surgeons now annually sent out from the College, supplying a most important desideratum to the agricultural community, is confidently referred to as further evidence of the successful management of the Association.

5th. The working expenses of the Association, which the Hon. the Minister of Agriculture asserts 'seem to be very large,' have been very materially increased under the operation of the system adopted under the present Agricultural Act, increasing the number of the elective members of the Council from eight to twelve; and the practice of elective members, residents of the respective districts they represent, while beneficial to the interests of the Association, and satisfactory to the public, the travelling and incidental expenses are very considerably increased, when compared with the system and practice under the former Act. For the past year, also, the working expenses were very largely increased by the large sum the Council were obliged to expend in preparing the necessary accommodation at London for the Annual Exhibition, amounting to about \$3,350.

6th. The expenses under the head of 'Miscellaneous,' specially referred to, can scarcely create surprise, when some of the items are examined, to wit: \$2,000 of the amount was a sum paid to Prof. Buckland, for three years' services as Lecturer for the Association, which had been appropriated to

him and should have been paid by the late Treasurer more than two years ago: \$163.65 discount paid upon silver received for entrance to the Exhibition: \$135 paid for the Lieut.-Governor's bill as Visitor to the London Exhibition: are all extraordinary payments, and deducted from the miscellaneous aggregate of \$3,467.79, leaves but \$1,169.14 to be fairly charged under that head.

Circumstances connected with the former Council and Board of Agriculture, and the operation of the first year under the present Act, made it necessary to hold a larger number of meetings of the Council than ordinary, and perhaps double the number which will be required for the present year, and this will very materially reduce the working expenses of the Council.

7th. An Agricultural Library, to be of general benefit, must be so located as to be easy of access to agricultural men; and it is submitted that there can be no comparison in this respect, as between the rooms in the Parliament Buildings, proposed by the Minister of Agriculture, and the commodious premises now owned and occupied by the Council of the Association, the latter being the most central location in the city.

8th. Instead, therefore, of the plan suggested by the Minister of Agriculture, it is now proposed that the Agricultural Library should be united to the 'Valuable Library of Books relating to Agriculture and Arts,' collected by the late Board of Arts and Manufactures when forming an active part of the Agricultural Association, and which, in all fairness, should have been handed over to this Association; to locate the united libraries in the Agricultural Hall, which contains one of the finest rooms for a library and museum in the city; establish a public library, open to the public every day in the week, and at least three evenings of the week until 10 p. m.; the present messenger having charge of and being accountable for the proper care of the Library. This plan would involve but little extra expense, and a moderate appropriation from the annual grant would provide for continuous improvement by the addition of suitable works and periodicals as issued.

9th. A most important element in the successful management of the Association is, that it has been entirely free from political influences; to the people has been left the conduct and location and control of the Annual Exhibition, aided and fostered by annual grants of money by the Parliament, but in no way influenced or interfered with by the Government of the day; and it is submitted that this element of success must be entirely destroyed by the plan of management suggested by the Minister of Agriculture, and the expense—the plea used—could be but slightly if at all diminished, except, indeed, that the Government should assume the entire control, and dispense with the services of the Council, in which case it would no longer be an institution of the people, but a creature of the Government.

The members of the Committee are convinced, and this expression of opinion is unanimous, that it is of the utmost importance to the continued success of the Association that it should preserve its autonomy in the future as in the past, independent of and unaffected by whatever shade of politics may mark the existing Government.

So far as the Committee are aware, the change proposed by the Minister of Agriculture has not

been asked for by the public. Since the proposition was submitted to the Council, the members have had some opportunity of testing public opinion, and they have not met a single person who approved of the scheme."

The following report of the Principal of the Veterinary College was read:—

"To the Council of the Agricultural and Arts Association :

GENTLEMEN,—I have much pleasure in bringing before your notice the following brief Report of the past session of the Ontario Veterinary College.

The session for 1869-'70, commenced the 20th October, and was attended by fourteen second and third years' students. At the termination of the Christmas term, Messrs. Sutherland, Hope, and McIntosh, passed their final examinations and were awarded the Diploma of the Council. The Board of Examiners consisted of Mr. Clarke, V. S., Royal Artillery, Mr. Hagyard, V. S., Brampton, and Drs. Thornburn, Rowell, and Bovell.

The term for first year's Veterinary students and Agriculture students; commenced January 5, when fifteen junior students were admitted, making the number attending the various classes, twenty-nine.

The annual examinations took place on the 7th April, at which five candidates presented themselves for their final certificate, and the whole passed a successful examination. Five students also passed a primary examination in anatomy and physiology. The gentlemen who acted as examiners were Mr. Clarke, V. S., Royal Artillery, Mr. Hagyard, Brampton, Mr. Cowan, V. S., Galt, and Drs. Rowell, Bovell, and Thornburn.

I am glad to be able to state that the number of students is yearly increasing, and that the facilities for teaching and other accommodations in connection with the college are materially enhanced by the building recently erected, as well as the accommodations for teaching and dissection. Students have also an opportunity of attending to the practical part of their profession through the advantages offered by the Infirmary attached to the College.

I am, gentlemen,

Your obedient servant,

AND. SMITH."

Some conversation ensued as to the desirableness of more being done by the Council for the encouragement and assistance of Veterinary students, but no definite action was taken in that direction. It was resolved to publish a catalogue of the next exhibition, which if well prepared, will be a great convenience. Several accounts were ordered to be paid, and tenders for printing, &c., were considered.

BEET-ROOT SUGAR.

Mr. Cowan said it had been his intention to have made some observations upon the culture of beet-root for sugar making purposes, as he believed this country was eminently suited for it; but the time would not admit of his going into details of the subject at present, and he was awaiting some information from Mr. Oelschlager, of Berlin, who was thoroughly conversant with the matter. He should bring the matter before the next meeting of the Council, as he felt convinced that the climate of

Canada was as well adapted for the growth of the beet as that of north Germany, where it was cultivated in large quantities, and he thought it would be worth the while of the Association to spend two or three thousand dollars upon the experiment.

The Council then adjourned until Wednesday, the 6th July, at 2, p. m.

FRUIT GROWERS' ASSOCIATION OF ONTARIO.

We regard the Association above-named as eminently calculated to promote the fruit interests of our flourishing Province, and could wish its membership and usefulness multiplied a thousand-fold. At all times glad to promote its interests by giving it the use of our columns, we cheerfully make room for the following document, which, though somewhat lengthy, will well repay attentive perusal, and if acted on, do much good.

"At a recent meeting of the Fruit Growers Association, a resolution was unanimously passed that the President and Secretary should be instructed to prepare a prospectus of the objects contemplated by the Society, for gratuitous distribution among the members and others.

In pursuance of this appointment, the following synopsis is respectfully submitted to the consideration of our Provincial fruit growers :

Article II of the Constitution comprises the following summary:—Its objects shall be the advancement of the Science and Art of fruit culture, by holding meetings for the exhibition of fruit and for the discussion of all questions relative to fruit culture; by collecting, arranging, and disseminating useful information, and by such other means as may from time to time seem advisable.

A wide field is thus opened to us by the framers of our constitution—room enough on the one hand for the discussion of abstract and speculative principles, and on the other, verge for the most acute, or it may be, the most prosy performances in practical gardening.

The aim and ambition of our Fruit Growers' Association is, directly and indirectly, to lead the votaries of horticulture to the study of vegetable physiology. The highest delights of horticulture are to be derived from a knowledge of the growth of the different species of fruits, and the functions of the various parts of plants; of the principles that govern and regulate growth and maturity, the formation of wood and the production of fruit.

Meteorology, too, looms up as a necessary adjunct to the success of the gardener. Pomologists and fruit-culturists in the United States fully realize the importance of this branch of science as materially modifying the circumstances of weather,—heat and cold, drought and moisture—which affect the labors of the horticulturist. The philosophical discussions on this subject in horticultural assemblies or conventions in the United States are worthy of our imitation. It may not perhaps be amiss to hint to our members, that a free discussion on the benefits of scientific study, whether of chemistry, botany, or meteorology, might not be out of place alongside of our animated assertions about 'pear blight,' 'frozen

sap, or 'fungous growth.' What profitable discussions might arise from the simple but prevalent principles of light, moisture, heat, or its negation, cold. How much knowledge is requisite for the adequate discussion of any one of these subjects, and yet how absolutely necessary is such knowledge to the would-be successful horticulturist? We may here direct attention to the fact that Prof. Kingston, of Toronto, will furnish, at a small expense, the necessary instruments of observation, and provide (gratis) directions for the use of the observer.

Our Association is also designed to promote the Art of fruit-culture. The first grand pre-requisite of this art is to know 'a good soil.' A clayey loam is the best for fruit-growing, although different varieties of fruit require different soils; some doing well on stiff clay, others on those of sandy or light texture.

Draining will also come under this division. It is essential to all soils. If the inferior strata be retentive, draining must be executed with the greatest care to carry off the superfluous moisture. In 'The Essay on the Philosophy of Drainage,' it is shewn that 'the thermometer in drained land rose, in June, 1837, to 66° at seven inches below the surface, while in the neighbouring water-logged land, it would never rise above 47°.' The reason why drained land gains heat, consists in the well-known fact that heat cannot be transmitted downwards through water. It is melancholy to see the effects of wet land in our Province, or indeed anywhere. Witness the swamp between St. Catharines and Niagara; the level land in the neighbourhood, east and west, of Komoka, and elsewhere. How desirable for townships to club together and clear main or leading drains, so as to allow individuals along the line the opportunity of draining their lands. The stunted, undergrown, moss-covered fruit trees, the poor stubble, the over-rank grass, all cry out for agricultural and horticultural societies to do their duty, and urge men to benefit themselves and their neighbours.

Manure.—The proper application of manures to fruit trees also requires our attention. In manuring an orchard, shall we apply the manure to the surface, or let it do the double duty of mulching and enriching? The object of this Association is to ascertain and disseminate correct views of this and kindred questions.

Shelter for fruit trees, and even for land, is a consideration every year becoming more and more necessary for us on this high table plateau. As the country is getting denuded of its timber, the remark is frequently made, how changed our seasons are now from what they were five-and-twenty years ago. Doubtless this is a fact not to be gainsayed. From observations by Prof. Kingston, Toronto, the rainfall of this district is gradually decreasing. The planting of trees for shelter for land and crops has been proved productive of abundant rain; what rain would do for this country if sufficiently copious, every summer, is known to every farmer. The climate becomes ameliorated, and many blessings flow in the train of attention to this one of the most essential items of successful agriculture and horticulture. Let only municipalities vie with each other in arboriculture, and an incalculable amount of good would accrue to themselves and to the country at large. To elicit and disseminate information on this important subject, will come within the aims of this society.

Fencing is also pressing itself on the attention of farmers, gardeners, and others. Why should not the members of the Fruit Growers' Association strive to indoctrinate their neighbours and friends with better views than have as yet prevailed on this subject? As lumber becomes scarce, a substitute must be found and employed. In Westminster, the Messrs. Macpherson have miles of thriving quickset thorn hedges round their fields. *The Thorn* of the country is not winter-killed, and the benefit to the fields is great by the hedge having an open drain, or, as it is called, a sunk fence, accompanying it in its length and breadth. We are to ascertain by experiment and discussion what plants are best adapted to hedging in this country.

FRUITS.

The Apple.—As regards the art of fruit-culture, it remains for us to notice the great staple of Canadian fruit-culture, *the apple*, and its varieties.

The Province has, unfortunately, been flooded with all sorts of apple trees. A class of middlemen, who make a trade on the ignorance and credulity of our farmers, has been of incalculable damage to fruit-growing. Any name is easily attached to the trees after they are got from the nurserymen, and it is only after years of anxiety and labour in raising them, that experience finds out that they are a worthless variety. A local tax on the vendors of such trees is the only means we see of successfully putting an end to this kind of traffic. Every member of our Fruit Growers' Association is invited to lend a helping hand to suppress this evil. In presenting to our present and future members a list of varieties to be cultivated and recommended for general trial throughout the Province, we cannot do better than quote from the prize essay on the apple, which will be found in the Report of the Honorable Commissioner of Agriculture and Arts of the Province of Ontario for 1869, and in the *Canada Farmer* for January, 1869.

"It will usually be found that an orchard for family use, comprising the following varieties, will give good returns in fruit, and furnish a supply throughout the season, viz:—For summer, the Early Harvest and Red Astracan, as sour apples; and the Sweet Bough. For early autumn and early winter, the Ribston Pippin, Hubbardston Nonsuch, Fall Pippin, and Snow Apple. For midwinter, to March, the R. I. Greening, Northern Spy, Esopus Spitzenburg, Pomme Grise, and Tolman Sweet; for spring, the Golden Russet, and Roxbury Russet.

For market, the most profitable varieties are Red Astracan, Duchess of Oldenburg, Gravenstein, and Hubbardston Nonsuch, ripening in the order in which they are named. For a near or home market, and for shipping, the R. I. Greening, Baldwin, Golden Russet, and Roxbury Russet, will yield the largest pecuniary returns."

The Pear.—For pear culture we are persuaded that the most profitable varieties for home use or for market are very few, and we would strongly recommend the Louise Bonne de Jersey, Bartlett, Beurre d'Anjou, Beurre Clairgeau, Flemish Beauty, Duchess d'Angouleme, Graslin, Sheldon, and Winter Nelis.

The Plum.—The following varieties of plums are recommended after trial throughout a large portion of the Province:—Lombard, Washington, Huling's

Superb, Jefferson, Smith's Orleans, Coc's Golden Drop, Guthrie's Apricot, and Green Gage.

The Cherry.—Most of the varieties of cherry succeed well in warm and sheltered localities; such as Black Tartarian, May Duke, Black Eagle, Elton, and Napoleon Bigarreau.

Strawberries.—Strawberries of all sorts do well. Wilson's Albany bears the palm, and is by far the most productive of all the varieties. For cultivation the Association recommend Wilson's Albany, Triomphe de Gand, Jucunda, Trollope's Victoria, Agriculturist, Nicanor, and Russell's Prolific.

Small Fruits.—For an exhaustive list of small fruits, their mode of cultivation, insect pests, market value, planting, soil, etc., we would unhesitatingly recommend the prize essay on this subject by Mr. William Saunders, of London, published in the April number of the *Canadian Farmer*.

Grape Culture is yet in its infancy in Ontario. Mr. Underhill, the veteran vine culturist, recently paid us a visit, and declared to several of our members, that he had seen no part of the North American Continent so suitable for vine culture as the western portion of the Province of Ontario. The leading varieties which have been long fostered are, Clinton and Concord, Delaware and Adirondac, Creveling and Roger's Hybrids.

MEETINGS FOR THE EXHIBITION OF FRUIT.

Our Association holds an annual meeting at the place where the Provincial Exhibition is held, at which the office-bearers for the season are chosen. Three other general meetings are held in different localities, where exhibitions and discussions on old and new varieties of fruit give interest to the meetings and profit to the members.

Collecting, arranging and disseminating useful information.—The Honorable the Commissioner of Agriculture issued queries to the several agricultural and horticultural societies; which having been answered, were condensed and arranged by the Secretary and President of our Association, and appear in a collected form in our Report for 1869. A copy of this compilation is placed in the hands of all our members.

The Association has also from time to time offered and awarded prizes for the best essays on subjects connected with horticulture. Such essays have been published, and other papers of a similar kind, and these publications are known to have given an impetus to horticulture among the yeomanry of our Western Province.

The Council of the Association has also offered prizes for collections of insects beneficial and prejudicial to agriculture and horticulture, and at this moment several of the most learned and enthusiastic entomologists in the country are members of our Association ever ready to hold their ability and knowledge at the disposal and for the instruction of our Association. Nor ought mention to be forgotten of the efforts the Agricultural Board are making in the same direction, it having recently contributed a handsome sum for a similar purpose. Prizes for the encouragement of hybridizers, and producers of new and valuable fruits, have been held out as inducements for members to enter the arena, and contend with enthusiastic producers on the other side of the line. The future is big with wonders, through the efforts of such men as Wilder, Dana, Hovey, and Grant.*

*Why is Mr. Arnold, our Canadian hybridizer, omitted here?—Ed. O. F.

