

by a plaster cast sent from England at the instance of the dairymen of Herkimer and Oneida Counties, New York, who wishing to supply the British market, made appearance as well as quality their study. The presses used are frames of oak timber, in which powerful screws are fixed, somewhat similar to the jack screws used for lifting houses, locomotives, &c. They are very powerful. Their cost is about \$5 each. They are made by a firm in Beachville. Each press complete costs about \$10. The whey of this establishment is fed to a lot of hogs which are penned at some distance from the factory. About 90 are kept. Whey is their exclusive food at present, but late in the season when the supply lessens, they will receive some grain to finish them for the market. The rennets needed are supplied partly by those who send milk to the factory, and partly by purchase from the United States. They cost from 12½ to 20 cents each. Cotton bandage costing 14 cents per yard is used to encase the cheeses. The English Carbonized Extract of Annottaⁿ furnishes the colouring material, and gives the cheeses a rich yellow appearance. Mr. F. H. Elford, the manager of this factory, has commenced the manufacture of this extract, and is prepared to supply Canadian dairies with it. We refer our readers to his advertisement in another column. When taken from the presses, the cheeses are placed on scantling bars called "setters," on which they turn easily, and where they are kept till cured. About 25 tons of cheese have already been sold from the Ingersoll Cheese Factory the present season, all at \$10 per cwt. All that can be made for a month to come is bespoken at the same figure. These sales have been made almost wholly to Montreal houses for the English market.

Our next visit was to the "West Oxford Union Cheese Factory," owned by Messrs. Galloway & Co., and situated within two miles of the Ingersoll Factory. This establishment is owned by four partners who manage the business without any Board of Direction. Mr. George Galloway is the cheese manufacturer. He keeps 31 cows himself, and buys in the milk of 200 more. He gives within 2 cents per 10lbs. of milk, what he obtains per lb. for the cheese. Payments are made from time to time to patrons on account, and a settlement in full is to be had at the close of the dairy season. The partners allow Mr. Galloway \$1 per 100 for making the cheese. The other expenses will be about 25 cents per 100. After payment of these items, the profits are equally divided among the partners. This factory is managed on the same general plan as the one already described, but the details vary somewhat. Thus in the absence of a cool spring to send around the vats, a well is used. There is a good-sized creek on the premises, having a small fall. Advantage is taken of this to obtain a water-power by which a pump is driven. A tank in the upper story of the manufacturing house forms a reservoir from which the water is easily conducted by pipes to the vats as required. The whole water arrangement is very simple and yet ingenious. Many locations admit of a similar arrangement, and it would be very useful for other purposes besides cheesemaking. Mr. Galloway's vats were made in Ingersoll, after the pattern of "Ralph's Oneida Vat." They cost \$105 each, and are of the same capacity as those in Harris's factory, viz: 500 gallons. Mr. Galloway finds that they answer his purpose extremely well. The presses in this establishment are similar to those already described. About 50 hogs are kept at this factory, and besides feeding them, whey is teamed by each of the four partners to supply the hogs kept on their farms. This establishment has been in operation about two months. During that period eleven tons of cheese have been made. Mr. Galloway expects to make thirty tons before the season ends. We counted 178 cheeses in the drying-room. They were apparently in excellent order. Their size is 8 by 20 inches, and they will average about 100 lbs. each. Only 1360 lbs. have as yet been sold from this factory. For this quantity \$10 per cwt. was obtained, and Mr. Galloway expects to get a like price for what he has on hand, and for all he will make this season.

Our next visit was paid to the factory of Messrs. A. Smith & Sons, about five miles due west from the village of Norwichville. This is the pioneer cheese factory of Canada, a fact which will be deemed no mean honour some day. The Messrs. Smith keep 120 cows, but work up the milk of between 500 and 600. They buy at 6 cents per 10 lbs., and send their own teams to gather it up. Most of their patrons have a little box upon the road-side, raised at a convenient height from the ground for loading into a waggon, and ascended by a slight of steps. In this box is a platform scale, with a milk-can standing upon it. The milk is poured into the can, the scale adjusted to show the weight, and an entry made by the owner of the milk in a memorandum book kept for the purpose. When the factory teamster makes his rounds, he inspects the scale register, enters the proper figure in his book to the credit of the party, and draws off the contents of the can, into a sort of tank on wheels, made for the purpose of collecting these milk supplies. This plan has some obvious advantages, but the road-side boxes are by no means ornamental. The Messrs. Smith consider the plan of allowing the cheese-factor two cents per lb. the preferable one, but at present the farmers are uncertain and dubious as to the factory system, and prefer to receive a fixed price of 6 cents per 10 lbs. for their milk. This factory differs in some details from both the others described. Cold water is pumped from a well into a reservoir by a small steam-engine, and the vats are supplied with the requisite heat by means of steam pipes. The vats used were made by Mr. L. F. Bungay, of Norwichville, and although on the general principle of "Ralph's Oneida Vat," vary from it somewhat, in consequence of the steam-heating arrangement. The steam-engine not only supplies water and heat, but drives a small portable grist-mill, and does the churning. About \$1,000 worth of cheese have been sold from this establishment the present season, at \$10 per 100 lbs. There are about 500 cheeses on hand in the drying-house, weighing from 100 to 120 lbs. each. At the time of our visit, there was a mammoth cheese in a press constructed for its special accommodation, which is intended to eclipse all the cheeses ever manufactured either in the old world or the new. It is upwards of five feet in diameter,—nearly three feet high, and is estimated to weigh about 4,000 lbs. It is of course intended for the Provincial Exhibition at London, and we notify our readers in due season to look out for the monster cheese. Our friend Ranney will we fear lose his laurels, unless he is quietly at work making a cheese a little bigger than the one just described. It is a debated point among the dairy folks in Norwich whether so large a cheese will hold together, and much wonder is expressed as to how it will be got to London. Friend Smith is however prepared on these points. He has a galvanized iron band ready to encase the cheese when it comes out of the press. He will keep this about it until it reaches the Exhibition ground, and when removed, he feels confident it will be as firm as any cheese of smaller dimensions. He has a waggon capable of bearing the huge load, and will have it drawn to London by a four-horse team. He has already been bid \$500 for this monster cheese, but says \$600 will not buy it from him. Ryan of Montreal, a noted cheese dealer, proposes that it be sold by auction, at the close of the Exhibition.—Smith's factory is doing the largest business of any yet started in Canada. It is evidently being carried on with considerable vigour and energy. If we may venture a criticism or two, we should say that a little more neatness and particularity as to details would not be amiss, and especially a better system of hog-keeping. They are too near the factory, too much confined in point of space, and as a consequence, too dirty. Milk is so susceptible to ill-odours, that we should be afraid of the effect of a huge pig-sty in such close proximity. Besides, pig-keeping is almost all clear profit on the factory plan, and large, clean, comfortable quarters ought to be provided in every instance for these animals.

