

A Plank Drag.—Cost considered, the best implement for pulverizing the soil is a plank drag, and if I must choose between this and a roller I should take the drag. To do the best work the drag should be used on fresh plowed land, or at that time after a rain when the land crumbles at a touch. One great advantage of the plank drag is that you can go over so large a breadth with it in a day. Two horses can easily draw one which covers a sweep of ten feet, and with this from fifteen to twenty acres can be dragged in a day, while with a drag eighteen feet long, and two horses at each end, from thirty to forty acres can be covered in a day, as every mile the team walks covers over two acres. All that is needed to make a plank drag is simply to bolt the planks together, lapping each plank four inches on to the top of the one in front of it. Use strong, three-eighths to a half inch bolts and iron washers, and put in enough of them to make the drag firm and strong. I find three planks two inches thick, a foot wide, and ten feet long, make a drag of just about the right weight for two horses when the driver rides. To hitch to it there should be two clevises attached at equal distances from each end, so that they will be from five to six feet apart. Attach a chain to them with enough slack so that in drawing the doubletrees will be a foot and a half from the drag. This will make it run steadily, while if the hitch is too near the centre it will see-saw, first one end and then the other being ahead.—*Waldo F. Brown in Ohio Farmer.*

Washing and Salting Butter.—To determine if salt would diffuse through butter, cups were filled with clear, fresh well-water, and covered over the tops with muslin cloths securely tied about them. The cloths were then covered with a solid layer of butter, plastered one-fourth of an inch thick, and the cups then immersed in strong brine. At the expiration of a week no saltiness could be detected in the water in the cups. Other cups, similarly prepared, excepting that the butter layer on the muslin was but a mere film, and likewise placed in strong brine, gave the same results. Lard acted likewise. Butter laid upon the muslin, pressed when hard in a mould, and cut to one-fourth inch slices, passed no salt through, unless interstices existed between the granules large enough to be plainly seen with the naked eye. Tests were made upon the question of salting butter with brine. Butter placed for 30 minutes in a very strong brine, absorbed only from 25 to 29 per cent. salt. Other samples of butter, in lots having both small and large granules, were stirred in strong brine, 1, 5, and 30 minutes. The quantity of salt found in the small granules was .22, .28, and .31 per cent., and in the large granules .13, .18, and .23 per cent., according as to the time of immersion being 1, 5, or 30 minutes. Saturated brine, containing enough salt to show in flakes upon the surface, saturated the water in the butter by washing the latter when in a granular state. More salt can be incorporated into the butter if left 10 minutes in the brine than if taken out sooner. If the churn is stopped when the butter granules are very small, brine salting may be accomplished most easily.—*Min. Agr. Exp. Sta. Bulletin.*

The New Cattle or Horn Fly.—Many notes have appeared in the papers during last summer and the present summer concerning a new pest which is worrying cattle in Pennsylvania, New Jersey, Delaware, Maryland and Northern Virginia. It is a small fly half the size of a house fly, which settles in great numbers around the base of the horns and other portions of the body where it cannot be reached by either the tail or the head of the animal. It sucks a moderate amount of blood, reduces the condition of the cattle and lessens the yield of milk from one-third to one-half. This new pest has been investigated the present summer by the Department of Agriculture through the Acting Entomologist, Mr. L. O. Howard, who has succeeded in tracing the entire life history of the pest. He finds that the fly lays its eggs, usually at night, in freshly dropped cow-dung, and that for the development from the egg through the maggot stage to the perfect fly again, a space of only twelve days is necessary. This rapidity of reproduction accounts for the wonderful numbers in which these flies appear, and it follows with reasonable certainty that the insect will pass the winter in the quiescent stage at the bottom of dung dropped late in the fall (the approximate date to be determined later). The preventative is obviously to lime the dung in the fall in places where the cattle preferably stand at night. At the present time applications may be made to milch cows and valuable animals which will keep the flies away. The applications may be (1) fish-oil and pine tar with a little sulphur added; (2) tobacco dust, when the skin is not broken; (3) tallow and a small amount of carbolic acid. The latter application will also have a healing effect where sores have formed.