Correspondence, too, has been opened up with the neighboring Provinces, and an interchange of fruits for exhibition has been the result. Our reports are thus widely circulated, and only the other day we received a valuable gift on agriculture from Sir William Young, through the Board of Agriculture of Nova Scotia. We desire others to share in the advancement of the common good of this and the other Provinces of Canada.

More recently we have entered upon another means for the advancement of fruit culture, in that we have unanimously agreed to present to every member a specimen of some new vine or fruit tree. This year, "the Eumelan," a new vine, highly recommended, will be placed in the hands of every member desiring it on condition of reporting to our Society of its success or failure during the next five years; a condition we hope to see generally complied with.

Nor does the Association leave the horticulturist at a loss what to do with his fruit, and how to keep it, after he has raised it. We have had profitable discussions on the marketing and preserving of fruit. We desire generalization on both matters, and anxiously look to the old and new members for expressions of their experience on such matters, in order to a wide circulation for the public benefit.

There is just one desideratum that we would like to mention, and that is the enlistment of the middle class of society in this good work—the encouragement of the amateur who has only his quarter or half an acre. The study and practice of horticulture has an elevating and humanizing tendency. To the wearied artisan on his return from a heavy day's work, there is nothing so refreshing as the tending of a few fruit trees in his garden patch. Indeed, wherever this taste has assumed the form of enthusiasm, comfort, content, health and happiness, have almost invariably been the concomitants. With the increase of fresh members, intent on the accomplishment of the grand objects of the Association, we may look for fresh successes and triumphs on new and unbroken ground."

ROBERT BURNET, President.

D. W. BEADLE, Secretary.

ARTIFICIAL GROWTH OF TIMBER.

It would appear, from the Report of the Iowa State Agricultural Society for 1869, that notwithstanding the encouragement offered both by the legislative and this society for the artificial cultivation of timber, the results, so far, have disappointed public expectation. In 1868 there were planted in timber 10,675 acres, making the entire average of artificial timber in the State, 68,449 acres. This increased area of planted trees, however, falls infinitely short of the rapid increase of cultivation, both as to the salubrity of climate and productiveness of the soil. The prairie lands of the West would be great increased in fertility, and the climate modified, by the planting of wood, which is an essential element of many most important economic purposes.

The subjoined extracts from the Report in question

will be read with interest by many of our readers :

“ Consider the following hurried summary of facts :
1st. That for a century and a half a large population has been cutting out, destroying and wasting, the best timbered region on the continent, that lying between the Atlantic ocean and the Mississippi river, in preparing and subjugating the soil to cultivation. 2nd. That only the mountain lands have been permitted to reproduce the forests. 3rd. That no systematic effort has been made to supply the waste. 4th. That so great have been the avarice and thoughtlessness of the people, that they have destroyed the forests, containing in themselves the elements of unbounded wealth, for the infinitely small profits of immediate returns, in wheat, corn and other crops. 5th. That the consumption of timber for building, fencing, implements, railroads, fuel, &c., is increasing with gigantic strides, and the reproduction is going on at a snail's pace. 6th. That the States of Maine, Michigan, Wisconsin, Minnesota and Florida, are alone among the States exporting any appreciable amount of timber more than they need. 7th. That west of these vast belts of timber that were, stretch out an untimbered surface of 1,400,000 square miles. 8th. That the destitute surface exceeds by more than 400,000 square miles the whole of the once heavily timbered regions east of the Mississippi. 9th. That the new States soon to be admitted—New Mexico, Colorado, Wyoming, Montana, Idaho, and Dakota, have but a supply, not nearly sufficient to meet the demands of a population equal to Ohio, Indiana or Illinois.

“ Then consider if it is not high time that reproduction should begin, and be unremittingly pushed forward, until *everywhere*, this broad land shall become a paradise of plenty, comfort, independence and healthfulness—not for this generation only, but for a vast population in the future, who shall find their homes on these plains.

“ There is no one subject which demands more serious thought, from the legislator, the agriculturist, and the friend of his race : this being once awakened will result in serious, energetic action. No more forests will be ruthlessly destroyed, no more fires or fiends of any kind will injure our growing trees. There will be no longer delay in opening up new farms ; for so soon as the primitive cabin is built, and the most pressing immediate wants of the family shall have been met, then the ten acres of timber will be planted, cultivated, and cared for as the most profitable spot on the farm.

“ All agricultural societies must give “ line upon line, precept upon precept, here a little and there a little,” until every one shall be thoroughly aroused to the importance of the subject. And those who make laws should hasten to throw their ample protection about him who plants a grove. They should stimulate him by a direct and specific bounty in cash. They should see that he shall be at no expense to fence in his acres of timber from the attacks of predatory bands of stock. His grove should be, so soon as planted, so far sacred that his single furrow around it is a lawful fence! Let the world understand that it is not *his* care to fence out his neighbors stock, but that it is *their* care to fence in their own cattle.

“ Take any of the counties or sections in Iowa sparsely settled, and what shadow of justice is there in compelling the hardy and industrious, but oftimes

poor pioneer, to spend hundreds of dollars in protecting his young and growing groves, from the incursions of stock, when the expense to all, of confining the stock would be infinitely less, and when such righteous restrictions would redound to the benefit of all? The pioneer, with your protection as indicated, would be encouraged to do that for the country, which can be done by no other means. Help him plant trees, beg him to do it, pay him in cash for doing it, keep away all injurious influences while he is doing it; and when a just distribution of trees is had,—and this is the work of less than half a century on our treeless plains—what benefits have been added, and what return is made? It is answered:

“ Aside from the intrinsic value of the wood for fuel, building, fencing, and a thousand other economic uses, there are added, the fertilization of the soil, the softening of the climate, the protection of all living things from the sweeping winds and unbroken rays of the sun; in a word, the supplying of the one indispensable elements to render habitable waste places, and to afford every comfort and luxury to the people. Up to a certain point, iron may be substituted for wood, but there it ceases; up to certain limits, coal may be used in its stead, but there it also ceases, and there is nothing that can supply the place of wood. It is absolutely indispensable to man, wherever found and however occupied. Every encouragement therefore, which can possibly be granted, should be given to the man who plants a tree and takes care of it.

OMISSION.—We regret that owing to a mistake in the make-up of our last issue, it was omitted to be stated that the fine fat steer, an engraving of which appeared in that number, was bred and fattened by Mr. John S. Armstrong, farmer and miller in the township of Eramosa, Ont. By referring to the Prize List of last exhibition, no doubt many of our readers managed to supply this omission for themselves, and we take pleasure in thus giving Mr. A. his full meed of “honourable mention.”

The Haym.

THOMPSON'S ROAD STEAMER.

We have much gratification in finding from our exchanges that the above mentioned machine, which we introduced to the notice of our readers some time since, is winning much praise, and attracting wide notice, as repeated trials of its efficiency are being made.

The London Times is out in commendation of it, saying, among other eulogistic things, that it is able to “run on any kind of road. It runs over hard roads and paved streets without jolting, over soft roads without sinking, over muddy roads without slipping; nay, it needs no road at all, for it can run with equal ease over grass fields, through ploughed fields, upon ice, through loose sand, and over frozen snow. Though small and light itself, it climbs, the

steepest gradients and draws enormous loads. It owes all its faculties, and its exemption from the disabilities of other traction engines, to one device as simple as it is efficacious. The wheels, which are of great width, are surrounded by tires of vulcanized india-rubber. These thick bands of india-rubber enable the road steamer to float over the surface of the ground without the slightest damage to the road, while they likewise protect the machinery from all concussion. The intervention of the elastic tires between the wheel and the road acts, in fact, in the same way as if the engine were running over a tramway of india-rubber.

"The road steamer is exceedingly trim and compact. It runs on three wheels—two large ones and a small one in front. The india-rubber tires for the three wheels of a ten horse power engine weigh 14 cwt. The tires are guarded by flexible shields formed of open steel bars, which give an excellent 'bite' or hold upon the ground, and while they do not in any way interfere with the elastic play of the india-rubber, they afford such protection to it as to render it virtually indestructible. The shields, which are removable, are not used for driving over ice or frozen snow, as on such surfaces iron will not bite, and here the india-rubber is of immense advantage, as it runs over them with perfect ease, and without slipping. In running through sand, also, as in Egypt, the shields are entirely dispensed with.

"These engines are now being built for the most various purposes, both for Britain and foreign use, and are being sent to the remotest localities. One of these engines was recently shown in Paris, where it ran for some weeks, with one of the great Versailles omnibuses, carrying 50 passengers, attached to it. It went up a paved street where the gradients are one in nine, crossed the 'Rond Point' at hours when it was thronged with vehicles and equestrians, and in the beautifully level Paris streets easily attained a speed of 12 miles an hour. It was then despatched to a provincial town, where it was set to heavy work, and where its great tractive powers, its manageability, and its small consumption of fuel, were fully displayed. It met with the warmest recognition in France, and promises to become speedily naturalized there, French manufacturers having already arranged to build road steamers of different sizes. In the colonies, where the value of produce mainly depends on the facility with which it can be brought to the ports, and where the difficulty of getting the crops to the harbour is often a matter of despair, the capabilities of the road steamer will be keenly appreciated. Road steamers are on their way to gold mines, copper mines, and coal mines, and to do carrying service for planters."

We learn from the *Globe* that one of these engines has recently been imported into New York, where

it was submitted to various tests, and was highly approved. The cost at present is about £600, but probably they will before long be manufactured on this side the Atlantic, after Mr. Thompson's patterns, at a much lower price.

POTATO CULTURE.

To the Editor of the ONTARIO FARMER:

Sir,—Among the different kinds of vegetables in cultivation, the Potato no doubt ranks first in importance. It is valued alike by both rich and poor; when it cannot be obtained, there is no other vegetable that fully supplies its place; and yet the majority of cultivators, at least through this section of Ontario, seldom obtain a good crop. For the past six years I have never failed to get a good crop. The average yield per acre has been over three hundred bushels. For the benefit of your readers I give my method of cultivation.

The land should be dry and clean. Plough it deep in the fall into narrow beds as high as the plough can be made to throw it; leave it to freeze through the winter; plough again in the spring just before time to plant, and harrow as fine and level as possible. For main crop, plant from the twentieth to last of May; if planted too early, they are apt to ripen off during the heat of the summer in dry seasons, and thereby lose the benefit of early fall rains. They should never be planted two years following on the same land, nor should manure be applied direct to the crop; but the land should, unless already rich, be well manured for the preceding crop, as fresh manure directly applied to the crop, tends to produce rot, and is apt to make the tubers rank and watery. Plant in hills three feet apart each way, and cover two inches deep, putting three good sets in each hill. Nothing tends to make potatoes run out faster than the practice of eating or selling all the good potatoes and saving nothing but small trash for seed. It is true that sometimes a good crop may be obtained from very small seed, but follow up the practice and failure is certain.

Change of seed is of the greatest importance. To change from clay land to sandy, and *vice versa*, will be found highly beneficial. Some years ago I obtained some potatoes from sandy land of the cup variety, and planted them along side some cups that I had been raising on clay land for three years. All were planted at the same time, and all cultivated alike. The result was that the part where the change of seed was, yielded fully one third more potatoes. It taught me a lesson that I never forgot. As soon as the potatoes show above ground, begin to cultivate them with a one-horse cultivator. Run the cultivator three or four times each way. A day or two should intervene between each cultivating. All should be done in dry weather if practicable. The cultivator should be run as deep as possible the last time over each way. Just before the tops fall over, run a one horse plough through them pretty

deep, so that the mellow earth will crumble back about one half after the plough. Now go through them with the hoe; the most that will want to be done will be to right up any tops that may need it, and push back some of the earth with the back of the hoe where the plough may have thrown up too much. The object being to have a broad flat hill, the seed being not more than three or four inches deep, and leaving three or four inches of perfectly pulverized soil, laying all over between the hills. This prevents the soil from drying up or baking hard, and insures the success of the crop.

S. H. MITCHELL,

St. Mary's, Ont.

HOW DRAINING MAY BE DONE FOR NOTHING.

I am satisfied that there are a great many farmers who would do some good jobs at draining if they knew how and where to begin, and if they could find the time. Many farmers do most of their work themselves, only hiring a little by the day at the busy seasons, and of course pay a round price for it. If they would hire by the month they would, of course, get the men much cheaper, as the day labourer has to get pay for the idle days by charging extra prices for the days he works. My advice and practice has been to hire help and give constant employment for the time agreed upon. Then, when there is no regular farm work pressing, I commence a drain. I begin at the lower end and work up hill, keeping the bottom nearly level till I get a depth of four feet, than keep it not less than that depth, letting the water run off behind me. This ditch digging I keep as knitting-work, as it can be taken up at any time when there is nothing else to do, and can be left as readily. If I have any haying to do, and do not wish to start a machine till the dew is off, I say to my man, "You may go to your knitting-work till I call you." If a shower stops work on the hay, or if it is too wet to hoe, or I have just finished some job and do not want to begin another to-day, I say, "We will dig in that drain till chore time."

If I am going away with the team I let my man work in the ditch. Indeed I have found a great many days when I should have had nothing for a man to do had I not a piece of draining on hand. Then again, had I not had a steady hired man, my regular farm work would have suffered severely at times. So the plan seems to work well all round. The man is sure of constant employment, and gets as much in a month as if he worked by the day, and I get more work for the same pay, and the man is just as well satisfied. He makes more time, but runs no risk of being unemployed.

I have done some jobs of draining that perhaps would have cost more than the land is now worth if I had had it all done at common day wages. But as it has been at odd times, when I should perhaps have thought it was not just the right kind of weather to hoe, but just the kind to go fishing, I really think I may reckon it as having cost almost nothing.

This kind of draining I recommend for small swales that are now worthless, and are giving no income except a little bedding hay. When the fall is sufficient, and small stones are plenty that may need to be put out of the way somewhere, they may

be used for drains with advantage. I have done all my draining with stones. If I were on a clay farm, and wanted to drain it all at once and had the capital to do it with, I should probably use tiles and do it in a more business-like way.—*Cor. German-town Telegraph.*

FARM GLEANINGS.

This increase in the manufacture of beet sugar in Europe for the present year over that of last year, is about 100,000 tons. The product already exceeds that of Cuban sugar cane. France exported 70,000 tons of beet sugar during 1869.

The *Canada Farmer* thus sets forth the necessities of barley culture:—"The crop requires a rich, warm soil, rather than a deep one; barn-yard manure applied to the previous crop; sow when the weather becomes warm; apply to the surface superphosphate or very fine bone-dust, one hundred pounds to the acre if drilled in with the seed, or two hundred if sown broadcast."

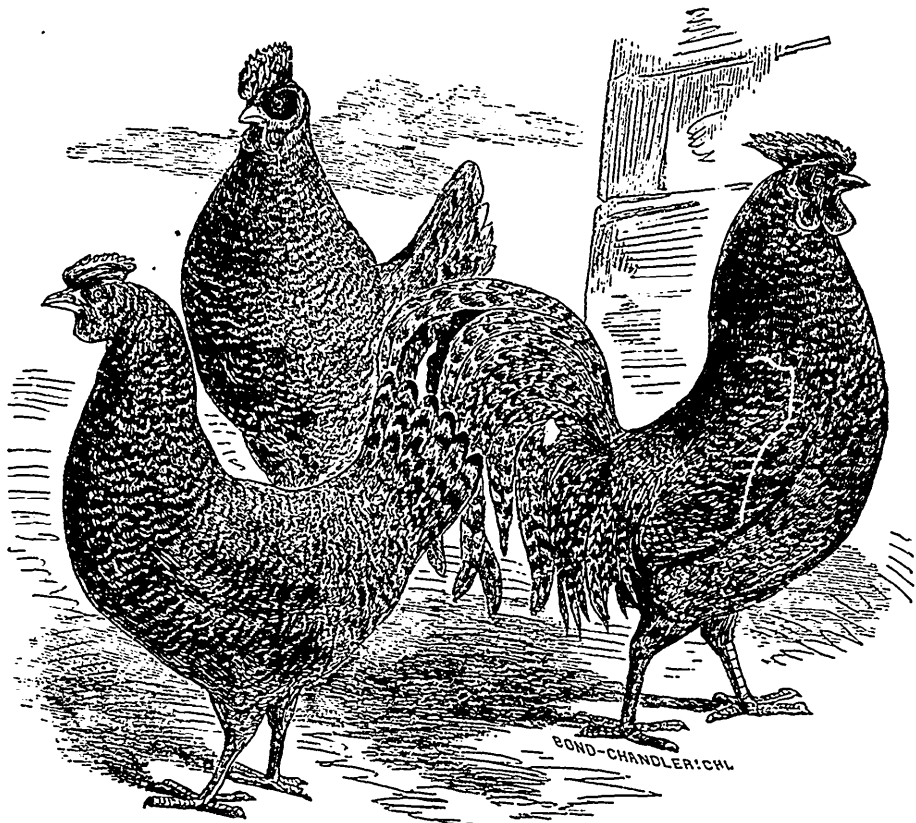
Accounts respecting the growing crops of winter wheat, in Ontario, are in the main, favorable; in some cases the prospect is very flattering. In Bruce County, it seems to have been generally winter killed, but in that northern section, complaints from this cause are not unfrequent. Spring wheat is chiefly grown instead of fall, the latter being unsuited to undrained farms, and particularly liable to damage from the great depth of snow which usually falls.