Our last visit was paid to a neatly-kept, and admirably managed little factory, within a couple of miles of Norwichville, carried on by Mr. Harvey Farrington, an experienced dairyman, from Herkimer, Herkimer County, New York, the birthplace of the cheese-factory system. Believing that the dairy business could be made to pay well in Canada, Mr. Farrington came over last season and leased a farm of 100 acres, for ten years, in order to try the experiment. He keeps 28 cows, and makes up the milk of 275 cows in all. He pays his patrons within two cents per 10 lbs. for their milk, what he gets per pound for his cheese, keeping a running account with them, and deferring settlement in full to the end of the season. He is well satisfied with his trial thus far of Canada as a field of operations, and thinks the factory system has a great future before it in this country. Last season he made ten tons, which he sold chiefly at \$9 per cwt. He has made 16 tons the present season so far, one ton of which he has sold at

\$10 per cwt., and he expects to get a like price for the 15 tons he has on hand, as well as for the remainder of this season's make. The location of this factory is excellent. A stream of water and a fine cool spring are at command. The surrounding region is one of the best for dairy farming. Mr. Farrington's vats were made by Mr. L. F. Bungay, of Norwichville, and are fac-similes of "Ralph's Oneida Vat." They are of various sizes, and are very creditable to the manufacturer. We met with Mr. Bungay, and were glad to find that he had been doing a large business this year in dairy requisites. He has made up \$2,000 worth of tin-work for the dairy business of Norwich alone. He states that there has been a great impulse given of late to dairying, in the townships of Norwich and Dereham, so much so that he has found it to his interest to make the manufacture of vats, cans, agitators, &c., a prominent feature in his business. Having visited the factory region of New York, he has provided himself with the most approved patterns for all these requisites. Many of the farmers in his neighborhood are obtaining Ralph's vats and other conveniences for their own private dairies. Vats holding from 115 to 150 gallons, and costing from \$10 to \$50, have been in great demand the present season. These requisites made in Canada can be furnished at the New York price, and a saving of duty and freight effected.

We found in Mr. Farrington the most scientific and intelligent dairyman with whom it has ever been our lot to meet. He thoroughly understands the factory system, and judging of his explanations of it given to us, he would be a valuable man to stump Canada on behalf of this new branch of productive industry. Some further particulars and observations on this interesting subject must be deferred for a future issue.

Entomology.

Currant Bush Caterpillars.

DURING the present and previous summer the currant and gooseberry bushes in this neighbourhood, and throughout almost every section of the country, have been stripped of their leaves by an infinite multitude of greenish caterpillars. To such an extent have their ravages been carried on that in many places there will be no red or white currants (the black variety being unmolested on account of the strong odour of its leaves) or gooseberries this year; in a large number of cases, too, the bushes themselves have been destroyed. Nor have their depredations been confined to this country only, for in the neighbouring States, during many years past, they have proved equally injurious to these popular fruits. Some account, then, of the insect itself, and suggestions as to the best mode of lessening its ravages, cannot but be of general interest at the present time.

In the garden in which our observations were made, they were first observed on a gooseberry bush early in June, only a few being noticed on that occasion, all of which were carefully picked off and crushed under foot. Two or three days after, however, on taking another round, almost every red and white currant, as well as gooseberry bush, in the garden (upwards of a hundred in number) was found to be completely covered with these destroyers, and soon many of them were entirely stripped of their leaves, and are now as bare as in midwinter. But let us select one of these noxious little insects and trace it through all its stages of growth; we shall then be better enabled to apply some means of checking, if not putting a stop to its ravages.

Early in the season, and again towards the end of June, if we carefully watch our currant bushes, we may observe some curious-looking flies with yellowish bodies and a black spot on the wings very busily engaged hovering about and laying eggs on the underside of the leaves, generally along the veins. These eggs are pearly white, long in proportion to their breadth, and finely rounded at each end; from each of them, after some days, emerges a tiny little worm or caterpillar (or rather false caterpillar, the name of caterpillar being usually restricted to the larvae of Lepidopterous insects.) At first this caterpillar (as we may call it, for convenience) is very small, but it immediately begins to eat away at the