

the sides of the building provided with closely-fitting doors or shutters. The summer drying-house is usually a mere shell, enclosed with but a single thickness of boards, but that for spring and fall use must be a tighter building, as artificial heat requires to be applied properly to cure the cheese during the cooler seasons of the year.

The milk is almost universally delivered at the factories by the parties who supply it. Sometimes a number of neighbouring farmers join in hiring a teamster to come round and gather their milk morning and evening. Each can has its owner's name on it, so that there is no confusion at the factory. When a farmer delivers his own milk, he usually carries it in a one-horse buggy or light spring waggon, so as to shake it as little as possible. The transportation of the milk is felt to be a serious difficulty in connection with the cheese factory system. Where it has to be taken several miles, the tax upon human time and horse-flesh is considerable, and in hot weather milk is by no means improved by jolting for an hour or more in the heat of the sun. From one to two miles is quite distance enough to carry milk to a factory. To obviate this difficulty, the system of branch factories has been resorted to in some localities, and is said to work well. At some central point a main establishment is located, with a drying house of sufficient size to cure all the cheese made at the central and branch factories. The branch factory is a cheap building, say 18 x 24 feet in size, provided with a single vat, and capable of using the milk of 150 or 200 cows. A single hand can manage the branch factory. After the cheeses are sufficiently pressed they are hauled to the drying-house. Thus the teaming of the cheese, when manufactured, is substituted for the carting of the milk. This plan has its warm advocates. It is said to bring the milk to the vats in better condition. Being only brought a short distance, the milk can be operated on earlier in the day, and the work done more promptly. There is also a better opportunity for distributing and using up the whey. Small factories or the branch system seem to be the alternative. Small factories are not considered nearly so remunerative in proportion as larger ones. Private dairies are quite as profitable as small factories. Indeed it is becoming very common to have private dairies managed essentially on the factory system. Vats of all sizes are now made, furnished with heating and water conveniences equal to the kinds used in factories, and those farmers who have help enough, and prefer to be independent, can, with proper attention to the matter, make as good cheese, and obtain for it as high a price as the factories. Mr. X. A. Willard, of Little Falls, who has done and is doing so much to promote the dairy interest of New York and the United States generally, has a nice little private dairy of this sort, furnished with one of Ralph's Oneida Vats. While inspecting this model little dairy, we could not help thinking how practicable it was for any enterprising farmer, in a locality where a factory was impracticable, to set up a similar small establishment, and make cheese of the very finest quality.

The disposition of the whey is a perplexing question with cheese-factors. Feeding it to hogs is a short-hand method of getting rid of it, but it is at the risk of a nuisance that cannot but jeopardize the quality of the cheeses. Any bad smell readily taints cheese, and there is no worse smell than that emitted from a factory hog-yard. This mode of using the whey has other objections. Unless meal of some kind be fed with it, whey does not make good, solid food. Some feed a portion of it to the cows, rendering it palatable with bran and shorts; others give it to the calves; and in many cases, though it is fed to hogs, they are not kept at the factory, but each patron teams his proportion of the whey home. This last practice, however, involves a large amount of trouble. The plan of making butter from whey has been resorted to with encouraging results. An average of one pound of butter can be made from the whey of 150 pounds of milk. One or two patent processes for making butter from whey are in the market, and it is said that, by one method, the patentee made \$1,600 worth of prime butter in a factory receiving the milk of only 450 cows, and that not under the most favourable circumstances.

The objection has been urged against cheese factories, that their multiplication will tend to make butter scarce and dear. This objection is in a fair way of being obviated, by the establishment of what are called butter factories, or creameries, at which the milk is first skimmed, butter made from the cream, and cheese manufactured from the skim milk. These

establishments are in vigorous operation in Orange County, so famed for its milk and butter. We shall endeavour to give some description of them in our next issue.

Amidst much to admire in the thoroughly scientific and practical management of the New York Cheese Factories, there is one thing which cannot be too strongly deprecated, and that is the almost universal practice of running them Sundays and week-days alike. The plea of necessity, which is urged for this, is no more valid than it would be in regard to many other businesses. Seven days' work in most occupations would, for a time at least, be more remunerative than six, though in the long run it is found unprofitable. A law of man's physical constitution requires one day's rest to balance six days of labour, to say nothing of the higher and better interests that imperatively demand the Sabbath. Cheese factories can be carried on without infringing on the day sacred to religion and to rest. If they could not, better that they should be dispensed with altogether, for no material, pecuniary gain, can compensate for the moral injury thus done. It is estimated that there are upwards of 500 cheese factories in the State of New York. Each will employ at least four hands. Here, then, are 2,000 persons precluded from the right observance of the Sabbath, because cheese must be made. Beside this number, there are many more who are similarly precluded by having to team the milk and perform other duties connected with the business. Thus a wide-spread and demoralizing influence is created. Most of those with whom we conversed on this subject regretted the practice. Only one individual spoke contemptuously in regard to it, and his remark was, that the Almighty should have made cows to give no milk on Sundays if it were wrong to make cheese on that day. We hope there is not much of this irreligious feeling in existence; but assuredly the prevalence of the custom we are reprobating will have a tendency to induce it. When it is considered that by stopping the factories on Sunday you have a ready solution of the butter difficulty referred to above, it will at once be seen that there is really no excuse for the practice under consideration. Let the milk sent to the factory on other days be set for cream on Sunday, and the trouble is at once disposed of, and a butter supply provided. It is of no use disguising it;—a sordid, money-making, covetous haste to be rich is what keeps the cheese factories going on Sunday, and the same spirit would keep every mill and manufactory in operation, would keep every shop open, and every mechanic at work, all over the country. The agricultural and religious press of the United States owe it to their country and their God to write down the unjustifiable, needless, and wicked custom of Sunday cheese-making, until its abandonment shall be as universal as its prevalence is now.

