

- 4th. Prevents the escape of ammonia and loss of starch and ash constituents due to exposure.  
 5th. The crop can be cut and harvested before weeds in a meadow are ripe.  
 6th. It is one of the best substitutes for pasture and green fodder in a dry season.  
 7th. So much clover can be put in so small a space.

#### Agricultural Libraries.

As winter approaches and the evenings lengthen out, it is well to prepare a profitable means of spending this long season of comparative rest from the ordinary operations of the farm. We know of no better employment than reading and seeking fuller knowledge of our own business—farming.

Several of the institutes have wisely invested in some of the standard agricultural works, forming small circulating libraries open to all members of the institute. Wherever adopted, this plan has proved satisfactory, and the example might be followed with advantage by others. Many who are not fortunate enough to have an institute in their district would like to have the latest standard works on their own shelves. The following list of works will be found helpful in making selections for this purpose:

Practical Poultry Keeper.....	Wright.
Poultry Culture.....	Felch.
How Crops Grow.....	Johnson; latest edition.
How Crops Feed.....	Johnson; latest edition.
Chemistry in the Farm.....	Warrington.
Science in Farming.....	Thompson.
Feeding Animals.....	Stewart.
Cattle Breeding.....	Warfield.
Horse Breeding.....	Sanders.
Cattle, Sheep and Pigs of Great Britain.....	Coleman.
Practical Shepherd.....	Randall.
The Hog in America.....	Shepherd.
Swine Husbandry.....	Coburn.
Harris on the Pig.....	
Veterinary Adviser.....	Law.
Cattle and Their Diseases.....	Murray.
Barn Building.....	Sanders.
Insects Injurious to Vegetation.....	Harris.
Insects Injurious to Fruit.....	Saunders.
Farm Drainage.....	French.
Grasses of North America.....	Beal.
Gardening for Profit.....	Henderson.
Fruit Gardening.....	Barry.
Manual of Apiary.....	Cook.
Practical Farm Chemistry.....	Greiner.
The Dairyman Manual.....	Stuart.
First Principles of Agriculture.....	Mills & Shaw.
How to Make the Garden Pay.....	Greiner.
Sheep, Breeds, Management and Diseases.....	Youatt.

Many others might be mentioned, but these will suffice for the present. All or any can be obtained at publisher's price by addressing this office.

#### Notable Implements at Chester.

There was a large and more than usually varied display of implements at the Royal Agricultural Show this year, the entries numbering about one hundred over those of Warwick, says the Farmers' Gazette.

The special competitions for 1893 were trials of self-binding harvesters and sheep shearing machines for power and hand. The first must be deferred to the harvest; the latter were publicly tested in the show ground. Only two firms entered for this competition, Messrs. Burdon & Ball, of Sheffield, and the Newall-Cunningham Syndicate, of London. Sheep were shorn in periods of from six and a-half to nine minutes, but the work did not seem to give complete satisfaction to the onlookers, although in Australia they are said to be very successful. The judges eventually gave their award of £20 prize to Messrs. Burdon & Ball for the power machine, but the Newall-Cunningham hand machine, which seemed hard to work, and to shear the sheep roughly, did not possess sufficient merit to secure a prize. No doubt much better work would have been done apart from the hurry and excitement of the show-yard. Certainly the prize machine did better after the competition was over than when the judges were watching it. It is expected that there will be a very keen competition for the binder prize, for which all the important makers, English and American, are entered. If the weather continues as it is, there will be a good opportunity of testing the respective merits of the elevating system against the non-elevating, as represented by the Adriance, about the patents of which the patent courts of America are so much occupied.

Messrs. Hicks & Co., of London, exhibited a novel form of butter pat machine, which is said to be capable of turning out as many as 2,500 pats in an hour, stamped with any required impression. The price, however, £15 15s., renders it only suitable for large concerns.

The new "Era" disc churn was a constant source of interest to the farmers, who watched intently the man at work, and checked off the time of churning, which is generally about five or six minutes. The construction is simple enough—a disc of hard wood, revolving at a rather high speed in an oblong, narrow chamber. The cream is carried up, and driven up against the cover until it is turned to butter. When this is effected the butter will not rise on the disc, so that the inventor claims that over-churning is not possible. We fancy that this article could only be made in small sizes, as the chamber in which the disc works must of necessity be narrow, or all the cream would not be treated.