S. N. WHERRY, of Pennsylvania, gives this account in the *Practical Farmer*, of three good crops:—"One field, ten and one-third acres (strict), made 909 bushels (by weight) of shelled corn—88 to the acre. Eighteen acres of wheat yielded 556 bushels (by weight) or 31 bushels to the acre. Twenty acres of oats gave 1,410 bushels (thirty pounds to the bushel) or 70 bushels to the acre. The ledger for 1869 shows a very favourable balance, notwithstanding that wheat cost considerably more than it brought in market."

A FROUGHING match took place on the 6th ult., on the farm of Mr. Gabriel Wells, 3rd concession of King, Co. York. The day being exceedingly fine, the turn out was fair, and all passed off agreeable. The match was purely a local one, and the prizes awarded subscribed by voluntary effort. The successful competitors were as follows:—1st Class—1st prize, Thomas Ross; 2nd prize, Allen McLean; 3rd prize, James Cairns. 2nd Class—1st prize, Richard Ross; 2nd prize, Thomas Ferguson; 3rd prize, William Norman. 3rd Class—1st prize, William Wells; 2nd prize, Thomas Stevens; 3rd prize, Thos. Ferguson. 4th Class—1st prize, James Gillies; 2nd prize, Archibald Thompson.

The *Journal of the F. I. M.* recommends that farmers everywhere guard against drought by sowing corn, and if it is not needed in the summer, dried for winter use, it will give you more food to the acre than any other crop. It also recommends lucern for soiling cattle, and gives these characteristics:—"Its roots are very tough and fibrous, and are indomitable seekers of nourishment. They penetrate so deeply into the soil as to be almost beyond the reach of injury by drought. For this reason, when in dry seasons other green crops and pasture grasses wilt, and not unfrequently perish, lucern maintains a freshness and greenness as vigorous as in the most favorable seasons."

The Live Stock.



DOMINIQUE FOWLS.

Herewith we present our poultry-loving readers with an engraving of the Dominiques, a breed of fowls that well deserves to be better known and more extensively bred. A poultry-fancier who has had much experience in breeding this variety, gives the following account of them, which it will be seen, is highly commendatory:—

“The Dominique fowl, wherever bred, is acknowledged to be one of the best, hardiest and most beautiful of all known varieties; and I cannot understand why, as a distinct and valuable breed, they are so often almost entirely ignored by writers on poultry, unless it be that they were so generally introduced and bred all over the country, before other varieties were known here, that many have been led to regard them as a common, or “barn-door” fowl; and yet, few varieties retain their identity and general characteristics so long and fully as the beautiful old Dominiques.

Their origin is not certainly known, yet our best authorities believe them natives of France. In size they are above the medium, with large, full breasts, bodies deep, compact andamp, closely resembling, in general style and appearance, the well known Dorkings; while they are much more hardy, are

better layers, and are hardly surpassed as a table fowl.

In my experience I have found them the equal of the Brahmas as winter layers, and surpassing that famed variety as layers during the warmer season. They may have either single or rose combs; small wattles, with a full, bright eye, and short, clean legs; they are very active and strong, yet quite domestic in their habits, and are most excellent sitters and mothers. Their plumage is a light grey ground, each feather being barred crosswise with a dark slaty blue, giving them a very beautiful appearance. The late C. N. Bement, Esq. says of them “take them ‘all in all’ we do not hesitate to pronounce them one of the best and most profitable of fowls, being hardy, good layers, careful nurses and affording excellent eggs and first quality of flesh.”

The *London Field* says of this variety, which it denominates American:—

“There are two or three very useful and good breeds of poultry that are not well known in England. One of the oldest established, and certainly one of the most useful, is the Dominique. This breed more closely resembles our cuckoo Dorking than any other English variety. It differs, however, it having only four toes—a great advantage,

by the way, in a practical point of view—and in the legs being yellow. According to the *American Agriculturist*, both single and double combs are admissible, but should not be found in the same strain or show pen. The double comb, however, is decidedly in the ascendant. Each feather is of a very light grey, barred across with darker slaty-blue bars or pencillings. It is a singular fact that in all cuckoo coloured fowls, whether Dorkings, Cochins, Polish, or the variety under notice, the markings of the cocks and hens closely resemble each other—a fact which is in striking contrast to the great distinction between the sexes in black and brown, reds or duckwings, etc.

The Dominique cocks are showy birds with full saddles and hackles, and abundant, well matched sickle feathers. They should weigh from six to eight pounds, when mature. As table fowls, they should necessarily be short-legged, full-chested, and broad in the back. The face and ear lobes should be red, and the wattles and combs neat and of medium size. The hens are good layers and sitters, and they really constitute a valuable breed. In the United States they are now bred up to the standard described, and really good show birds have realized as much as £5 per head.

As before stated, the English variety most closely related to the Dominique is the cuckoo or blue mottled Dorking. This breed, before the advent of poultry shows, was highly esteemed by those who fed for the London markets, and, as stated by Mr. Elgar of Reigate, concerning them, in the *Poultry Book*, "they can challenge any variety of table fowl for quality of flesh. I have heard it remarked by many old country women who have fattened fowls many years for market, that the blue pullets are the best and easiest to fatten of all the coop."

THE PREVENTION OF CRUELTY TO ANIMALS.

Last year the Society called the attention of the Governor and of the people to the law of Illinois, passed in 1859, to prevent the reckless killing and destruction of insectivorous birds. The vast importance of the subject will be sufficient apology for this second allusion to it.

The great body of the people rejoice in the humane and wise provisions of the laws of 1863, protecting the wild game from indiscriminate slaughter; they are ready for the enforcement of a stringent enactment absolutely prohibiting the wanton killing of our small birds. Illinois farmers and horticulturists believe in the wisdom of this law, they observe it, and will not suffer it to be violated by others with impunity. Pennsylvania has only waked up to the gigantic wrongs mercilessly heaped upon the little birds; and within a year has enacted that "No person shall at any time kill, trap or expose for sale, or have in his or her possession, after the same is killed, any night-hawk, whippoorwill, finch, thrush, lark, sparrow, wren, martin, swallow, woodpecker, dove, bobolink, robin or starling, or any other insectivorous bird, nor destroy or rob the nests of any wild bird whatever, under a penalty of five dollars for each and every bird so killed, trapped or exposed for sale, and for each nest destroyed or robbed." The usefulness of small birds as destroyers of insects is thoroughly recognized by the Saxon government also; and only a short time

ago, a body of police made their appearance in the market place at Dresden, without previous warning, seized all the cages containing singing birds exposed for sale, and released their inmates. A decree has also been issued forbidding, under the severest penalties, the destruction of these useful songsters or of their nests. In France the government uses its best efforts to prevent the killing of small birds; but they have in France rook-shooting parties, one of which bodies of estimable gentlemen killed in one day five thousand of these birds, "though the trees were swarming with caterpillars." The French government must take a step in advance, and hang upon the trees all or several of the members of a dozen or two rook-shooting parties, until they are dead as Julius Cæsar, and then the rooks will take like care of the caterpillars.

Injurious insects are the principal food of most of these birds. "From the 15th of April to the 29th of August eighteen martins were once killed, in the stomachs of which were discovered 8,690 insects destructive to the produce of the farm," and there are in the library of this Society the contents of the stomachs of the night-hawk, woodpecker, chipping-sparrow and other birds, with the date of their capture, showing a vast multitude of insects injurious to vegetation. It is asserted as a fact, and no reflecting mind will doubt it, "*that insects destroy more than is harvested.*" To destroy, therefore, the little birds, which are the hourly guardians of the farmer and horticulturist, which keep watch over his orchard and his forest, which stay the predatory march of millions of minute but ravaging foes, is to the last extent mischievous, not to say suicidal. These useful warblers should be protected from wayward destruction by the strongest barriers of law; and it is recommended that an enactment be made in accordance with the ideas thus briefly stated.

Let there is an additional phase of this subject to which your most earnest and careful attention is invited. To catalogue the horrible brutalities that are daily practiced upon the conscious and yet helpless dumb brutes that supply food, clothing, comfort and luxury and that form the chief elements of the wealth and commerce of the people, would be a recital at which the blood of the most unfeeling and unsympathizing would run cold. Amid the ponderous volumes of law that have been enacted in Iowa defining all conceivable relations of all conceivable parties, among the thousands of pages that include the laws for our government as a people—but a few lines are found protecting the poor beasts of burden—the poor defenceless animals that afford us so much of the material necessary to our existence.

All that Iowa Legislatures have done to protect from cruelty, the domestic animals from unmitigated brutism and bestiality of butchers, hucksters, drivers, teamsters and others especially handling them as a source of immediate profit, may be found in sections 4318 and 4358 of the Revision of 1860. They read thus: "If any person maliciously kill, maim or disfigure any horse, cattle, or domestic beast of another; or maliciously administer poison, &c., he shall be punished by fine or imprisonment and; "if any person cruelly beat or torture any horse or ox or other beast belonging to himself or another, he shall be punished by fine or imprisonment." And this is all the law on the statute book to protect 482,786 horses, 28,420 mules, 147,623 dogs, 26,726

work oxen, 2,108,667 cattle, and 2,370,106 sheep, 2,409,679 hogs, etc., etc. Think for a moment of this vast enumeration of *life and conscious feeling*; how much these animals contribute to the necessities, the comforts, nay! the very luxuries of existence; and then think of them solely dependent upon the will and caprice of too often heartless owners, without any adequate law to protect them from the savagery of brutal men!

What the enlightened spirit of the time—what every consideration effecting the moral well-being of society—what the cry of the dumb animals whose cruelties by thoughtless and inhuman persons are unavenged—demand is the strong arm of the law, protecting every living creature from needless pain, and punishing every offender with rigor. This might best be done by the incorporation of a society who, through its lawful agents, widely dispersed, should see that all its provisions were faithfully and promptly executed. In the absence of such a society the law should declare it a misdemeanor to overdrive, overload, torture, deprive of necessary sustenance, unnecessarily beat, or maliciously mutilate or kill any living creature. When animals are impounded, they should be provided with a sufficiency of good and wholesome water and food. To carry animals to market in a cruel or inhuman manner should be forbidden. In the transportation of cattle, horses, sheep, swine, etc., by rail, they should not be kept on the cars longer than a certain number of hours; but shippers and railroad companies should be compelled, under the severest penalties, to unload them, after the expiration of a fixed time, and give them rest, water, food, and bedding. All cattle cars should be provided with troughs which must be filled with water every eight hours. All animals should be slaughtered away from public view, and the killing should be done with reference to the wisest dictates of mercy—of mercy to the brute—and of mercy to those who consume its food. And the law should be so worded that there should be no escape by a set of merciless scoundrels—who, for instance, drive a horse to a load, with a reeking and bleeding sore under his collar or some other part of the harness;—who, for instance again, bind up the legs of calves and sheep and pile the poor brutes in wagons, as so many stones, to carry them to the shambles; who, again, tie bunches of poultry together by the legs, with no more regard for the suffering fowls than if they were so many carrots; who, again, indulge in dog-fighting and the charms of the cock-pit; who, again, immerse living fish in boiling water to clean them; who, instance the last, are of those extremely refined sportsmen who train that noble servant—the horse—“under the influence of the wild screech and the merciless lash, to snap under his throbbing sinews, in order to indulge a barren, senseless instinct of speed.”

Space will allow no argument to illustrate the necessity of such legislation as is here recommended. But it may be added: the oldest and best of books says, “the merciful man is merciful to his beast.” If there are inhuman monsters that willfully inflict suffering, pain and anguish upon the poor beasts which he owns or controls, it is the duty of the wise, humane and benevolent legislator to step between the human and the mere animal brute, and protect the weaker party. Remember—

“A man of kindness to his beast is kind,
But brutal actions show a brutal mind.

Remember! He who made thee, made the brute,
Who gave thee speech and reason, formed him mute;
He can't complain—but God's all-seeing eye
Beholds thy cruelty—He hears his cry.
He was designed thy servant,—not thy drudge,
And know that his creator is thy Judge.”

—Report of Iowa State Agricultural Society, 1869.

DISEASES OF THE RESPIRATORY ORGANS.

(To the Editor of the ONTARIO FARMER.)

CATARRH OR COLD IN THE HEAD—It consists in inflammation of the mucous membrane, lining the nostrils and cavities of the head. When neglected, the inflammation passes downwards to the lungs, and sometimes produce chronic cough or roaring.

In simple catarrh, the mucous membrane is reddened and bedewed with watery fluid, which in a few days becomes yellow from admixture of pus, oozing of tears, and sometimes mucous from the eyes, snorting, cough and sore throat, with or without febrile symptoms.

Causes, are predisposing and exciting. The common causes are alternations of temperature, bad ventilation, transition from cold to heat, cold and wet seasons, &c.

Treatment: in all cases of disease of the respiratory organs, an unlimited supply of pure air is absolutely necessary; make the animal as comfortable as you can. Clothe the body, and bandage the legs, exhibiting (if necessary) a mild dose of physic and clysters, say two drachms aloes in solution, combine half drachm ginger, steam the head, and feed soft laxative food, and half ounce of nitre dissolved in a pail full of water daily, for several days. When the throat is sore, or the cough troublesome, a mild blister of mustard will be useful.

G. W. THOMAS, V. S.,

Guelph.

SOILING CROPS FOR MILCH COWS.

The advantage of having a few acres of some kind of crop, from which to cut fodder, to be fed out in a green succulent state to the cows giving milk during the season of the year when the pastures have become nearly bare from the combined causes of a dry atmosphere, and the close grazing of stock, are as yet very little thought of or understood by our farmers. From the end of haying and harvest, until the cool fall rain sets in, is the time at which milch cows will give the largest quantity and best quality of milk, either for cheese or butter making, and to allow them just in the nick of their very best time to fall off in their yield of milk, for want of a little extra feeding, beyond what they then can get on the browned-up pastures, is very poor policy indeed. For let it be remembered that once the yield of milk falls off, it cannot again be recovered during that season. Many will doubtless consider that the extra expense of cutting and carrying the fodder to the yard, which is the proper place to serve the feed, will be too great at a busy season; but the fodder can be grown near by, and a good smart boy can easily cut, and convey in a wheelbarrow or cart to the byres, twice a day, enough fodder for ten or fifteen cows, without expending

more than four hours work at it. One of the best crops for this purpose is Indian corn, drilled in rows just wide enough apart to enable the land to be kept clean and well tilled with a cultivator or horse-hoe. The seeds are dropped about six inches apart, in a light furrow made by the plough, and covered by harrowing the way of the furrows. Sow a succession of rows from the end of May to the beginning of July. The first sown will be ready to cut by the time the drought begins, and the last sown will be ready to use early in September before frosts come, and what is then left may be cut and cured for late fall use.

It is astonishing how large an amount of green fodder for soiling can be obtained from an acre of Indian corn, drilled in under this plan, especially if the land is rich and well tilled. The corn is fit to use as soon as it is three feet high, and continues to be green and succulent till after flowering, for when closely grown in this way, the ears are small, and do not draw the juices out of the plant to any great extent. Nor is the crop an exhausting one to the soil.

Besides corn, other crops can be grown for the purpose of cutting for fodder, such as peas, oats, rye and tares, but of course, will not remain green so long, as when the seed forms, they quickly ripen, and their stalks become dry. A large armful of fodder twice a day, morning and evening, to each cow, will, together with what grass can be had on the pasture, be sufficient to keep up an abundant flow of milk through the dry season, until the fall rains have again recuperated the grass fields.—*Globe*.