The Woodlands Importation of Clydes.—We have had the pleasure of inspecting the Clydes of the Woodlands stud, owned by Messrs. D. & O. Sorby, Guelph, Ont. This is one of the largest studs in Canada, numbering 44 head, of which 37 are pure-bred, and 21 imported the present year. Of the importa-

tion of this year the grand stallion Bold Boy (4257), 5 years old, is probably the peer. He is by Lord Erskine, the sire of the famous The Granite City, brought over by R. Beith, of Bowmanville, two years ago. His dam is Lalla Rookh, and his handsome appearance and lively action are in keeping with his appropriate and significant name. He was shown at the Glasgow show as a yearling. The Granite, sired by The Granite City, and one year past, is an excellent specimen. Two of the importation are 2-year stallions, and ten of them yearlings, as fine a lot as one would wish to lay eyes on. Of the mares, one is 6 years old, one 3, one 2, and five are yearlings. The 3-year mare, Evening Star, is a beautiful animal. The 2-year mare Louise, a bay, by Baron of Threave (3403), with the great Mumford as grandsire, is one of the best of her kind in Scotland or Canada. She is out of a McGregor mare, and she won a silver cup at the Royal Northern for the best filly in the show, and also first prize in her class. Her half-sister, Sunrise, by the victorious McCammon, is a beauty. She came first at Inverwy. The 16 pure bred comprised in the stud before the last importation include 6 mares and fillies and 10 stallions, most of whom are young. The extensive stables of this firm are the best in Canada, and the high character of the horses, selected by Mr. Oswald Sorby in person, make it one of the most desirable places in the Dominion for the selection of pure Clydes.

Canadian Manufacturing Enterprise.—The J. B. Armstrong Manufacturing Co., Ltd., of Guelph, whose advertisement appears regularly in our columns, and with which all our readers are no doubt familiar, are making preparations for the manufacture of their patented specialties for the United States market. They have had a considerable demand from that source for some of their lines, and have been shipping from their Canadian factory, but the almost prohibitory U.S. tariff has necessarily limited those dealings, and with an eye to the necessity of working to the best possible advantage the largest consumers in their line in the world, they have secured land and are now building at Flint, Michigan. Their U.S. works will have a starting capacity to manufacture four times the Canadian works' output, and room for increasing this, and from the favorable outlook from present enquiries, and the general satisfactory demand that has grown up for these goods in all the markets of the world where introduced, there is no doubt that their works will be taxed to the utmost from the start. Mr. Armstrong is attending and supervising personally the building and stocking of factory and office, and says he expects to have them running on January 1st, 1890, with the most complete and best systematized carriage spring works in the world. Their main specialty for the U.S. trade will be their new Perfect Single and Plate Carriage Springs, as improved, which are now so widely and largely called for; and as to their superiority over any other spring made in any country, for light or heavy work, we might just refer to the verdict of the Melbourne (Australia) Exhibition jurors at their 1888 World's Fair—first award and gold medal being awarded: "The Jury recommend the superior excellence of these springs. The one leaf spring is the best spring ever brought under their notice, and equal in strength to any ordinary five leafed spring, being both strong and elastic." This is only one of the many decisions and opinions so favorable always to them, and the comparison as above has to be seen to be believed. The difference in favor of their two plate spring comparing with seven and eight ply common plate springs is even more remarkable. The Australian, Japan, and other foreign trade will in the meantime likely be done from Canada, if satisfactory arrangements for best working of it can be made with the Canadian Government Customs Department, but this must of course follow the move now being made for supplying the U.S. demand should circumstances so decide. We wish the Armstrong Co. every success in their new venture, and must commend their general manager's energy and determination to be in the first position only as regards his trade's wants.

Publishers' Column.

Change of place of publication.—As announced in the editorial columns, the office of publication has been removed to 58 Bay Street, Toronto.

Change of management.—The change above referred to took place on the 15th of August last. On the same date a change was made in the business management. In future the business management will be conducted by The J. E. Bryant Company (Limited).

