

**How to avoid trouble.**—1st. Skim the milk carefully, having as little skim milk in the cream as possible. 2nd. Make intelligent use of a thermometer in tempering the cream for ripening and churning. 3rd. See that the cream is at the proper temperature before pouring into the churn. 4th. Fill the churn only one-third full. 5th. Speed the revolving or barrel churns 70 to 80 revolutions per minute. 6th. When the butter is about half gathered, add 10 to 25 per cent. of water about 5° colder than the cream, but at a lower temperature in hot weather, or when the butter is coming too fast; then continue the churning until the granules are as large as wheat.

If these directions are carefully followed and butter can't be got, raise the temperature; if the temperature won't do it, then search for that cow mentioned above.

T. C. ROGERS.  
Dairy School, Ontario Agricultural College.

#### A Dairy School for Western Ontario.

The new dairy school at Strathroy, Ont., especially designed to serve the needs of the western part of the Province, will be opened for students on Wednesday, Jan. 22nd. We visited the institution a few days ago, finding a much more extensive building in some respects than we anticipated would be required. Exclusive of engine, boiler and weigh rooms, the dimensions are fifty feet six inches by sixty-five feet; main walls, thirty-six feet high; ceilings, thirteen feet below and twelve feet in second story; slate roof. Not including heating, plumbing, general furnishings and apparatus, the building cost \$7,500, so that the total will probably amount to \$12,000 or \$13,000, as it is being fitted up in most approved style for the purpose intended—barring a few slips in construction, which probably arose chiefly from the Public Works Department being hurried in the matter and not submitting all the details to Dr. Mills, President of the O. A. C., who is the Director, and Mr. F. J. Sleightholm, the Superintendent. For instance, no practical dairyman would have designed so needlessly laborious an arrangement for taking in milk for the butter-making department as we noticed. The milk separating and buttermaking operations are all to go on in the same room—a plan which many advanced dairy experts now regard as not the best, as the latter should be done in a lower temperature than the separating-room requires. Mr. Sleightholm intimates that this may be altered another season by a partition. The milk testing, cheese and butter making and storing rooms are downstairs; the offices, lecture, reading and waiting-rooms, lavatories, etc., above. In the cheese room there are two 1,000-lb. vats, and in the buttermaking department, a 1,500-lb. per hour Standard Russian, a No. 1 Alfa De Laval, and two Alexandra Separators (hand and power), also power and hand churns, deep and shallow setting appliances, and all other necessary modern dairy apparatus. The building is heated with steam, abundantly supplied with water, and splendidly lighted. Arrangements are being made for a supply from farmers in the vicinity, of from 3,000 to 3,500 lbs. of milk per day, to be paid for at 21 cents per pound butter-fat. From the butter department skim milk will be returned to the patrons, 80 lbs. for every 100 lbs. whole milk, and in the cheese department an allowance of 15 cents per 100 lbs. will be made in place of the skim milk.

It is a school of short courses, particularly for young men and women, the sons and daughters of farmers who can not take the time for so full a course as at the Guelph Dairy School in connection with the O. A. C. The courses will begin on the following dates:—January 22nd, February 5th, February 19th, March 4th, March 18th. A course will embrace practical instruction for two weeks in either buttermaking, milk-testing and the running of cream separators, or cheesemaking and milk-testing. In addition to the practical work, lectures will be given on the following subjects: "Business Management," "The Composition of Milk," "The Care of Milk for Home and Factory Use," "The Separation of Cream from Milk," "Milk Testing," "Buttermaking," "The Principles of Cheesemaking," "Practical Cheesemaking," "Creamery and Cheese Factory Machinery," "Care of Boiler and Engine," "Feeding and Management of Dairy Cows," etc. Having taken one course, a student may repeat it or take the other course, and may remain at the school for two weeks or as much longer as he wishes. Admission is practically free, only a \$1 registration fee being required. Board and lodgings can be obtained very reasonably in the town.

As stated, Dr. Mills, of Guelph, is General Director, and Mr. Sleightholm, Resident Superintendent. The latter is a B. S. A. of '94, O. A. C., and for two years has been in charge of the Travelling Dairy, in which capacity, and as assistant buttermaker at the Guelph Dairy School, he rendered excellent service. Full of energy, enthusiasm, and practical knowledge, he should give a good account of himself as head of the Strathroy school. For a year and a-half or more past, we might mention he has been a valued contributor to the FARMER'S ADVOCATE, under the initials "F. J. S." The buttermaker will be Mr. H. Smith, who headed the Guelph Dairy School list in his term, and last year very successfully conducted a creamery and milk-separating station in Quebec. His assistant is Mr. J. E. Crealy, B. S. A., also an O. A. C. graduate who has made a decided success in private dairying near Strathroy. The Cheesemaking Instructor appointed is Mr. Wm. Waddell, who took first-class

honors in the cheese department of the Guelph Dairy School for 1895, and stood high in the class for all departments. During the season of 1895 he made cheese in the Huttonsville factory, Peel Co., and is without doubt a first-class man.