COMPARATIVE VALUE OF HAY, CORN AND ROOTS.

An acre of ground retained expressly for hay, yields on an average not more than one and a half tons of vegetable food; an equal space planted with carrots or rutabagas, will yield from ten to twenty tons, say fifteen tons, which is by no means a high average, and has often been attained without any extraordinary cultivation. It has been ascertained by careful experiment, that three working horses, 15½ hands high, consume hay at the rate of 200 pounds per week, or five tons and 400 pounds per annum. By a repetition of the same experiment, it was found that an unworked horse consumed hay at the rate of four and a quarter tons per annum.

The produce, therefore, of nearly six acres of land is necessary to support a working horse for one year; but half an acre of carrots, at six hundred bushels per acre, with the addition of chopped straw, while the season for feeding them lasts, will do as well, if not better. These things do not admit of doubt, for they have been the subject of exact trials, as some of your agricultural friends can testify.

It has also been proved that the value of one bushel of corn, together with the fodder upon which it grew, will keep a horse in good working order for a week. An acre planted with corn and yielding sixty bushels, will be ample to keep a good sized horse in working order for one year.

Let the farmer, then, consider whether it is better to maintain a horse on the produce of half an acre of rutabagas or carrots, or upon the produce of an acre of corn—or, on the other hand, upon the hay and grain from six acres of land, for it will require

six acres of good land to produce the necessary hay and grain as above. The same reasoning might be made use of in the feeding of cattle and sheep.—*Stock Journal*.

LIVE STOCK GLEANINGS.

THE Provincial Board of Agriculture of Nova Scotia have decided to import \$10,000 worth of pure-bred stock by the 20th of September. It will consist of horses, Short-horns, Ayrshire, Devons, Herefords, Alderneys, sheep and swine.

A BILL has recently been introduced into the House of Representatives at Washington, for rescinding the import duty on animals imported into the States from foreign ports for breeding purposes. It has been approved and adopted by the committee on ways and means, and incorporated into the general tariff bill.

THE North Renfrew Agricultural Society offered a prize of \$250 for the best horse to be exhibited at their spring show of stallions, held at Beachburgh on the 7th of May. This very liberal premium has been awarded to Mr. James Lawrie, of Malvern, Scarborough, for his three year old horse "Farmer's Faney," imported from England in 1868.

LAMPAS IN COLTS.—I have used the following for twenty years with such entire success, I wish you to publish it for the benefit of others:—Take one-half bushel of good oats, dry them thoroughly by the fire, and give one or two quarts at a time, and they will prick the gums, which will recede and effect a permanent cure in all cases, as hundreds of horsemen can testify.—*Cor. Rural New Yorker*.

THE *Farmer* (Scottish) says in reference to the recent importation into Britain of cattle from South America:—"The result of the sale of the cargo which arrived from the River Platte last month is not at all promising. £5 for oxen, 10s. 6d. for sheep, £4 a head for cows, and £1 for calves, will not yield much pecuniary return to the consigner. We doubt if such sums will pay the freights; indeed they hardly can. Beef from America must, we think, to be profitable, come over dead, and not living."

A CORRESPONDENT of the *Country Gentleman* dissolved about a pint of strong soft soap in a pail of warm soft water, and saturated the whole surface of a lousy cow's body with it; after about thirty minutes, repeated the operation, and in thirty minutes longer took a pail of clean warm water, and quickly and thoroughly washed out all the soap water and dead lice in large quantities, put her in a warm stable, and covered her with a dry blanket. The next day, after being thoroughly dried, she looked, and seemed to feel like a new animal; more than doubled her quantity of milk within twenty-four hours, and immediately commenced gaining flesh and general thriftiness.

PLOWING WITH OXEN.—If steers are properly broken to the plow when young, but are not over-worked, they will, on reaching mature age, do as much plowing in the day as a span of horses, and at considerably less expense. But if cattle are broke to logging or timber drawing, they rarely answer a good purpose before a plow. In handling logs, in clearing land, or timber for market, sudden movements are necessary, followed by short intervals of

rest. Such cattle, before a plow, exhaust themselves by spasmodic movements, as in timber drawing, consequently fall behind in execution of the steady and sustained movements of those broken properly to the plow. In old times oxen did most of the plowing, and were broken to it, but of late years they have gradually given way to the horse in this department of farm work, but we question much whether the change has proved a paying one. A plow with oxen is much more easily handled than with horses, and at an expense at least one-third less.—*American Farmer.*

THE cows belonging to a mining establishment in Nicaragua, drank water from a trough in which the mercury used by the miners was occasionally washed. Persons who used this milk became severely salivated, but the cause was not discovered for some time, as the cows did not at first show the effects of the poison. But afterwards they became reduced in condition, and their gums much swollen, and some, though not all, died. Distinct traces of mercury were found in the milk by analysis.

TO MAKE A MARE OWN HER COLT.—Take some milk from the mare and rub it on the colt's nose; then let the mare smell it, and she will own her colt at once. I knew this to be tried several years ago, and it acted like a charm. My father had a mare that would not own her colt, and on consulting an old German neighbor, he told him of this remedy, and it brought the answer at once. It might not be as successful in all cases, but it is certainly worthy of a trial.

STOCK ITEMS.

At the sale of Ayrshires, bred by Mr. Drew, of Merryton, Scotland, late factor for the Duke of Hamilton, which took place on the 8th of April, twelve of his choicest animals were purchased for Mr. John L. Gibb, of Quebec, for his farm at Compton, P. Q. Several of these have carried off first class prizes at the Highland Societies' Shows, and one of the heifers is said, by first-class judges, to be the best in Scotland. Mr. Gibb also expects with these a number of superior Cotswold sheep and Suffolk pigs, all of which are expected to arrive the middle of May, and will be duly advertised.

THE Shorthorn head of R. E. Oliver, Esq., Colebrooke Lodge, Northamptonshire, England, was offered at public sale by Mr. John Thornton, April 13th. Of the result, *Bell's Messenger* says that the fifty-six animals sold realized £3,811.10s. Nine lots brought above: £100 each. The highest priced cow was Lalage 4th, which went to S. E. Bolden for 450 guineas; Lady Wild Eyes 2nd brought 170 guineas; Lady Wild Eyes 3rd 140; and ten Bracelets went from 47 to 130 guineas each, the three highest priced ones going to S. E. Bolden. Those animals were principally of Bates blood.

SALES.—Mr. F. W. Stone, of Guelph, has sold his Short-horn bull, Grand Duke of Moreton, the great prize winner, and also the heifer, Miss Margaret 5th, the winner of the first prize at London last year, and the heifer Duchess of York 6th, to Dr. Brown, of Kentucky, and Abraham Vanmeter, of the same place. The South Lanark Agricultural Society have purchased the Short-horn bull Lord of the Hills

got by Grand Duke of Moreton from imported Sanspareil. This animal will prove a great boon, to the farmers of that county, as, aside from his sire being the best short-horn bull ever bred in Canada, his dam is of a famous milking strain, and all her female descendants have proved extra good milkers.

We clip the following items from the *Globe*, of May 20th., 1870.

IMPORTATIONS.—Mr. George Roach, of Hamilton, has just received per steamer *Medway*, his fifth importation of thoroughbred swine. They comprise three Berkshires, two sows, one boar, and a Suffolk sow. The animals have been selected by his brother from the best and most fashionable prize-winning strains in Britain, and are, in every way, perfect in form and pedigree. They arrived on the 7th of May, by the steamer *Champion*, from Montreal, and appeared lively and in good health, notwithstanding their long journey. They will, no doubt, put in an appearance at the forthcoming Provincial Exhibition at Toronto.

The celebrated Osberton herd of the late Mr. Foljambe came under Mr. John Thornton's hammer, April 27th, and brought very fair, though not high prices, considering the goodness of the animals and the fine condition they were in. They were mostly descended from the herds of Earl Spencer and Mr. Mason of Chiltern, with an infusion of Boothe blood, the bulls Imperial Windsor, Lord Lyons, Knight of the Garter, and Knight of the Crescent, having been used. Some cows and heifers, and the bull Knight of the Bath were retained as a nucleus from which to form another herd, only thirty-five head being sold; twenty-eight cows and heifers averaging £65.18s. 11d. each, and seven bulls £66, 15s. each. The highest priced cow was Mrs. Page; she went to R. E. Oliver, for 165 guineas; M. H. Cochrane, of Compton, bought a yearling heifer, Goody Two Shoes, for 110 guineas. and R. Gibson, Mrs. Ford at 75 guineas.

ONE of the most serviceable importations recently made has been that of the draught horse "Old England," a noble animal, winner of many honours, which was imported last fall from Yorkshire by Mr. William Long. This gentleman again purchased, at still higher cost, another celebrated prize winner, "Black Douglas," and embarked him in the spring for Canada; but, unfortunately, the animal died on the fourth day out from Liverpool. In order to repair this serious loss, Mr. Long contemplates a second voyage to England, and intends to bring out, besides other valuable stock, a first-class draught stallion. Some of his friends are desirous of aiding in this enterprise, and we call attention to the matter because it is one not altogether of a personal and private nature, but of some public importance to a Province like ours, so deeply interested in all that affects the progress of agriculture, and deserves the sympathy and co-operation of those who desire to promote the improvement of our farm stock. Persons who are disposed to lend their assistance toward the expenses of the undertaking, are requested to send their contributions to any of the following gentlemen:—Messrs. Crocker, Albion Hotel; Thomas Best, Bay Horse, Yonge Street; Swan Bros, King Street; or Captain Cox of the Black Horse; all of Toronto.

The Garden.

THE ROSE.

How much of memory dwells amidst thy bloom,
 Rose! ever wearing beauty for thy dower;
 The bridal-day—the festival—the tomb—
 Thou hast thy part in each, thou sister flower.

Therefore with thy soft breath come floating by,
 A thousand images of love or grief—
 Dreams, filled with tokens of mortality,
 Deep thoughts of all things beautiful and brief.

Not such thy spells o'er those that hail'd thee first,
 In the clear light of Eden's golden day;
 There thy rich leaves to crimson glory burst,
 Link'd with no dim remembrance of decay.

Rose! for the banquet gather'd, and the bier;
 Rose! color'd now by human hope and pain;
 Surely where death's not, nor change, nor fear,
 Yet may we meet thee, joy's own flower again.—*Hemans.*

June is often called the month of roses; for although there are many roses that bloom at other times, yet it is not often we have them in such profusion as at this season of the year. The Rose has always been a favorite with people of all nations. It is one of the oldest if not the most ancient of flowers known. Poets have sung its praises through many ages, and in all probability will continue to do so in ages yet to come. The rose was very highly esteemed among the ancients, and in some instances fabulous prices have been paid for roses in winter to adorn the festive halls. Among the Romans, this custom was carried to such an extent that their tables, couches, and even the floors, were covered with roses. They were extensively used on bridal occasions, woven into garlands and crowns, and strewn along the pathway before the bride.

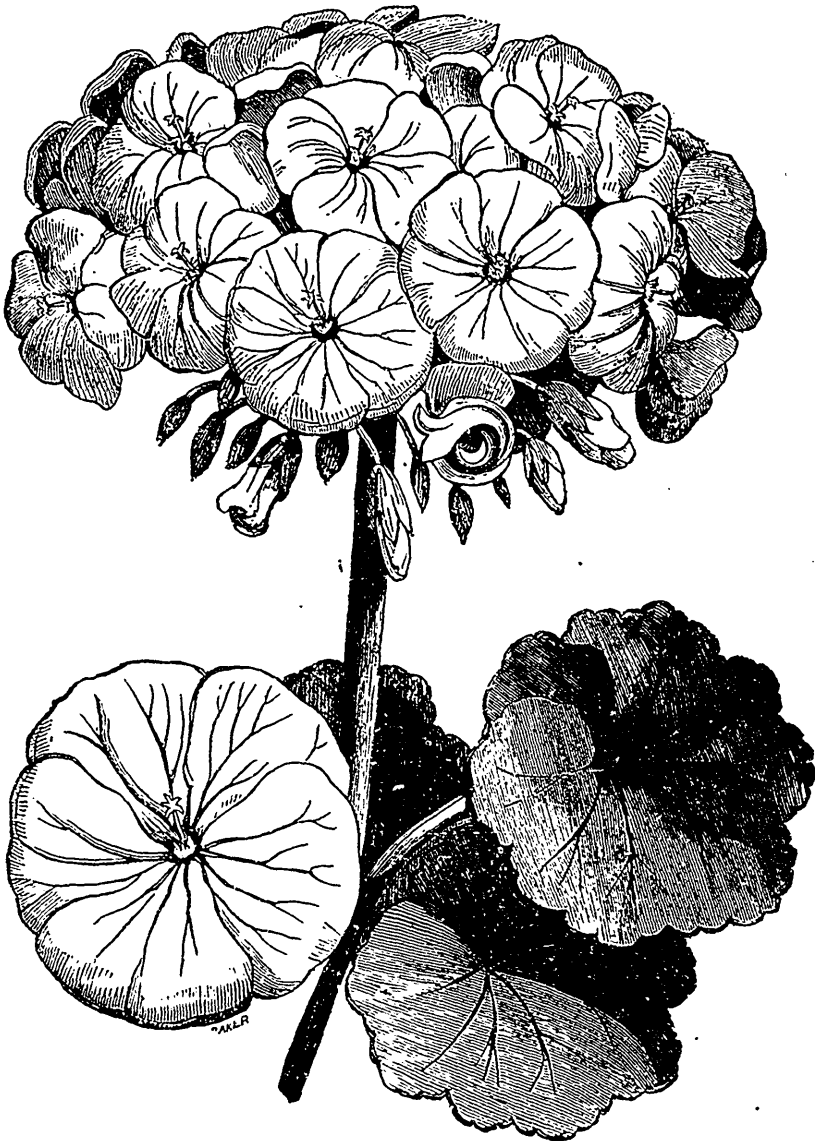
In many countries, roses are greatly used on funeral occasions, being placed in and on the coffin. This is a very beautiful custom, especially if the roses are white; and nothing can be more suitable for adorning burial places than white roses.

It is said that the rose is nowhere grown in such beauty and perfection as in Persia. In that country, gardens of every description are crowded with the trees, and the air is everywhere filled with the fragrance of the blooms. In France, the gardeners take great pride in raising new varieties, and many of them have displayed a surprising amount of skill in the art of producing novelties. The rose is every year becoming more popular in our own country; and it certainly should do so, for in addition to its unrivalled charms, there are few flowers that are so easy of cultivation. It will grow almost anywhere. We have often seen the wild varieties growing luxuriantly on the most barren sand-banks. In order to secure fine vigorous plants and flowers, the soil should be rich and light. Where the soil is naturally good, very little manure will be needed; but where the soil is of inferior quality, it should be thoroughly pulverized by digging, and well-rotted manure mixed with the mould. A little sand added

would be an improvement. Roses may either be planted in Spring or Autumn. If in Autumn they should not be taken up till after one or two slight frosts, when all growth will be stopped. If the season is a very wet one, or the soil clayey, it is better to defer the planting until Spring. The roots should never be allowed to become dry before planting, as this will greatly retard their growth, and perhaps prevent it altogether. Roses should be pruned every year. This may be done in Spring or deferred until the Autumn. Many prefer the Autumn, as all growth is then stopped, and there is not the same danger of weakening the bush.

Roses may be propagated by cuttings, but this mode requires considerable skill and care. We think the safer method is by layering. This may be done from June until early in the Fall. For this purpose young shoots should be used. The place where it is intended to layer the shoots should be forked over and enriched with well-rotted manure; a cut should then be made in the shoot below a bud, and slanting upward; it should then be laid horizontally in the ground, and covered with earth to the depth of three or four inches. The layered shoot should be pegged down on the side below the cut, and the soil kept moist. Some prefer layering in pots. This is done by sinking a pot in the ground where it is intended to lay the shoot. The shoot is then laid in the pot, and treated as before described. The advantage of this mode is that the roots all being in the pot, there is no need of disturbing them in transplanting. In cases where the layer is thrifty and well rooted, it may be taken from the plant in the Autumn; but where this is not the case, it should be left till the following Spring, when it will be well rooted. It is often found to be a very difficult task to destroy the insects that infest the rose. There are so many varieties, and all of them increase so rapidly, that it is almost impossible to save the bushes from their ravages. Most of these insects may be destroyed by syringing the bushes with whale oil soap and water, in the proportion of a pound of soap to eight gallons of water. But this will not have the desired effect with some insects. Where such is the case, we know of nothing so effectual as picking them off with the hand and destroying them.