No change in the editorial department.—We wish our subscribers to take notice and bear in mind that there is no change whatever in the editorial department of this paper. The practical and earnest-hearted men who from the beginning have given character and value to THE LIVE STOCK AND FARM JOURNAL still remain connected with it. Their efforts are to be supplemented by those of other able writers on live-stock and farm

matters. As publishers, we are bound that THE LIVE STOCK AND FARM JOURNAL shall be without a peer on this continent. The best men will be secured, in order that our subscribers may have the best information possible in regard to all matters pertaining to the farm.

Bear with us for delay.—The change of business managers and place of publication, though announced to take place all in one day, viz., the 15th of August, of course could not be effected without much trouble. Some time will be necessary to get things in good running order. But we trust all patrons of the JOURNAL will bear with us for a little while. We have received (since August 15th last) hundreds of letters containing payments of accounts or asking for information; sometimes making statements requiring minute investigation of our predecessors' books and accounts. These we shall attend to and answer as fast as we can.

If there is anything wrong, we will make it right.

—We want to assure our patrons that if now or at any time there is anything wrong in the management of the JOURNAL we will make it right. No one who has not had the experience knows how hard it is to keep straight the accounts of 10,000 people, all for small sums. But our experience is pretty large, our method of doing business very systematic, and we have little doubt but that we shall give satisfaction to our friends by our way of dealing with them. If you think that in any way you are wronged, make it plain to us, and we will make the matter right.

What we first intend to do.—We intend first of all to make the price of THE CANADIAN LIVE STOCK AND FARM JOURNAL a single round dollar. That is to say, the price of the paper is \$1.00 a year, payable in advance; but if anyone should through forgetfulness or otherwise not send us his subscription when due, we shall not ask him for an extra twenty-five cents, but simply for the dollar which is our due, and no more.

As to those who have already sent us \$1.25.—As to those who have, since August 15th, sent us \$1.25, we would say that we have credited them, one and all, with 15 months' subscription; that is, since they have sent us one dollar and a quarter, we have credited them a subscription for a year and a quarter.

We want co-workers.—We are going to make this LIVE STOCK AND FARM JOURNAL, so far as Canadian farmers are concerned, the best paper in the world. But to accomplish all we hope we need co-workers. And we are willing to pay liberally for co-operation. If our readers will only spend a little of their time now and again in making known the merits of this JOURNAL to their neighbors, they can help us very considerably and benefit themselves at the same time.

How?—We are willing to pay a good commission for every new name secured for us. The cost of running off an extra 10,000 of a journal like ours is very much less than the cost of getting up the first 10,000. That is why we can afford to give good commissions to those who get us new subscribers.

The price to new subscribers.—The price of THE CANADIAN LIVE STOCK AND FARM JOURNAL to new subscribers is just the same as to other people, viz., \$1.00 a year. But as an inducement to strangers to subscribe, we will send them the numbers of the JOURNAL from now to the end of 1890 for \$1.00; that is, we will give them the four last numbers of this year free of charge.

Sixteen numbers for \$1.00.—Therefore, kindly remember that when you try to get a new subscriber for the LIVE STOCK JOURNAL you can offer him a year and four months for \$1.00.

What we will do for two new subscribers.—To any present subscriber sending us two new subscribers, we will send him, as a reward for his trouble, any one of the great secular weeklies of Canada, free of charge, from now to the end of 1890.

Your present subscription must be continued.—But to secure this bonus you must continue your own subscription. Some people (not readers of the LIVE STOCK JOURNAL, let us believe) would, in order to secure this bonus, simply change the name of their own subscription to that of another member of their family or to that of their hired man, and then discontinue their own subscription. This is not honest and cannot be permitted.

How much money to send.—Send \$3.00. One dollar for the renewal of your own subscription for one year; and two dollars (one each) for the two new subscribers you will secure. In return you will get your own JOURNAL for a year, and a weekly paper (any one you may choose) from now till the end of 1890, and the two new subscribers you have obtained will each get the STOCK JOURNAL from now till the end of 1890.

What weekly papers we can send you.—The papers we can send you are these:

Toronto	Weekly Globe.
"	" Mail.
"	" Empire.
Hamilton	" Spectator.
"	" Times.
London	" Advertiser.
"	" Free Press.