With so splendidly equipped and well-manned a school at their very doors, the people of Western Ontario cannot complain of lack of the means to secure practical instruction in the art of making good butter and cheese, which the Provincial authorities have thus placed at their disposal. The expenditure therefor has been large, and though, unfortunately, too little time has been allowed prior to the inauguration this season, we trust it will be taken full advantage of, so that the results will be commensurate with the outlay.

Ontario is now surely well-equipped with dairy schools, having one in the East, another in the West, besides the main institution for that industry in connection with Agricultural College at Guelph.

#### GARDEN AND ORCHARD.

##### Construction of Berry Crates.

BY ELLIS F. AUGUSTINE, LAMBTON CO.

The small fruit grower should now see that everything is put in readiness for the busy season when it arrives; and a sufficient number of crates for shipping should be constructed in this season. There are many stormy days when such work can be done to advantage, which, if neglected, will cause much loss and worry during the rush attendant upon the ripening of the fruit. A larger number of crates is required than one would suppose, as very often empties are not returned until a week or ten days after shipment. I shall give the dimensions of the ones we use, which our commission men assured us last season were the most convenient for handling, and carried the fruit with the least damage of any they received. The inside dimensions are: Twenty-one inches long, 16 inches wide, and 11 inches deep. They are made of well-seasoned basswood, dressed on both sides, which is fully equal to pine and much cheaper. The lids and ends are three-quarter inch thick, while the sides and bottoms are made of half-inch slats. There is an opening cut in each end-piece one inch wide by four and one-half inches long, which serves for handles. There are four slats two inches wide on each side, and the two outside bottom ones are of the same width, while the two center ones are three and one-half inches wide. A strip one by one-half inch is nailed up each corner and across the bottom at each end. A like strip is also nailed across the lid, one and one-half inches from each end. In this way the bottom strips set outside of those on the lids when the crates are tiered up, which prevents their shifting. A strip of sheet-iron is nailed around each bottom corner, making the crates very strong, which they have need to be, as the empties are subjected to pretty rough usage in the hands of the railway employees. These crates hold three tiers of boxes, with twelve in each tier. The second and third tiers rest upon slatted frames, which are made of four lengthwise pieces, one by one-half inch in size, and eight cross-pieces one by one-eighth inch. Half-inch strips are also nailed crosswise of under side of lids, which rest upon the edges of upper tier of boxes, keeping them in place so well that the crates can be set in almost any position without damaging the contents.

These crates are very light, only weighing fifteen pounds, and with reasonable care in handling will last for many years. The open spaces in sides and bottoms permit the air to circulate freely through them, which keeps the fruit cool and fresh.

The selling price of these crates is 75 cents each; but we made some last spring which cost us less than \$25 per one hundred, not counting our own work. The lumber was taken to our nearest sash and door factory, where it was dressed and cut up all ready for nailing together, so that about ten crates can be put together each day. We paint them a light blue color, with white up corner strips, which shows the berries off to good advantage, and this helps greatly towards selling them, for in an overstocked market it is only such fruit as is choice and put up in the most attractive manner that will bring paying prices.

##### Protection of Young Trees.

When one has gone to the trouble and expense of setting out fruit trees, the precaution necessary to keep mice and rabbits from gnawing the bark should not be neglected. Most frequently the trouble with mice arises in orchards that have been allowed to grow up with grass and weeds, especially about the trunks of the trees. Such conditions are favorable to nesting of the vermin. While it is now too late to cultivate, the trouble may be largely avoided by removing grass and other vegetable matter by a sickle or sharp hoe. It is also a good practice after snowstorms to go out and tramp the snow firmly about the trunks to hinder burrowing. When rabbits are plentiful, as they are rapidly becoming in some sections, it may be necessary to protect the trees with closely woven wire screen, cut into strips from eighteen to twenty-four inches wide. These may be tacked on to the trunk or laced up with wire. Old stovepipe lengths are frequently used for this purpose, by splitting them down and placing them around the same as is recommended for the screen wire. By giving immediate attention to this matter, much damage to young fruit trees may be avoided.