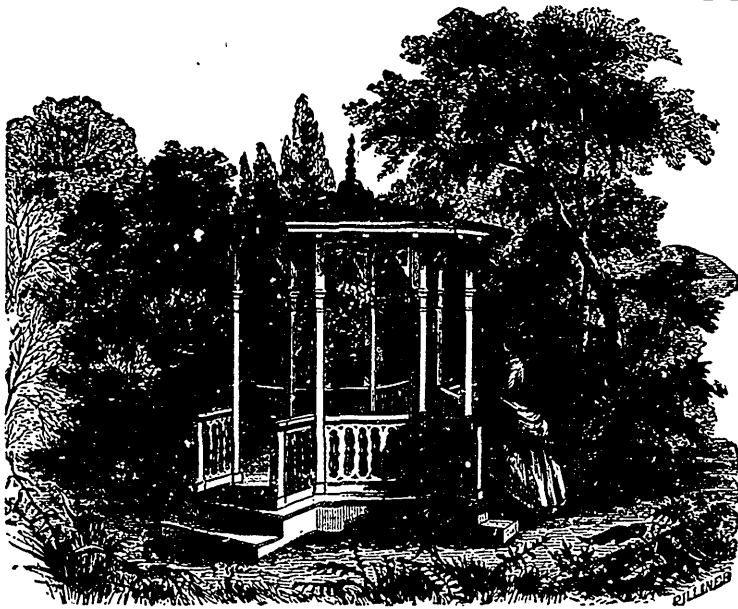
COBÆA SCANDENS is a valuable climber, on account of its rapid growth, fine foliage and large blue flowers. The seed requires some care at starting, and should be sown in a hot-bed or frame. If sowed in the open ground, the chances are that the seed will rot. If a few plants grow, but little progress and few flowers will be produced before the frost.



ZONALE GERANIUM "HELENEVA."

We are indebted to the *Prairie Farmer* for the above engraving of a new Zonale Geranium, raised by Mr. Isaac A. Pool, of Chicago. The engraving is half the natural size of the flower, and shows a single bloom at the left, life size. Mr. Pool says of it:—"Many of its bunches of bloom have been cut, averaging five to six inches in diameter, while hundreds of single florets have actually been found to measure one and three-quarters, and even one and seven-eighths inches in diameter. A striking peculiarity in its mode of flowering, is the fact that it holds its florets till all are developed. As many as *forty-two* have been counted on a single bunch or

stem fully opened at one time. During the intense heat of last summer, when all other Geraniums failed in bloom, this was a mass of scarlet constantly. The color is a clear, brilliant scarlet, with a shading of white on the under side of the florets. The habit of the plant is strong and vigorous; growth upright, making it very desirable for bedding. The leaves are bright green, and so full and round, that where the edges meet they overlap, making them look as though the foot-stalk came from their centre. As a bouquet flower, in mass or by single florets, it is very beautiful; and remembering the loose, straggling, five or six florets at a time, on our old scarlets, with their narrow petals, this seems to belong to some other tribe of plants, so fine is the effect of its great number of flowers open at one time."



GARDEN SUMMER-HOUSE.

No garden is complete without a summer-house of some kind in it. A rude, simple support for a few trailing vines or climbing plants, is better than nothing; but there is ample scope for the exercise of taste and the display of artistic genius in the erection of these pleasant retreats. The above engraving represents a very pretty and attractive

style of pavilion for a garden or small park. Baskets of hanging flowers may be suspended from the top, and creepers may be planted near it, so as to run over it and add to its beauty and protection. It may be elaborately ornate or quite plain, according to the means or taste of the builder.

THE HELIOTROPE.

FEW tropical flowers are so dear to amateur florists as this pet of window and summer gardens. Like the mignonette, it boasts of little beauty; its flowers, though in large clusters, are insignificant, and vary from a dark purple to white; but its delicious fragrance is unequalled. It is not of a cloying sweetness, like the hyacinth and lilac, but its odors are refreshing, and a room perfumed with them is very agreeable. It has a fragrance resembling vanilla.

The Heliotrope was introduced into England in 1767; it was brought from Peru. Vast thickets of it grow wild on the Himalaya Mountains. The wild varieties are white, or lavender-colored; and the kind first introduced into favor is still called *Heliotropium Peruvianum*. Florists have succeeded in deepening the shades, but no new colors have been produced. This plant is an universal favorite.

By careful pruning it can be trained into a fine standard—that is, a single stem, from two to five feet high, with a bushy head filled with clusters of flowers. Again it is trained to run like a vine, and walls or trellises are adorned with its long branches and lovely flowers. RAND, in his "Flowers for the Parlor," says:—"We have seen them in parlors in large tubs on wheels, and from eight to ten feet high. Such plants are in themselves bouquets of beauty, being always covered with flowers. Train the main stems of a plant to a trellis, and let the branches droop naturally, as they will gracefully.

The plant bears the knife well and breaks freely, so it can be trained into any shape."

The heliotrope loves the sun, and, as its name denotes, turns to it adoringly. The least frost blackens and destroys it, but it will flower well in a temperature of 60°. The green fly or scaly bug approaches its leaves; but that minute pest, the red spider, will hide under them, and feed upon their juices. Frequent showerings and a damp atmosphere will rout him. The plants are easily propagated. Cuttings strike quickly, either in sand or water, and a large bed of them in a garden or lawn are indispensable for summer bouquets and vases: If several varieties are grouped together, a very good effect is obtained. The darkest species is "Mr. Keiffer," and it blooms abundantly in the ground. "Mad Parker" is a fine dark variety. "Corymbola" has a light flower; "Mad. Rendatler" is of a very compact habit; flowers light lavender. "Reine de Heliotrope" is also very fine.

Some varieties are quite dwarf, like the "Tom Thumb" Geraniums, as the "Jersey Belle," which is desirable for the outside row of a circle of these plants. "Triomphe de Seige" is of a very robust habit, growing quite tall, and producing immense trusses of flowers; but they are not so plentiful as the other species, and are a little less odorous.

Any rich potting soil will grow this plant to perfection; turfy loam, with a little sand, is good for it; it likes liquid manures and a rich top dressing.—*Cor. Rural New York.*

CLASSIFICATION OF FLOWERS.

Vick, in his catalogue for 1870, has the following:

The flowers usually grown from seeds are Herbaceous Perennials, Biennials, and Annuals.

Hardy bulbs, like tulips, crocuses, and hyacinths, should be planted in the autumn. Tender or summer bulbs, like the gladiolus, tuberose, and tiger flower, must be set out in the spring.

Herbaceous Perennials are plants which die down to the ground every Autumn, but the roots continue to live, and new branches and flower stems are thrown up for many years. Some continue indefinitely, but others die after three or four years, like the Sweet William; but if the roots are divided every year, they will continue to live and increase. These are called *imperfect perennials*.

Biennials flower the second and often the third year, and then die, like the hollyhock; but these may be preserved by dividing the roots.

Annuals flower the first season, perfect their seeds and then die. Some varieties that are grown as annuals in a northern climate, are either perennials or biennials in their southern home, where there are no severe winter frosts. This is true of the verbena, marvel of Peru, etc. As annuals flower in a few weeks or months at most after being planted, and can always be depended upon for a brilliant show, they have always been deservedly popular, and each year always makes a great improvement in our list of fine annuals. With a proper arrangement, a continuous bloom may be kept up from early in July until frost.

Annuals are classed as hardy, half-hardy, and tender. Hardy annuals are those that, like the larkspur, candy-tuft, etc., may be sown in the autumn or very early in the spring, in the open ground. The half-hardy varieties will not endure frost, and should not be sown in the open ground until danger from the frost is over. The tender annuals generally require starting in a hot-bed to bring them to perfection, and should not be set in the open ground until the weather is quite warm. The cypress vine and the sensitive plant belong to this class; but, fortunately, very few of our fine annuals. Some of them do tolerably well if sown in the open ground the latter part of May, but very great success is not to be expected in this way.

MAKING FLOWER SEEDS GROW.

Chas. D. Copeland, a horticulturist, furnishes us with the following hints, for the inexperienced in cultivating flowers. He says these things are indispensable for success in growing flowers:

1. The soil must be made mellow, and be pulverized as fine as possible, if naturally coarse and lumpy; then small seeds should be covered very thinly; not more than one-eighth of an inch, by sifting on fine earth, and pressing it down gently with a board or shingle.

2. The bed must be kept moist, but not very wet by sprinkling on water gently, toward evening, every dry day, until the plants begin to come up.

3. The ground should be shaded in some way, to prevent the hot sun from shining upon the bed, until the plants are up, and have acquired a little strength. After that, they should enjoy the sun-

shine, more or less. When about two inches high, they should be thinned out, by transplanting a part of them, inasmuch that they can grow stocky and strong; in which case, the blossoms will be earlier and more perfect. As a general rule, sow seed about the same time farmers plant their corn. Still, they may be sown earlier, as tomatoes and cabbages are, under glass, or in boxes in the kitchen window, and thus be earlier in flowering.

HOW TO GROW PRIZE CELERY.

A correspondent of the *Gardener's Chronicle*, who has been successful in obtaining first prizes for celery for many years, says:—"It is well known that, in its natural habits, celery delights in a moist, shady spot; and it even thrives well where its roots are moistened by a running stream, overhung with brushwood. From this it might be inferred that the plant was averse to the sun's influence, but it is not so when under cultivation, as probably every one knows. Still the principle must not be ignored, as I have proved in practice that celery will grow much better if I shade it, if, at the same time, I withhold water; while if I give neither shading nor water, it would not grow at all in hot sunny weather. The secret, then, of growing celery, is to keep it bountifully supplied with water, and it will grow, whether in sun or shade." After saying that he prefers Turner's Incomparable Dwarf White to all other varieties, and giving his reasons for so doing, he proceeds as follows:

"After my plants have been set a week, I commence what I call my summer treatment; that is, to surround them with a soil made to the consistency of a thick paste by frequent doses of strong manure water. I keep the soil in this state by giving more water every time I find the surface getting a little dry. In fine drying weather I water every morning; in dull damp weather, only every other day. But, once for all, let me say that whatever stage the plants are in after being taken from the green-house never go to bed without damping the leaves with the nose of a fine water pot. I do this even when they are in the trenches. If I give the roots a good soaking, I never consider my work done on an evening until the tops have had their usual sprinkle; for I believe the leaves of celery absorb a deal of moisture during the night. Clear water is better than none; but manure water is always to be used if it can be got; and, with plenty of that, you need not fear even a tropical sun.

"My trenches are prepared in the usual way with about four inches of rotted manure mixed up with the soil. I tie up each plant loosely from time to time as it advances in growth, to save its blowing about; but I put no earth to it until I have got the height of growth required. Many people like the bit-by-bit way of earthing celery; but never was greater mistake committed, especially during the summer months, for it must have water during that time, if you expect it to grow; and how can it get it if the trench is filled with soil? I grow on as fast as possible, and just six weeks before the show I put up the whole bulk of earth at once, which bleaches it very nicely by the time I want it. Such is my system of growing prize celery, which has never failed since I learned what constitutes an article fit for table."

GARDEN GLEANINGS.

TRANSPLANTING will be more successful if the hole into which the plant is to be set is first filled with water, & thoroughly wet the soil.

CHICAGO is joyfully devouring strawberries, salmon, cauliflowers and other luscious esculents, per refrigerator car from San Francisco.

MR. THOMAS COUTRET has sent the Indianola (Texas) *Bulletin* a cauliflower raised in his garden in that city, the solid head of which weighed nine pounds. There were several larger, one of which, entire, weighed fifteen pounds.

To keep bugs off from vines take straw or hay, free from seed; if coarse, cut it short; cover the vines as soon as out of the ground; the vines lift it easily. It keeps the bugs off, and on light soils proves a capital mulch, and serves as a good coat of manure. It is easy, practical, useful and requires no removal.

IN a recent essay read at one of the Western Horticultural meetings, the originator gave the astounding information that "Greece and Rome cultivated the pear at an early day, and that now there were more than two hundred varieties fit for the table." Somebody ought to send that society a copy of Downing's last edition, in which somewhere near one thousand varieties are described, and many are omitted probably because they are not in this country.

IN his work on Pear Culture, Quin says that the trees may be set out in spring as soon as the ground is in condition to be worked, and until the leaf-buds are partially unfolded. He has frequently transplanted pear trees when in full leaf without the loss of a tree. This can only be done by careful handling, severe pruning, and mulching the ground soon after the trees are put into place.

AN Arkansas correspondent of the *Southern Cultivator* writes that his garden was overrun with bugs, and there was danger that the vines would all go, when he removed to the garden a hen and full brood of chickens half the size of partridges. The hen was confined in the coop and the chicks allowed to run, and in two days not a bug could be found in the garden.

A CORRESPONDENT of the *Massachusetts Ploughman* says that few persons seem to be aware of the importance of planting only good, strong, well grown plants and trees, while the many, as a rule, purchase those of inferior quality because they can be bought at a less price. This is a great oversight and in the end a very expensive sort of economy, if it can be called by that name.

THERE is nothing beautiful about any toad, but God has made him of great use to man. Shakspeare says that there is a precious jewel in the toad's head. As we watched these homely creatures among the squash and cucumber vines, we find the jewel in the stomach, in the shape of a good appetite for bugs and worms. Toads are among our best friends and should have full freedom in the garden.

THE *Country Gentleman* has a cut of the newly introduced flower, *Silene pendula var ruberrima*. When in full bloom this plant presents a remarkable appearance, the flower being of a bright carmine. The branches instead of being green are a brownish red, which spreads over the leaves and calyx, giving

the whole a striking aspect quite different from that of the old *Silene pendula*.

THE EARLY SCHWEINFURTH CABBAGE is a new German cabbage recently brought out in this country. It is the largest of the early drumheads, does not head very solid, and is much better adapted to summer and fall than winter use. Its chief value—if it possesses any over cabbages now in cultivation—is to be found in its earliness and large size, growing from ten to eighteen inches in diameter, and represented as being very tender, sweet and free from any strong flavor.

Galignani's Messenger says that radishes may be grown in a few days by the following plan:—Soak some good seed in water for twenty-four hours; then put them into a bag and expose to the sun. In the course of the day germination will commence. The seed must then be sown in a well manured hot-bed, and watered from time to time with luke warm water. By this treatment, radishes will, in a very short time, acquire a sufficient bulk, and be good to eat.

THE *Germanown Telegraph*, says that every farmer should do his own grafting. It is a very easy operation when once understood. A sharp pen knife and a good fine saw are indispensable. Split the stock so that the bark shall not be bruised, make the cion wedge-shaped both ways, preserve the bark uninjured, and place the rim of the wood of both stock and cion exactly together so that the sap can intermingle. There is no danger of failure if the graft is properly waxed.

IN the cultivation of Garden crops, the hoe and rake should be kept continually at work. Weeds should be taken in hand before they are barely out of the seed-leaf, and one-half the usual labor of vegetable gardening will be avoided. Hoeing or earthing up of most garden crops is of immense advantage in nearly every case. One would suppose that in our hot climate flat-culture would be much more beneficial; but a fair trial, say on very other row of a bed of cabbages, will show a great difference in favor of the earthed up plants,

IN setting out fruit or shade trees, great care should be taken to make the holes wider than the roots. Some persons make small holes and bend the roots into them; this is a bad practice. Trees should be set out very little deeper than they stood in the nursery. If the holes have been made too deep they should be filled up so as to raise the trees to the correct level. Damaged roots should be cut away, the knife being drawn from the crown, the cuts facing downward. Some rich compost should be put into the holes when filling them. Cut the branches back, leaving only three or four buds of the last year's growth.

THE French way of raising tomatoes consists in cutting down the stem to the first cluster of flowers as soon as the latter becomes visible. This causes the sap to be forced into the two buds immediately below the cluster which soon push out strongly and form another cluster of flowers each. These branches are then cut down to the flowers, and this is done successively. By this means the plants become stocky dwarf bushes about 18 inches high. Sticks or string are stretched horizontally along the plants to keep them off the ground. All laterals that have no flowers are cut off. Fruit of large size and excellent quality is obtained in this way.