### Cheese Factory in Erin.

MR. D. KIRKWOOD, of Rockside, sends the following account of a Cheese Factory recently established in that neighborhood. The factory is situated on lot No. 6, 10th con., Township of Erin, county of Wellington. The proprietors are the Messrs. Townsend, who have had considerable experience in the trade in Canada, besides having in their employ a gentleman lately from England, who has been long in the business in some of the best dairies in Cheshire and Devonshire. The terms of manufacturing are those adopted by the factory men of the counties of Peel and Halton, viz., the manufacturer to be paid two cents per gallon, for manufacturing and furnishing hoops, bandages, colouring, &c., the patrons supplying one rennet, or 20 cts. instead, for each cow's milk manufactured.

Parties living in the vicinity of the Factory deliver their own milk. The proprietors have, as yet, but one team engaged in drawing milk, which is done for an additional cent per gallon. Whey is sold for one half cent per gallon. The owners of the factory commenced operations on the 11th of June, making about 150 lbs. per day at first, but have been daily increasing until they are now making 250 lbs. or more; and in a few days they intend starting another team, when they will not make less than 400 lbs. per day. At a meeting of the patrons held previous to beginning manufacturing, a committee was appointed to act with the proprietors in the general management and disposal of cheese; each patron to be paid from the monthly average made.

### Production of Cream.

EXPERIMENT has proved that if we take two equal quantities of milk, and place one in pans to the depth of six inches, and the other to the depth of only two and a half inches the latter will yield from seven to eight per cent. more cream than the former. This is the case more particularly in cold and damp weather, and at this time the mistake is most commonly committed. The temperature of the surrounding air has also a great effect upon the time required for the rising of the cream; experiment has demonstrated that the process is more rapid in warm than in cold weather. With the thermometer at

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| 80° | all the cream will rise in 10 hours |
| 77° | " " " 12 "                          |
| 68° | " " " 18 "                          |
| 55° | " " " 24 "                          |
| 50° | " " " 36 "                          |
| 45° | " " " 43 "                          |

Sprengel found that if milk was kept at a temperature as low as 37°, but little cream would rise in three weeks. In order to avoid the trouble of keeping the cream at the proper temperature, it is customary in some dairies to churn the whole milk. The advantages claimed by those who follow this plan may be briefly stated thus: The proper temperature can be readily obtained both in summer and winter; five per cent. more butter can be obtained from the same milk; the butter is not only of the same quality while fresh, but if properly managed will keep much better.—(*German Town Telegraph.*)

**HALDIMAND UNION CHEESE MANUFACTURING COMPANY.**—A new cheese factory under this name has been started on the second concession of Haldimand, by the farmers in that neighbourhood, and is now in full operation. They have two vats capable of holding 600 gallons each, and can work up the milk of from three to four hundred cows; their buildings are pleasantly situated on the side of a hill where they have a plentiful supply of pure cold water, with descent enough to carry their slops to a distance for the purpose of feeding pigs.

**ENGLISH METHOD OF PREPARING RENNET FOR CHEESE MAKING, AND THE IMPORTANCE OF PURE SALT FOR SALT-ING THE CURD.**—In our description, while abroad, of the various styles of English cheese, and the methods of manufacture, we omitted to give the best English practice of preparing rennet. The best English dairymen think it always an advantage to the cheese that the rennet be prepared some time before it is wanted for use. Hence they prefer that it be made in February or March, and in as large a quantity as can be conveniently done consistently with the size of the dairy. Large olive jars are found useful for steeping the rennet. They are of various sizes, some holding thirty gallons. A hole is made at the bottom of the jar to draw the rennet from, which they think is much better than disturbing it at the top by dipping out. A wooden tap is used, as the acidity of the rennet would have an injurious effect upon one of metal. For convenience, they have a piece of board, with holes perforated in it, put into the jar, under the vells, to prevent their getting to the bottom, and so prevent the liquid running out by getting against the taps. The rennet is prepared by first making a brine strong enough to bear an egg. It is then boiled half an hour, and when quite cold put into the jar, and to every two gallons are added six vells and one lemon, sliced, which does away with any disagreeable smell. To this, an ounce of saltpetre is added for every two gallons. They think it essential in cheese making that the rennet be prepared some time in advance of its use, as it is more likely to check the tendency which early cheese has to heave. By being in large quantities the dairymen is not obliged to be often testing the strength of the rennet, which is the case when it is made in small quantities. The English dairymen pay especial attention to the salt which they are to use in making cheese, as some salt contains foreign substances which are very hurtful to the quality of curd. Thus, magnesia, they say, imparts a bitter taste, and lime (as an alkali) produces effervescence when meeting the acid of the rennet used to curdle the milk. From this effervescence often arises, they say, the blistering seen on the outside, and the bad colour inside the cheese. Nothing, therefore, but the purest salt is used, which in the West of England is refined at Bath, for dairy purposes, and on account of purity a less quantity is required than the common salt.—(*Utica Weekly Herald.*)