#### THE HELPING HAND.

##### A Handy Portable Hog Trough.

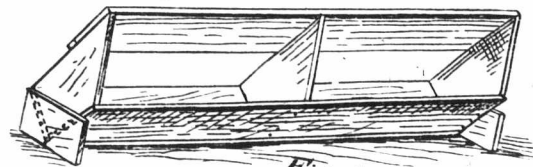


Fig. 1

J. H. WOOLEY, Norfolk Co., Ont.:—"Take two planks, one twelve inches and the other ten, nail the narrow one firmly to the other in the shape of a V, leaving one side of the trough four inches wider than the other. This can only be done by nailing the narrow one to the wide one, and not vice versa. Then take for the ends, and for the center—if you are making a very long one—plank

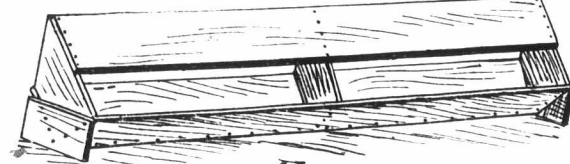
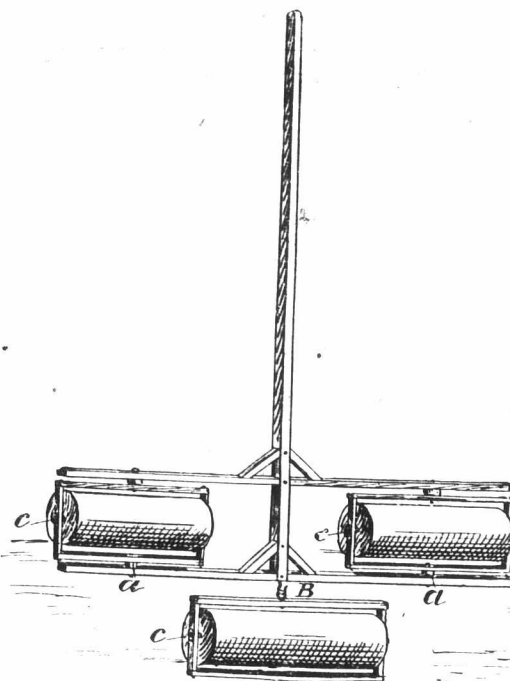


Fig. 2

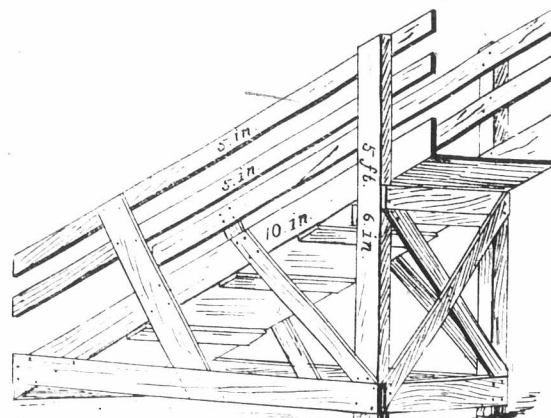
eight inches wide, and cut in shape of end-piece shown in engraving. Set them in the trough and nail. Then take a board a foot wide or so, and nail it to the three, leaving a space of four or five inches between the lower edge of board and the trough. This space is to pour in swill, etc. Advantages.—1. Cheapness. 2. Hogs can drink from one side of trough only, and not bother the feeder. 3. Can be moved anywhere. 4. Easy on pigs' snouts and sole leather. Figs. 1 and 2 show both sides of trough." (Our artist has shown the front side of the trough to be the higher, while it should have been shown the lower.)

##### Land Roller.



ALBERT NORTON, Carleton Co.:—"The sketch herewith shows a land roller. The rollers are 3½ feet long, and the hind roller laps three inches on each of the others. The frame is made of 2½ x 3 inch scantling—oak or ash. 'A' shows the bolt and washer between the two frames, so as to let roller frame play easy between the outside scantling. 'B' shows hook and ring for drawing the hind roller. 'C' shows half boxes bolted to end of frame, for pin in end of roller."

##### Pig and Sheep Loader.



W. C. HUFF, Prince Edward County:—"It is very simple in construction and an indispensable convenience. I loaded seven pigs in three minutes, and without it would probably have taken an hour, besides heavy lifting. Any person can make one in a very short time, with a hammer and saw. There are plenty of pieces around that can be utilized. The dimensions are: Walk, seven feet long, two feet eight inches wide at bottom, and two feet at top; by ripping a slanting strip off each outside board, will make the walk nearer the width of a crate.

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