Our Country.

AGRICULTURAL AND HORTICULTURAL
SOCIETIES IN ONTARIO, 1870, AND
THEIR SECRETARIES.

[N. B.—Electoral Division Societies are printed
in SMALL CAPITALS, the rest are Township Societies.]

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THE NEW PROVINCE OF MANITOBA.

STCA is the name, borrowed from Indian mythology, given to the first province carved out of the new north-western territories of the Dominion. The dimensions are abnormally small: made so for reasons of state not altogether inscrutable. Its description is this:—Commencing at the intersection of the ninety-seventh meridional parallel with the forty-ninth degree of north latitude, the boundary line, running due west, is coincident with that of

the United States and the British territory, a distance of two degrees—about ninety miles and a half;—then northward along the meridional parallel of seventy-nine to latitude 50° 30'—something over one hundred and three miles and a half;—then due east to the ninety-seventh meridional parallel—a little less than eighty-eight miles;—and then south to the point of departure. The size of the new Province will be better understood if we say it is, in round numbers, nearly a hundred miles square (about 103½ by 99½), for it is only round numbers that can be easily understood and remembered.

In point of situation, the new Province may be called the gate-way of the North-west. Its eastern boundary is nearly coincident with the course of the Red River of the north. Between this eastern boundary and the Lake of the Woods, there is some territory available for settlement; but east of that lake, where the granite formation commences, the country is of scarcely any value, except for its timber, of which there are several varieties. And this is true of the whole country east and north of Lake Winnipeg, whatever quacks and impostors, of which there is just now an extraordinary crop, may assert concerning it. The new Province may be called the tenderloin of the North-West, in the same sense that Cobbett called one part of America the sirloin, and another the shanks and shin-bones.

It is unfortunate that it should have been found necessary to subject the very vestibule of the North-West to an exceptional treatment; but that is now inevitable, and we can only ponder over the future development of the country which this circumstance may have. The granting of representative institutions to the new Province, at the outset, is probably the best way of quieting the discontent; but it is to be regretted that British subjects who emigrate there will be disfranchised for a whole year, and the whole political power will at first be wielded by the old residents, mostly metifs, bois-brules, or half-breeds, as they are indifferently called, a moiety of whom have been in open rebellion all winter. The chances are now almost reduced to a certainty that they will accept the new terms of union which this bill gives them, and put an end to the serio-comic spectacle of a provisional government with "President" Riel at its head, and some more crafty persons in the background for prompters. The force to be set up will, in all probability, not have to fire a single shot. We apprehend the British Government will insist on the rebels receiving the most conciliatory treatment, and that, except the murderers of Scott, if they can be found and legally convicted, nobody will be hurt. That is the present prospect; and though it does not satisfy revenge, it is much clearer than that which has just passed away.

The reservation of one million four hundred thousand acres for the half-breeds, not *en bloc*, but in scattered fragments, is in itself objectionable; but it is part of the price which the Ottawa Government has thought it advisable to pay for peaceable possession of the territory. This reservation

is for all the half-breeds of the territory; and it is anomalous that those at the distance of five or six hundred miles should get it here. The question of their legal right to any reservation need not be discussed. In any case, a large portion of the soil of the territory will have to be granted free to settlers, and it is not unreasonable that the children of the original settlers should be guaranteed a home near their parents and relatives. But it is difficult to understand why that part of the population which is not of mixed blood should be denied the same privilege. Ill-natured people may say this is rewarding rebels and punishing the loyal; and if it should come to be believed that rebellion is the only thing that pays out there, the example may prove contagious.

If it be necessary to submit the Province of Manitoba to an exceptional treatment, the smaller it is the better. The rest of the territory can hereafter be dealt with on better terms. But the whole of it has yet to be purchased from the Indians, and there is some danger of exciting their susceptibilities by our passing laws to dispose of their lands before we have extinguished their right in them. Some other Riel may possibly enter on this inviting field. The dealing with the claims of the Indians will be a more delicate task than is generally supposed. These errant people are constantly pushing upon one another's domain, and it would be no new thing if we had two tribes of Indians claiming the same land. That occurred in the case of the Huron reservation in Upper Canada. On the ground out of which this new Province is carved, the Nathaways—popularly but erroneously called Crees—met the Chippeways, in the latter part of the last century, and the latter were regarded as intruders. They are both of the same original stock, and are known by American writers as of the Algic race, a generic term, made by a contraction of the word Algonquin, used by the French. But their interests were totally separate.

This territory will require a large outlay before we can count on any returns. We have bought out the Hudson Bay Company; and with their superior knowledge of the country, and the Indians, they may be able, practically, to monopolize the fur trade for some time. We have to buy out the Indians. We are—shall we say?—throwing a large sop to the followers of Riel. We are to bear three-fourths of the unknown cost of a military expedition to the country. Communications have to be opened over a vast extent of difficult country, between Lake Superior and Lake Winnipeg; and so distant is the government from the scene of action, that it is sure to fall into the hands of charlatans. The world has never seen so imprudent a sham as the holiday exploring expedition of 1857. The result was a bundle of wholly unreliable, and worse than useless information; a map without latitude or longitudes; distances greatly inaccurate—Winnipeg river stretched out thirty miles beyond its real length—and almost all the other distances exaggerated. The whole thing was an impudent fraud on the public.

But we shall outlive all this, and in the end get a return for the great outlay on the territory. Without this assured hope, there would be nothing to console us for the sacrifices we are making, and shall for some time be obliged to continue to make, on account of this North-West territory.

—*Monetary and Commercial Times.*

Arts and Manufactures.

PAINTING IN MILK.

In consequence of the injury which has often resulted to sick and weakly persons from the smell of common paint, the following method of painting with milk has been adopted by some workmen, which, for the interior of buildings, besides being as free as distemper from any offensive odour, is said to be nearly equal to oil painting in body and durability. Take half a gallon of skimmed milk, six ounces of lime, newly slaked, four ounces of poppy, linseed, or nut oil, and three pounds of Spanish white. Put the lime into an earthen vessel or clean bucket, and having poured on it a sufficient quantity of milk to make it about the thickness of cream, add the oil in small quantities at a time, stirring the mixture with a wooden spatula. Then put in the rest of the milk, and afterwards the Spanish white.

It is, in general, indifferent which of the oils above-mentioned you use; but, for a pure white, oil of poppy is the best.

The oil in this composition, being dissolved by the lime, wholly disappears; and, uniting with the whole of the other ingredients, forms a kind of calcareous soap.

In putting in the Spanish white, you must be careful that it is finely powered, and strewed gently over the surface of the mixture. It then, by degrees, imbibes the liquid and sinks to the bottom.

Milk skimmed in summer is often found to be curdled; but this is of no consequence in the present preparation, as its combining with the lime soon restores it to its fluid state. But it must, on no account, be sour; because, in that case, it would, by uniting with the lime, form an earthy salt, which could not resist any degree of dampness in the air.

Milk paint may likewise be used for out-door objects, by adding to the ingredients before-mentioned two ounces each more of oil and slaked lime, and two ounces of Burgundy pitch. The pitch should be put into oil that is to be added to the milk and lime, and dissolved by a gentle heat. In cold weather, the milk and lime must be warmed, to prevent the pitch from cooling too suddenly, and to enable it to unite more readily with the milk and lime.

Time only can prove how far this mode of painting is to be compared, for durability, with that in oil; for the shrinking to which coatings of paint are subject depends in great measure upon the nature and seasoning of the wood.

The milk paint used for in-door work dries in about an hour; and the oil which is employed in

preparing it entirely loses its smell in the soapy state to which it is reduced by its union with the lime. One coating will be sufficient for places that are already covered with any color, unless the latter penetrate through it and produce spots. One coat will likewise suffice, in general, for ceilings and staircases; two will be necessary for new wood.

Milk painting may be colored, like every other, in distemper, by means of the different colouring substances employed in common painting. The quantity I have given in the recipe will be sufficient for one coat to a surface of about twenty-five square yards.—*Painter, Gilder and Varnisher.*

BUTTER AND ITS ADULTERATIONS.

The pound of butter to the quart of milk swindle, in which a vile mixture of cascine, semisaponified butter, and water was represented as butter, seems to have subsided; but there are more ways of sophisticating butter than one, and, as rogues always learn the tricks of trade before honest men, it may be well to let consumers into their secrets.

Pure butter is a fatty substance of rather a complex nature extracted from the milk globules. In this country, very little butter is sold without being previously salted; the salting being performed in the dairy at the time the butter is made. Salt, therefore, can hardly be considered as an adulteration, unless it is present in excess. Most butter also contains more or less buttermilk retained mechanically. This can generally be seen without the microscope; but the use of a magnifying glass will show that no specimen of butter in market is wholly free from it. When present in undue degree it greatly impairs the keeping quality of the butter.

Butter is adulterated by water, silicate of soda, or "water glass," tallow, lard and starch, and various coloring matters, as anotta, pulp of carrots, etc.

Water is held in it, suspended by the addition of mucilaginous substances, as starch, etc. It may be detected by placing a given weight of butter in a flask, and suspending the flask in boiling water. The water surrounding the flask should be kept boiling for eight or ten hours, at the end of which time the water contained in the butter will have evaporated, and the loss in weight will be that due to its admixture.

To determine the presence of silicate of soda, an ounce of butter must be burned in a crucible, a little at a time. When the ash has assumed a white color, it must be removed from the fire. As soon as the crucible is cool, a drachm of hydrochloric (muriatic) acid must be poured upon the ash. Evaporate to dryness, scrape out the mass into a glass beaker, and add a gill of boiling water. If silica is present, an undissolved residue will remain in the bottom of the glass. To prove that this is silica will require further tests, but the probabilities that the substance undissolved is silica are so great that further tests will be in general unnecessary.

Tallow and lard may be detected by the microscope, and by chemical tests, but they may ordinarily be detected by the smell when the butter is burned.

Starch may also be detected by the microscope, and excess of salt by the taste. The amount of salt and of water that ought to be present, may be esti-

mated by performing the above assays with butter of standard good quality.

The most common adulterations of butter in American markets are lard and tallow. Out of several specimens of low priced butter purchased at random, we have found lard in four and tallow in one; the others seemed to have been butter of ordinary purity deteriorated by long keeping.—*Scientific American.*

FAULTS IN BUILDING.

The *American Builder* enumerates these faults in planning and erecting houses:

1. Cramping a house down to the smallest possible space, so as to make more yard-room, which will never be used.

2. Making no calculations as to size of rooms or the location of furniture.

3. Building chimneys by guess, so that one has to have a dozen lengths of useless stove-pipe, or else place his stove in the most inconvenient locations.

4. Arranging windows and doors so that one opens against the other, or in the very spot to be occupied by a piece of furniture, or so placing them that no fresh air can get through the house, even though the whole should be open.

5. Providing no means of ventilating rooms, save by open doors or windows; hence all the impure air which is generated by breathing, cooking, fermentation, as it is rarified, rises to the top of the room, and there remains to breed discomfort, disease and death.

6. Nailing sheeting to the outside of the studding, and clapboards (or siding) close to the outside of that, leaving small or no air-chambers between them; and as, in nine cases out of ten, green materials for each covering have been used they shrink and rot, soon making a honey-comb of the shell, though plastered with paint and cement.

7. Laying the floor directly upon joists, or at best laying it with culls full of knots and shakes which are but little better than nothing, and, as a consequence, the floor is always cold and uncomfortable.

8. In finishing, first laying the basis, pilasters, and casings (perhaps of green lumber,) and then lathing and plastering up to them, so that when they dry, large orifices are left to let in cold and moisture.

9. Letting the work out, as a whole trusting to the honesty of the contractor to do it, without having plans or specifications properly drawn and without any one to oversee, or criticise, or direct it.

EXPERIMENTS WITH THE SUNFLOWER.

Noticing a communication from Tipton, Io., in your issue of February 17th., regarding the mode of cultivation of the sunflower, I would say that in our experiment of last season, we came to the conclusion that to plant to the depth of about an inch in rows three feet apart in each row, was the best mode, and this is the mode most practiced in the vicinity of the Black Sea, where it has been extensively cultivated. This gives each plant a good chance for itself, and the farmer or the horticulturist all the room he needs for weeding and keeping

earth around the root. It will take about three quarts to an acre if planted in this way.

Having promised you the result of my experiment in making oil from this seed, I will now present it, believing it to be the first of the kind made in this country; but as the seed was very light (unfit for seed), the kernel was very small and the husk large, and the seed wet and dried, so that it was not really a fair test for its merits, and I have no doubt but that with good tillage and care in gathering the heads, the quantity of oil would be eight per cent more. I have the oil now in the hands of parties who are testing it for different purposes, the results of which are not yet known. There is one thing it is certainly good for, and that is a superior lubricator. The taste is not unpleasant, and it may be found to possess medicinal qualities. What I have is just as it came from the press without being refined, and is as clear as prepared olive oil of commerce. The following shows no loss of material, and I will give it you as taken from my book.

Result of experiment in obtaining oil from sunflower seed, pressed at the oil mill of Messrs. Griswold & Dunham, Cleveland, O.

Gross amount mixed varieties delivered to Messrs Griswold & Dunham 1,993 pounds,

	lbs.
Returned to me in oil cake.....	1,781
Returned to me in oil.....	212

Weight of oil, $\frac{7}{8}$ lbs. to gallon 1,993

Allow me to thank, through your columns, Messrs. Griswold & Dunham for their courtesy and attention, as well as for the interest manifested by them in this, the first production of sunflower oil that we can learn of.—*Co., Prairie Farmer.*

ART GLEANINGS.

VARNISH FOR COARSE WORK.—A cheap but good varnish for coarse work can be made in the following manner: Take of raw linseed oil 30 pounds, litharge 1 pound, and white vitriol half a pound; boil them together until the water is all evaporated. This is very durable, and costs but little trouble to make.

WHETSTONES.—When first putting a new whetstone into use, try water upon it, and if this keeps the surface from being glazed or lurnished, oil will not be needed. Some stones work better with water than oil. A dry stone is very apt to give a wire edge. It has been said that a little carbolic acid added to water will increase the friction on either a whetstone or a grindstone.

MENDING BROKEN CHINA.—Diamond cement for glass and china is made in the following manner: Take isinglass 1 oz., distilled water 6 ozs., alcohol $1\frac{1}{2}$ ozs., warm in a water bath till dissolved, and strain the solution. Add to the clear solution, while hot, milky emulsion of gum ammoniac $\frac{1}{2}$ oz., alcoholic solution of gum mastic 5 drachms; this possesses great adhesive qualities.

GILDING ON GLASS.—Mix the powdered gold with thick gum arabic and powdered borax. With this trace the design on the glass, and then bake it in a hot oven. Thus the gum is burnt, and the borax is vitrified, at the same time the gold is fixed on the glass. To make powdered gold: Rub down gold leaf with pure honey on a marble slab, wash the mixture, and the "precipitate" is the gold used.

"SURE CURE FOR CORNS."—Mr. Rose, a merchant

of San Diego, announces that these creators of much misery in this world, can easily and surely be cured by applying a good coat of gum arabic mucilage every evening on going to bed. He suffered with them for 40 years, and tried nearly all the corn doctors and corn remedies in existence, without relief, until he applied the above, which readily cured him in a few weeks.

MIXTURE FOR CLEANING FURNITURE.—Cold-drawn linseed oil, quart; gin, or spirit of wine, half a pint; vinegar, half a pint; butter of antimony, 2 ounces; spirit of turpentine, half a pint. N. B. This mixture requires to be well shaken before it is used. A little of it is then to be poured upon a rubber, which must be well applied to the surface of the furniture; several applications will be necessary for new furniture, or for such as had previously been French polished or rubbed with beeswax.

CARE OF WAGGONS.—When you leave a waggon heavily loaded to stand a number of hours, put a support under the axletree. The strength of wood cannot be estimated by what it will support for a short time. It will bear up a third more weight for, a few minutes than will be required to break it by continued pressure. Waggon are abused very generally by overloading. If the axletrees do not break, they are sprung, and the wheels warped, which causes the vehicle to run hard, and shortens its existence.