#### Plowing Matches.

BY W. A. HALE, SHERBROOKE, QUE.

(Continued from Page 47.)

Where the association is formed in a county having one or more large towns and villages, a very large portion of the prizes can be secured in produce and useful articles of various kinds, by giving the donors in return the benefit of the advertising resulting from the publication of their names and prizes in the local papers, and on the posters announcing the prize lists and matches. At the large central fairs held each autumn prior to the dates of the matches, useful farm implements can often be secured and introduced in this way; a horse rake, hay tedder, plough, harrow, or cultivator, etc., will often be given by an exhibitor upon the association paying, say \$5 on a \$15 plow, the plow is advertised as coming as a prize from the manufacturer, and the association advertises it as a prize, the winner either to pay the \$5 or not, as the association sees fit. In some cases, too, manufacturers of agricultural implements, or large agencies of the same, will give silver cups, in some cases to be won twice before final ownership. County members of parliament, too, are often willing to contribute annually in this way, and millers, storekeepers, fertilizer manufacturers and tradesmen generally, breeders of thoroughbred stock, etc., will help to make up a useful and creditable prize list, while few are the friends of so important an organization who would refuse to subscribe from \$1 to \$2 a year. In the association in which I have held various offices for thirteen years, we have lately made a very important addition to the prize list. Certificates for services by the best stallions in the district are secured and given as prizes for the "best team and neatest harness," the first prize winner to take first choice, and so on. In preparing the prize list, which is done by the committee appointed for this purpose, assisted by the secretary, we have found it best, in order to keep our cup-winning plowmen with us as an example to the younger men, to make No. 1 match open to the district, the first prize in this match being an annual medal. Any plow allowed, including wheels and gauges, etc., into this match. The cup winner in No. 2 match, so soon as he has finally won his cup, must enter there to compete, if he so wish, for all time. This No. 2 match is practically for Scotch plows, no wheels nor gauges allowed, but imitation Scotch plows may compete if so desired; first prize always a cup, to be twice won before final ownership. No. 3 match is practically for imitation Scotch plows, no wheels nor gauges allowed; first prize always a cup, and the final cup winner to be sent up to match No. 2. During the last few years, we have left out the match for "broad points" (the old wooden or heavy cast-iron beam plow), and match No. 4 is for boys under eighteen years of age, any plow, wheels and gauges allowed; first prize an annual cup if possible, and the winner to be sent up to match No. 3, no matter what his age, or in case the cup has to be won twice and the boy wins it first in his seventeenth year, he to be given one more chance before being sent up. Whenever a cup is won the association gives \$2 or more with it, to enable the winner to have his photograph taken with his cup, and in case he does not finally win it, he has the satisfaction of a photograph as proof of his having taken it for one year. Cups in this way serve as prizes for at least two years, and the name and date of each winner should be engraved upon them at the cost of the association. In this way an annual prize list of the value of from \$150 to \$300 ought easily to be worked up, and be the means of bringing out from twenty-five to fifty or more competitors each year, every one of whom should receive a prize in the order of his merit, thus grading each one's work, and showing his improvement from year to year. Proper judging, of course, is of vital importance, and here I would like to lay particular stress upon the necessity of getting the best talent and experience possible, even if you have to pay liberally for it. The land committee should lay out the field, and stake and number the lands if possible the day before the match, eight acres being enough for forty competitors, besides headland, etc.; and by ten o'clock all should be in place, the bell rung, and the plows started, the order being for each man to first form his crown-ridge six furrows wide, and then by plowing out to his neighbour's crown-ridge as well as his own, finishing his work with an open furrow. At noon a rest of an hour will delay the work sufficiently to allow people to arrive in time in the afternoon to see the last of the competitions, and yet give the judge time to complete his work; supposing he begins at two o'clock, he may require some one appointed or approved of by the directors to assist him, as well as the secretary, who should be in attendance to place the prize tickets as soon as the awards are made, and to keep an accurate record of the same. Separate judges should be at this time awarding the prizes for the best teams, and where time and the resources of the association will allow of it, and particularly if there are a number of people who have come too late to see the teams at work, a very interesting competition for some nominal prize can be made between a few of the first prize-winners for the best feasting and forming of a crown-ridge. The proprietor of the land usually furnishes the plowmen with bread and cheese and coffee in the field at noon, and gives a more substantial meal to the directors and judges in the house, the plowmen bringing their own hay and oats. Between