RED DYE FOR WOOL.—A good and bright red color may be obtained on wool by the use of lac-dye, in the following way: In the first place, a tolerably stiff paste is made of the lac-dye and sulphuric acid, and this is allowed to stand for a day. For dyeing ten pounds of wool, one pound of tartar, two thirds of a pound of salts of tin, and three quarters of a pound of the paste just mentioned are required. The wool must be boiled in the bath for three quarters of an hour, after which, as a matter of course, it must be carefully rinsed and dried.

TEST FOR ARSENIC.—A new and very delicate test for arsenic has been discovered by Bettendorff. Its sensibility is so great that it is said to be capable of detecting one part of arsenic in a million parts of solution; and the presence of antimony does not affect it. In order to apply this test, the arsenious, or arsenic liquid is mixed with aqueous hydrochloride (hydrochloric acid), until fumes are apparent; thereupon stannous chloride is added, which produces a basic precipitate, containing the greater part of the arsenic as metal, mixed with stannic oxide.

PROTECTION OF WOOD FROM FIRE.—Wood-work is protected from fire by being painted with a mixture consisting of 5 parts of alum, 7 parts of rye-meal paste, and 30 parts of previously washed, i. e., finely divided clay. This mixture is used for wood-work not exposed to the open air. For wood-work so exposed, a mixture is used consisting of 2½ parts of crystallized sal ammoniac, 1 part of white vitriol (commercial sulphate of zinc), 2 parts of joiners' glue, 20 parts of zinc white, and 30 parts of water. These mixtures have been found to prevent wood bursting into flame on ignition, and to greatly delay its destruction even when severe fires are raging.

INDELIBLE BLUE INK.—Take five parts of oxide of molybdenum, dissolved in the smallest necessary quantity of hydrochloric acid; then two parts of extract of liquorice, and six of gum arabic, dissolved

in two hundred parts of water. Mix the solutions, and write with them on the line to be marked. After writing, moisten with a solution of chloride of tin in water. This is an ink not only indelible in ordinary washing, but in acids and alkalis. It can not possibly be removed, except by destroying the article written upon. In fact, it is an utterly indelible blue dye, while the black so-called indelible inks may be removed by cyanide of potassium.

NEW PREPARATION OF COPAL VARNISH.—Dissolve one part of camphor in twelve parts of ether. When the camphor is completely dissolved, add four parts of colorless and finely-powdered copal. The copal to be carefully selected. Place this mixture in a bottle, and shake until the copal is swollen and partly dissolved, then add four parts of proof alcohol and one quarter of a part of rectified spirits of turpentine; shake again sufficiently, and the varnish is ready for use. After the bottle has stood several days, however, the varnish divides into two distinct strata; the lower richer in copal, but the upper finer and perfectly colorless. Prof. Boettger, the author of the formula, claims the superiority in transparency, elasticity, hardness, and durability of this varnish. The lower stratum may be again treated with camphor, etc.

At a recent meeting of the Paris Academy of Sciences, M. Feil exhibited specimens of flint glass of great density (Faraday's glass) obtained by a new process, enabling masses of this mineral to be manufactured, weighing from 25 to 35 kilos., perfectly pure, homogeneous, and free from striae, and of a density equal to, and even greater than that of Faraday's. He also showed specimens of imitation precious stones, such as emerald's, sapphires, and white and colored rubies, as well as a specimen of a deep violet blue, rich in tone, and of a brilliancy surpassing that of the finest amethysts. They are stated to be nearly equal in hardness also. The author, in his communication, states that he uses for the flint glass aluminates of lime, of lime and baryta of lead, and of bismuth, etc., and for crown glass, aluminates of magnesia, silicates of magnesia, and of alumina.

CEMENT FOR FASTENING INSTRUMENTS IN HANDLES.—A material for fastening knives or forks into their handles, when they have become loosened by use, is a much-needed article. The best cement for this purpose consists of 1 lb. of colophony, (purchasable at the druggists'), and eight ounces of sulphur, which are to be melted together, and either kept in bars or reduced to powder. One part of the powder is to be mixed with half a part of iron filings, fine sand or brickdust, and the cavity of the handle is then to be filled with this mixture. The stem of the knife or fork is then to be heated and inserted into the cavity; and when cold it will be found fixed in its place with great tenacity.

LACQUER.—No. 1. Shellac, 120 parts; sandarach, 45 parts; mastic, 30 parts; amber, 30 parts; black resin, 90 parts; dragons' blood, 30 parts; turmeric and gamboge, each 24 parts; rectified spirits, 1,000 parts. Digest until dissolved, then strain. No. 2.—Seedlac, 120 parts; sandarach, 120 parts; dragons' blood, 16 parts; gamboge, 2 parts; turmeric, 2 parts; Venice Turpentine, 50 parts; clean sand, 150 parts; rectified spirit, 1,000 parts. Digest in a sand bath, and strain. No. 3.—Seedlac, gamboge, and dragons'

blood, each 120 parts; saffron, 30 parts; rectified spirit, 1,000 parts. Digest with heat, and strain. No. 4—Seediac and sandarach, each 120 parts; dragons' blood, 15 parts; turmeric, 2 parts; gamboge 2 parts; Venice turpentine, 60 parts; spirit of turpentine, 1,000 parts. Digest with heat and strain. Aloes is sometimes used to give it a dark color.

A STRONG CEMENT FOR IRON.—To four or five parts of clay, thoroughly dried and pulverized, add two parts of iron filings free from oxide, one part of peroxide of magnesia, one half of sea salt, and one half of borax. Mingle thoroughly, and render as fine as possible; then reduce to a thick paste with the necessary quantity of water, mixing thoroughly well. It must be used immediately. After application, it should be exposed to warmth, gradually increasing almost to white heat. This cement is very hard, and presents complete resistance alike to a red heat and boiling water.

Another cement is to mix equal parts of sifted peroxide of manganese, and well pulverized zinc white, add a sufficient quantity of commercial soluble glass to form a thin paste. This mixture, when used immediately, forms a cement quite equal in hardness and resistance to that obtained by the first method.

CLEARING MUDDY WATER WITH ALUM.—It is not universally known as it should be, that muddy water may be cleared with a comparatively very small quantity of alum. It is a peculiar property of this substance that, when in solution, it will combine with the most foreign particles in suspension, or even in solution. In fact, on this property is founded the manufacture of the lakes used in painting, the dissolved coloring matter being precipitated by alum. In the same manner, all dirty coloring matter in a pailful of water may be precipitated by dissolving in it a piece of alum as small as a hickory-nut, or even smaller, according to the degree of impurity of the water. Simply dissolve the alum, stir up, and let it settle. Along the Missouri and Mississippi rivers this method is frequently employed. When no excess of alum is used, this also is mostly carried down in the deposits.

WATERPROOFS.—By the way touching waterproofs? I think I can give travellers a valuable hint or two. For many years I have worn India-rubber waterproofs. But I will buy no more, for I have learned that good Scottish tweed can be made completely impervious to rain, and, moreover, I have learned how to make it so, and for the benefit of my readers I will here give the recipe:—In a bucket of soft water put half a pound of sugar of lead, and half a pound of powdered alum; stir this at intervals until it becomes clear; then pour it off into another bucket, and put the garment therein, and let it be in for twenty-four hours, and then hang it up to dry without wringing it. Two of my party—a lady and gentleman—have worn garments thus treated in wildest storm of wind and rain without getting wet. The rain hangs upon the cloth in globules. In short, they are really waterproof. The gentleman, a fortnight ago, walked nine miles in a storm of rain and wind such as you rarely see in the South, and when he slipped off his overcoat, his underclothes were as dry as when he put them on. This is, I think, a secret worth knowing; for cloth, if it can be made to keep out wet, is in every way better than what we know as waterproofs.—*Illustrated Times.*

HOW TO BUILD ICE-HOUSES.—In the construction of a good, serviceable ice-house, but three conditions are requisite: drainage, non-conducting walls, and some degree of ventilation, or rather a circulation of air, through diffusion. When these three conditions are met, ice can be successfully preserved. The building constructed for the purpose should, if possible, rest upon a stone foundation, in order to secure the most complete freedom from moisture. A tight floor may be laid, having a slight incline, in connection with a drain to carry off the water, through it. Upon this floor should next be laid a number of scantlings, which are to be covered with straw, to support the ice. Upon the sills, which may be ten inches wide and three inches thick, a frame is next set up of hemlock planks, about three feet apart, with a three by four inch strip, nailed as a plate, on the tops of the upright planks. To the planks are nailed the inside wall and the weatherboarding. These respective double walls should be about eight feet high, and the space between the inside and outside walls should be filled with some porous substance, as, for instance, sawdust, shavings, or tan-bark; put in thoroughly dry, and afterward well packed. The ice should not be packed above the plates, and the door ought to be put in the north end of the building. There should be, also, a few auger-holes, or a shutter, in the north end, to provide ventilation. With such a house, twelve feet square, there will be no difficulty in keeping ice all the year round. A structure, such as the one above described, may be built very cheaply, and any farmer in the country ought to be able to do all the work.—*Exchange.*

Hearth and Home.

FARMING FOR BOYS.

CHAPTER IX.

HOW TO MANAGE A PEACH-ORCHARD.—A BOY'S WORKSHOP.—A CROWD OF POULTRY.—MAKING THE HENS LAY.—A BOY'S LIBRARY.

As they strolled over the grounds on their return to the house, they passed a peach-orchard in its prime of bearing, with a surprising amount of bloom. The old man paused at the end of a row to admire the beautiful symmetry of the trees. They had all been headed in by an experienced hand,—that is, the extreme ends of the limbs had been cut off by means of a sharp knife set in the end of a handle about three feet in length, by which one half of the wood made the preceding summer had been removed. Even the topmost branches had been shortened in the same way, so that the fruit at the very top could be readily gathered by standing on a common chair, while the remainder could be reached from the ground. The trees, being thus deprived of all long, straggling limbs, were kept in a smaller space, and were compact and rounded in their outline.

As Uncle Benny had never seen this mode of pruning the peach-tree adopted by any other person, Mr. Allen explained the theory on which its

was founded. He said that the peach-tree bore its fruit on the wood which was grown the preceding year, and that much of this new wood was sent out from the ends of the branches. There was therefore a continual extension of these branches upwards and all round the tree, until they pushed out so far in search of air and sunshine that the limbs became too weak to support the load of fruit which grew upon their extremities. They consequently broke down under the excessive weight; the fruit thus falling to the ground did not ripen, and was therefore lost, while the tree itself was seriously injured by the loss of the great broken limbs which had to be cut away. It was the habit of the tree to produce too much, and the prevailing sin of the peach-grower was that of permitting it to bear an excessive crop.

The true remedy was to begin when the trees were planted. As the roots spread, so the limbs multiplied and extended. This extension must be arrested by shortening them every year, in the spring for instance, and cutting off at least one half of the new growth. The operation gave the tree a beautifully rounded head from the start, and there would be no difficulty in preserving the same compact outline. Of course this trimming removed one half of the fruit-buds, so that the tree would produce only half as many peaches as when permitted to sprawl away over twice the quantity of ground.

But this reduction of the quantity of fruit was exactly the result which every careful horticulturist would seek to produce. What he lost in quantity he would realize in quality, and it is quality that commands great cash returns, not quantity. If he had fewer peaches, they would be three or four times as large and fine, and consequently would command the best price of the market. He would also have fewer to gather and handle. His trees would be all the better for being thus prevented from breaking down under an excessive crop, as the loss of a hundred tips of young wood resulted in no injury, while the tearing away of two or three old limbs was followed by wounds which generally went on growing larger, until the tree died before its time.

As regarded the superior quality of the fruit produced, Mr. Allen said there could be no dispute about it among those who had ever tried this mode of checking the excessive bearing propensity of the peach. A little reflection would convince any one of its reasonableness, even without having witnessed the result. Though the top of the tree was reduced in size, and the fruit-buds diminished in number, yet the roots went on extending,—there was no pruning of them. As they extended themselves in search of nourishment, so they accumu-

lated it in proportion to the extension. This annual accumulation was sent up into the tree as the fountain from which it was to form new wood and perfect a crop of fruit. But though half the fruit-buds were removed, yet the volume of nourishment was as great as before. It would therefore pour into each peach exactly double the amount of food it could have done had no buds been removed. The distribution of this over a full crop would only result in small-sized peaches, while its concentration upon a half-crop would bring the half-crop up to, and even beyond, the value of the whole one.

Turning round to Tony King, who, with the other boys, was listening to this explanation, Mr. Allen added: "Why, Tony, take your litter of pigs as proof of what you have heard. You now feed them tolerably well, I suppose; but if you were to kill half of them, and continued giving to the remaining half the same quantity of corn and swill that you had given to the whole number, don't you think those that thus had double feed would grow a great deal faster than they do now?"

This was a form of illustration they could not fail to understand, and they readily assented to its soundness.

"Well," he continued, "it is the same with peaches, and almost all other fruits,—feed them liberally, and you will have the best."

There were some three hundred trees in this peach-orchard. Uncle Benny, as well as the boys, was puzzled to know what it was he saw tied round the but of each tree just at the ground. His eyes were too old to tell without going up to one of them and stooping down to examine. On doing so he discovered that every tree was encased in a jacket of coarse, thickish pasteboard, which reached about an inch below the ground, and stood some six inches high, just embracing all the neck or soft part of the bark of the surface. It was kept to its place round the but by a string.

Mr. Allen explained the meaning of this contrivance. He said that, very soon after he had planted his trees, he discovered that the worms had attacked them; and finding it a very troublesome business to hunt them out from the roots of so many trees, he concluded it would be much less labor to prevent their getting in, than to get them out after they had once made a lodgement. He therefore, after thoroughly worming the trees in the spring, supplied each with a paste-board jacket, which his boys tied on the whole orchard in a day. The peach-fly was thus kept from laying its eggs in the soft bark at the surface of the ground, the only place it selects; and as no eggs were deposited on his trees, they had not been troubled with worms since he had practised this cheap and simple remedy. The jackets were put on in April, taken

off in November, and laid by until wanted the next season.

Uncle Benny and his boys were surprised at the variety of new things they met with on this farm. As long as they tarried and they strolled, the novelties appeared to increase in number. Drawing nearer to the house, they passed extensive beds of strawberries, and long rows of raspberries. When they came to the outbuildings, Mr. Allen took them into quite a large room attached to the carriage-shed, which he called the boys' tool-house. The visitors had never imagined anything like what they saw here. There was a work-bench and a lathe, with a complete assortment of carpenters' and turning tools. Most of them were hung up in places especially provided for them, or arranged in racks against the side of the room, convenient to whoever might be at the bench.

Nothing elated the boys so much as this exhibition of mechanical fixtures,—it was an epitome of a hundred aspirations. There were little boxes, rabbit-traps, and other contrivances, in the room, which the Allen boys had made for themselves, showing that, young as they were, they had already learned the art of using tools. The Spanglers looked round the room with admiration, perhaps with envy.

"Better than our barn on a rainy day," said Uncle Benny, addressing Tony.

"Yes, or anything else on our place," he responded.

"Now, Uncle Benny," said Mr. Allen, "I have somewhere read that there is in all men a *making* or *manufacturing* instinct. Our houses, ships, machinery, in fact, everything we use, are the practical results of this instinct. Boys possess it strongly. A pocket-knife is more desirable to them than marbles or a humming-top. They can whittle with it,—make boats, kites, and twenty other things which all boys want. Tools are a great incentive to industry and ingenuity. Give a smart boy the use of such a place as this, or a little tool-chest of his own, and he will cease to associate with the rude crowd in the street among whom he had found amusement. He will stay more at home, where he will learn to do many little useful jobs about the house. He will be kept out of mischief. Let him make water-wheels, little waggons, toy-boats, sleds, and houses. The possession of a tool-chest will develop his mechanical ability. I don't know who it is that writes thus, but they are exactly my ideas. This is a busy place on a rainy day."

This work-room served a double purpose, as one side was devoted exclusively to hoes, and rakes, and spades, and other farming tools. The inflexible rule of the farm was, that, when a tool was

taken out for work, it must be returned to its proper place as soon as the work was done. Placards were posted up behind the lathe and bench, bearing these words in large letters:—

"A PLACE FOR EVERYTHING, AND EVERYTHING IN ITS PLACE."

A little patient drilling of the boys in this rule made them obedient and thoughtful. There were no tools lying in odd corners about the farm, hoes hung up in trees where none would think of looking for them, or spades left in the ground where the last digging had been done; but as each went regularly into its place, so it could always be found when wanted. There was consequently no loss of tools, nor of time in looking for them.

The Spangler boys were also struck with the small size of some of the farming tools. There were hoes and rakes and spades scarcely half as large, and not nearly so heavy, as those usually wielded by them. On taking hold of these, they could feel the difference between them and the clumsy tools with which they worked at home. The handles were thinner, the iron-work was lighter, and they felt sure they could do more work with these convenient implements than with the heavy ones they had always used. It was as much by the unnecessary weight of the tools that their young muscles were fatigued, as by the labor itself. Uncle Benny noticed the same thing in these, and admired the wisdom of Mr. Allen in thus consulting the comfort of his boys by providing them with implements adapted to their strength.

"If," said the latter, "we are ever to make labor attractive to our sons, we must be careful not to disgust them with it, by requiring them to work with tools so heavy that strong men only can handle them without breaking down under their weight. How absurd it would be to harness a man to a horse-rake, and expect him to rake up a hay-field with it. Yet half our farmers never take this matter into consideration, but act as if they thought a young boy could handle a clumsy hoe as comfortably as they do. I find it has paid me well to invest a few dollars in these light tools for the boys. They don't overtask their strength, and hence they can stand up to a full day's work without coming home so fatigued as to wish that no such thing as work had ever been invented."

The Spanglers followed their leaders out of the tool-house with evident reluctance. It seemed to have obtained a stronger hold on their affections than anything they had so far seen. The ownership of a jack-knife had at one time been all their modest ambition desired; then the possession of a tool-chest like Uncle Benny's would have gratified their utmost wishes; but having witnessed this profusely furnished establishment, their longings,

like those of children of a larger growth, seemed to acquire intensity as the difficulty of gratification increased. That night they talked of tools until sleep overtook them in bed, and dreamed of them after it had closed their eyelids.

By this time it was so nearly sunset that Mr. Allen's great stock of poultry had congregated just in front of the company, knowing by instinct that if bedtime were approaching, supper-time also must be close at hand. They knew well the young hands that fed them, and held up their heads in hungry expectation of the generous meal they were to receive. But the feathered crowd was so much larger than it had been a few hours before, that the visitors paused to inspect it.

There were chickens of the best domestic breeds with here and there an uncouth colossal Shanghai standing up on great clumsy legs, like a gallinaceous giant, overtopping the squat figures of the common fowls. An irate hen, impatient of the expected corn, would now and then, with sudden peck at some quiet but equally hungry neighbor, seize a feather in the wing or neck of the unsuspecting wailer, and wring from her not only the feather but a piercing cry. As this barbarous sport was constantly indulged in throughout the crowd, a loud clamor of pain and spite and impatience rose up from among the hungry assemblage. The turkeys stalked at random through its dense ranks holding up their heads and looking round with a native gravity, although equally keen for supper, and once in a while plunging suddenly forward to escape the pinching lunge of an exasperated hen. Overhead, the pigeons sailed in a large flock, while many of them clustered on the roofs and eaves of the buildings which overhung the feeding-ground, too timid to battle with the turbulent and squalling crowd which now had it in possession, but ready to settle down whenever the gastronomic foray should begin. Altogether it was the busiest and noisiest scene of the kind the Spanglers had ever witnessed; nor did they know it was possible for Mr. Allen's farm to present it, so limited had been their opportunities of seeing even what their nearest neighbors were doing.

"How is it about eggs in winter?" inquired Uncle Benny, addressing himself to Mr. Allen. "Do you get any? Spangler has a breed of hens that appear to do nothing in cold weather but eat. They didn't lay an egg last winter."

"Ah, Uncle Benny," replied Mr. Allen, "he don't manage his hens the right way. Indeed, I don't know any operation of his that's carried on as it should be, though his farm is naturally as good as mine. It is management altogether that makes a farm, and mismanagement that breaks him. Why, I sent eggs to Trenton twice a week all through

the winter, and the eggs are high now, you know. I think they have more than paid for all the fowls have consumed;—the boys have it down in their account-book, and could tell to a cent both how much feed has been eaten and how much money the eggs have brought. I don't allow them to receive or lay out a cent without setting it down. If they buy a fishing-pole or a Jew's-harp it must go down in the book, for at the year's end, when they find they have spent so much money, they must be able to tell me and their mother *how* it was spent. You may think it a great trouble to be so particular, and it was so to get them into it, but it is a kind of trouble that pays in the end. My boys thus learn early what they must learn some time, and what too many are never taught at all.

"Now," he continued, "others no doubt do better with their poultry in cold weather than myself. But my plan is to confine them in quarters that are roomy, airy, and kept as clean as a thorough cleaning once or twice a week can make them, with warm shelter from cold winds and rain. I am particular about letting them have only clean water to drink, and that always within reach. Then there is a full supply of broken oyster-shells, lime, and bone-dust, with ashes and gravel. All these are necessary to continued good health, and to keep off vermin.

"Then, as to feeding, they get every green thing from the kitchen that most persons throw to the pigs, such as cabbage-leaves, celery parings and tops, with turnip and potato parings. They also have boiled potatoes and Indian meal, and every scrap of cold meat from the kitchen. It is not always there is meat enough, in which case I supply them with what is called chandlers' greaves, or cracklings, softened by soaking in water. Of this I give them as much as they want, never allowing them to be without meat of some description. I have often brought home a sheep's pluck, and, after chopping it up fine, given it to them raw. They devour these things so greedily as to satisfy me that meat, or animal food of some kind, such as worms, grasshoppers, flies, and other insects, is necessary to the healthy life of poultry. At all events, they never laid eggs regularly for me in cold weather until I began to give them plenty of meat."

"I regard your success as evidence of the soundness of your system of feeding," replied Uncle Benny.

"There is really a great deal of reason in it, when one looks into the subject," he resumed. "You see, Uncle Benny, that, when fowls range over the ground in summer, they pick up an almost endless variety of animal food, such as worms, crickets, grasshoppers, and flies. But as cold weather comes on, all this supply of food disappears, and it is very remarkable that as soon as the supply diminishes

they begin to quit laying. When these rations are entirely cut off by severe winter weather, the supply of eggs ceases. The two results occur with so much uniformity, as to satisfy me that the production of eggs is dependent on the supply of animal food.

"Every farmer," he added, "knows that hens do not lay in cold weather, but few understand the cause, or if they do, they are too careless to apply the remedy. I have learned to look upon a hen as a mere machine for manufacturing eggs. She may be likened to a sausage-stuffer. If you introduce into it no nicely seasoned compound of the proper materials, I wonder how it can be expected to turn out sausages? It is precisely so with a hen,—if you expect her to turn out eggs, you must introduce into the wonderful machine, which grinds up worms and sheep's pluck into eggs, some assortment of the materials that will enable her to project them regularly every day.

"Now the machine will certainly work, if you keep up its energies by giving it such food as it needs. Our stoves require twice as much feeding in cold weather as they do in summer, and I never yet saw a grist-mill that would turn out flour unless you put grain into the hopper. There is another curious fact which long practice in poultry-raising has brought under my notice; that is, that eggs laid by a hen well supplied with animal food are not only larger in size, but richer in quality. My Trenton storekeeper often tells me that my eggs are larger than any other winter-laid ones that he sees, and that they generally sell for a few cents more per dozen. All these odds and ends of pluck and giblets that my fowls get during the winter cost very little money. But in return for that outlay, look at the result,—I really double the length of the laying season, adding the increase at the very time when eggs are scarce, and bringing the highest prices. If it were not for this plan of feeding, I don't believe my poultry-keeping would pay much profit. To make poultry profitable you must exercise care. But can you make *anything* pay without careful management? If there be such things, I should like to know what they are."

"I think you have hit it this time also," observed Uncle Benny. "Whatever your hand touches seems to prosper."

"But most of these little variations from the practice of other farmers are not of my own originating," replied Mr. Allen. "I learned them principally from books and periodicals. From one I obtained the whole formula of how to proceed, while in another a mere hint was dropped. But even a hint, Uncle Benny, is sufficient for an observing mind. Some which struck me as pointing to valuable results I followed up and improved

upon to the greatest advantage. Now I have a treasury of these things, which I will show you."

He led the whole company forward into the house, and ushered them into a room which he called the library. There were shelves covering two sides of a very capacious room, filled with books, periodicals, and newspapers. The old man glanced hastily at the titles, and found that there were works on history, biography, and travels, with at least thirty volumes of different agricultural publications, showing that Mr. Allen was a close student of whatever was passing in the agricultural world, keeping up, from week to week, with the wonderful progress which is everywhere witnessed in the art of tilling and improving the soil, and with the multitude of valuable suggestions and experiences which crowd the agricultural publications of our country. There were also pen and ink, paper, and an account-book, always convenient for making an entry when in a hurry. On another table, especially provided for the boys, were similar conveniences. In short, the whole arrangements and appliances of the room were such as would make them attractive to boys who had the least fondness for reading, while they would be potent helpers to such as were ambitious of acquiring knowledge. They gave unmistakable indications of Mr. Allen's mind and taste, showing that within doors, as well as without, his ambition was to be progressive.

Uncle Benny looked round the comfortable room in silent admiration, and determined in his own mind that he would make renewed efforts to put within reach of the Spanglers some additional portion of the great volume of current knowledge adapted to their condition. Even they were struck with the cosiness of the quiet room, the two older ones contrasting it with the comfortless kitchen which was their only refuge at home.

"This is a popular place for a stormy day, Uncle Benny," observed Mr. Allen. "This and the workshop are great institutions on my farm. I am sometimes at a loss to know which the boys like best. But the variety, the change from one to the other, is a valuable incident of both. The workshop is excellent by daylight, but here they can spend their evenings, and here the whole family can gather together. It becomes, in fact, the family fireside; and there is no school so important as that. My children learn much at school, but here they learn infinitely more,—the cultivation of the affections, the practice of good manners, the lessons which are to fit them for future usefulness and respectability, and I trust for happiness hereafter. This fireside education is woven in with every woof of their childhood, and it is such that it must in every case give form and color to the whole texture of human life. I never had a home like this until I created it for myself. Had I been granted the boyish opportunities that you see I am so careful to bring within reach of my children, I should have been far better informed than I am. There is no show about it;—show may be easily purchased, but happiness is a home-made article."

"I look upon you as an example," replied Uncle Benny. "Neither do I wonder at everything seeming to prosper that you undertake. Your children must rise up and call you blessed."

HEARTH AND HOME GLEANINGS.

JOSH BILLINGS SAYS: "One of the fussiest scenes I ever see'd wuz two old maids waitin' on one sick widower."

At a teachers' institute out West, recently, a lady teacher was given the word hazardous to spell and define, and did it in this style. "H-a-z, haz, a-r-d, ard, hazard, e-double-s, hazardess—a female hazard."

THERE is a kind of grim humor in the address of a devout deacon to his newly-settled pastor as he gave him the usual welcome: "The Lord keep you humble and we will keep you poor."

"I AM afraid you will come to want," said an old lady to a young gentleman. "I have come to that already," was the reply; "I want your daughter." The old lady opened her eyes.

A WISCONSIN paper publishes an appeal by a young lady for a situation as teacher, in which she says: "I was eddicated in one of our leading female seminaries, and have my certifikates, and so feel it my duty to teach somewheres, and if you can assist me, please rite and let me no, and ile get redy at onct."

In *Harper's Monthly* for April, we find the following among the scacious jokes on the first page:

"Another little woman being asked by her Sunday-school teacher, 'What did the Israelites do after passing through the Red Sea?' answered: 'I don't know, ma'am, but I guess they dried themselves.' Why not?"

Supposing the last two words to cover an editorial conundrum, we suggest as a solution: "Because they didn't get wet." (*Vide Mosaic account—Exodus 14: 21, 22, 29.*)

THAT astute philosopher, Josh Billings, remarks that those who retire from the world on account of its sins and peskiness, must not forget that they have yet to keep company with a person who wants just as much watching as anybody else.

Poetry.

THE SETTLER'S LAMENT FOR THE DEATH OF HIS OX.

For the ONTARIO FARMER.

And thou art gone, my poor dumb friend, thy troubles all are past;

A faithful friend thou wert indeed e'en to the very last,
The prop too of my house thou wert, my children's pride and pet,

Who now will help to free me from this weary load of debt?

Here single-handed in the bush, I've battled on for years,
My heart sometimes buoyed up with hope, sometimes bent down with fears,

I've had misfortunes not a few o'en from the very first,
But take them altogether, Bright, and thy death's the worst.

My great ambition always was to owe no man a cent;
To compass that by honest toil my whole strength I have bent,

Not for proud independence, no, of which the poets sing,
But for the very love of right, the justice of the thing.

To clear accounts within the year I saw my way so plain,
But losing thee it throws me back God knows how long again,

Just when I thought within my grasp I had success secure,
Here comes misfortune back again resolved to keep me poor.
I've no one to depend upon to do my teaming now,

There's the ten-acre piece to log, the fallow all to plough,—
How can I ever clear the 'and? how can I drag the wheat?
How can I keep my credit clear? how can my children eat?

O nothing in the shape of work was e'er a scare to thee!
Thou wert the hero of the field at every logging-pee,
The drags might be of double length, the maples monster thick,

But give thee but a rolling-hitch and off they went so slick!

'Twas but a tug, the monsters seemed to thee as light's a pin,
And how you wheeled them round about and how you jerked them in,

The very crookedest of all would hardly make thee strain,
And from the teamsters every one fresh laurels thou did'st gain.

A gentleness, a beauty too, within thine eye did dwell,
It seemed to me as beautiful as eye of the gazelle;
And how thy hide of tawny-white lost every shade of dun,
How thy brown streaks to velvet changed all in the summer's sun!

And all through Indian Summer, too, transfigure'd thou did'st seem,

A great dumb giant locking through her hazy amber beam,
And how you loved in spring-time too to browse beside the creek,

While all the air was laden with the odour of the leek.

How you would stand and ruminat like sage in thoughtful mood,

Or listen to the children's shout away in the greenwood,
While they were hunting flowery spots where spring had newly been,

Or gathering lilies red and white beneath the maples green.

Or far within the tamarack's shade where the great hemlock leans,

Above the salt-licks in the dell fringed with the evergreens,
Or climbing the o'erhanging bank or swinging on the tree,
Or starting with their ringing laugh in search old friend of thee.

And laden with the spoils of spring they'd follow up thy track,

And wreath thy horns superb with flowers and mount upon thy back,

And how you shook your tawny sides in absolute delight,
And I have stood and looked unscen in rapture at the sight.

It seemed a miracle to me—for thou wert never broke—
How willingly you always came and bent beneath the yoke,
And when Buck, as he sometimes did, would take a stubborn fit,

Then in some language of your own you coaxed him to submit.

'Tis clear to me that thou had'st got some kind of moral sense,
For never didst thou sneak and steal, or ever break a fence,
And when Buck would leap over one, for he was ne'er reclaimed,

How hurriedly you stole away as perfectly ashamed.

And thou wert so sagacious, too, so sensible and shrewd,
And every word I said to thee you fully understood;
No whip was e'er laid on thy back nor blue-beech, never I never!

While slaves and tyrants wrought and fought we lived in peace together.

I've no doubt but you learned some things, my poor old friend, from me,

And many a silent lesson too I also got from thee,
I ne'er could think thou wert a brute, but just a poor dumb brother,

And sure am I to fill thy place I'll never find another.

Music.

AS WE GATHERED IN THE HAY.

WORDS AND MUSIC BY ALICE HAWTHORNE.

Moderato.

1. Oh, fair was the day, and I ne-ver can forget How dear to my heart as the moments roll'd away; For
2. Though few be the years that have sad - ed since the morn, How great is the change as their shadows all depart; The

yet do I dream of the morning that we met, And the joys that were mine as we gather'd in the hay. The
days come and go, but their moments have not worn The smile from thine eye, nor the love within thy heart; Oh,

song of the bird was as cheerful as could be, But I heard not the tone of its mer-ry morning lay, For thy
then is it not like a pleasure to re-call, As we turn to the morn with its sun-ny scene so gay, How wo

voice, like a charm, with its mu-sic came to me, When I toil'd by thy side as we gather'd in the hay.
paused 'neath the shade of the trees so green and tall, When the sun was on high as we gather'd in the hay.