the finishing of the match and the meeting in the evening, the secretary should write up his minutes and prepare all certificates of prizes, etc., and, if possible, submit a balance sheet of accounts. Of late years we have dispensed with the plowmen's dinner in the evening, to the satisfaction of every one; it was an unnecessary expense, and delayed the business meeting to a late hour. At this meeting the first business should be the distributing of the prizes, either in kind, in cash, or in certificates; after this the election of the new board of officers for the ensuing year should be proceeded with by open votes of the whole meeting, during which, if the subscription committee would quietly send round a subscription list headed by the president, etc., it would probably insure a better result than could be obtained at any other time. Appropriate addresses, songs, and even music by a band, will be in order, and tend much to enliven the meeting and insure an enjoyable, instructive and successful ending to a most useful and important year's work. The books of the secretary cannot well be audited till after the meeting, inasmuch as he has been receiving and distributing money up to the time when he and the old board go out of office: this audit can be made and submitted at an adjourned meeting, or published in the local papers. Our own county association was established thirteen years ago; the first match brought out twelve competitors, three of whom were really good men; now we average thirty-five competitors, thirty of whom might be classed as remarkably good workmen, and with a strongly marked degree of improvement year by year. In addition to this, the noticeable change throughout the whole surrounding country, not only in the plowing and general cultivation itself, but in every branch of farm work, together with the better style of tools employed and the greater interest everywhere manifested in farm life, tells, I think, only too plainly the good work that a well-conducted plowmen's association can do; and the vital importance of having one of these pleasant and profitable associations established in every county in the country must be my excuse for thus giving in such detail the easy method by which they can be maintained.

#### Drainage Insures Certainty of Crops.

The cultivator of level undrained lands is continually harassed in mind about the uncertainty of his business. He must wait until the season is well advanced to plow his land. Then if he plants he is uncertain whether the weather will be favorable. It may "turn out wet," and the constant evaporation, keeping the land cold, causes the seed to rot. If the season be favorable for the germination of the seed, and the young and tender plants appear, then it may "turn out showery," and the land become so wet as to place it out of his power to cultivate it, and the crop turn out badly; or, if the season be dry in the after part, the land, which is naturally wet, will dry out and become hard, and the crop damaged. Hence it is that such a farmer must plod along and scratch, wet or dry, and depend on uncertainties, accept his fate, and blame Providence.

But the farmer who cultivates land which is thoroughly underdrained, can break it earlier in the spring; the soil is loose and friable; and he can plant earlier with a positive certainty that the seed, if good, will germinate; he can cultivate sooner, with a third less labor to both man and beast; can be stirring the soil in twenty-four hours after a heavy rainfall. The soil is warmer, and promotes the more rapid growth of the crop and is less liable to damage from late frosts in spring, or early frosts in autumn, practically lengthening the season for growth and maturity fully thirty days, or if the weather should be dry, the roots, descending deep into the earth, bring up the moisture from below, producing an abundant yield. Whether the season be wet or dry, the farmer on drained land has a certainty of an abundant yield which enables him to mature his plans without liability to failures. The experience of past seasons of extreme drouth in some localities has fully demonstrated the fact that drainage protects against damage from this cause also.

#### Sir Walter Gilbey Honoured in His Birthplace, Bishop Stortford, Essex, England.

Sir Walter Gilbey has been entertained by the inhabitants of Bishop Stortford to a congratulatory banquet to celebrate the honor of a baronetcy recently conferred upon him by the Queen. About two hundred and fifty persons sat down to dinner in the great hall, under the presidency of Mr. T. N. Miller. The toast of the evening was "The Squire of Elsenham," and the chairman in proposing it spoke of the genuine sympathy which Sir Walter Gilbey had always shown in the prosperity of the farmers of the district and with the welfare of his neighbors. Sir Walter Gilbey, who was enthusiastically cheered, replied with much emotion, remarking that sixty years had passed since he first saw the light at Bishop Stortford, and his heart has retained an unwavering allegiance to his native place.

One of the greatest joys of his life had been realized when he was able to come back, after the absence of some years, and make his home amid the scenes where his childhood had been spent. He appreciated highly the good wishes of his neighbors and his friends across the seas, particularly friends in Canada, and regrets that he cannot avail himself of their kind invitation to visit them.

In the afternoon Sir Walter gave a tea and entertainment to 1,400 aged poor and school children in the town.