Starting a Creamery.

In starting a creamery the first point to be secured is a sufficient supply of milk or cream within a reasonably limited area. Whether run by an individual or a corporation the question of plans and cost must then be considered. For this purpose it is well to take ample time and make the fullest enquiry. Within a few years Canada will doubtless see many butter-making establishments started, and to aid our dairy readers in that work we present a plan prepared by Prof. J. W. Robertson, the Dairy Commissioner. It provides capacity for the milk of from 500 to 700 cows to be handled on the centrifrugal separator system, which in Denmark and elsewhere has demonstrated its utility in a most remarkable manner.

For a creamery such as set forth in the plans Professor Robertson gives the following list of utensils :—

Steam boiler of ten horse-power.
Steam engine of ten horse-power.
Water injector.
One weighing can of 500 pounds capacity.
One milk conductor.
One milk receiving vat of 3,000 capacity.
Centrifugal cream separators of total capacity of 3,000 to 4,000 pounds per hour.
One Babcock milk tester, or one Fjord's controller.
Strainers for cream vat, for churn, and hair sieve for buttermilk.
One churn of 200 pounds capacity.
One butter worker.
Weighing scales—one pair platform scales for butter, one pair of counter scales for butter, one pair for salt.
Two butter spades, butter paddle, two butter laddles.
Two thermometers, two floating thermometers.
Butter printers.
Graduated measuring glass, 8 oz.
Stencil plates and brush for branding.
Butter trier.
Three tin pails.
One large dipper, one small dipper, and one strainer dipper.
Shafting, belting, steam pipes and water pipes connected with hose.
Two floor brushes and rubber scraper.
One water tank of twenty barrel capacity.
One cold water tank, one hot water tank, and one buttermilk tank.
One skim-milk heater and cooler.
One skim-milk tank of 6,000 pounds capacity.
One inspirator or pump for elevating skim-milk.
Probable cost, $3,000, including the building.

As to the site, it shoud be : 1. Suited for easy and effective drainage ; 2. Supplied with an abundance of pure cold water ; 3. Easy of access by good roads. Where the cow population is very scattered the cream gathering plan might be more economical, but all points considered the separator plan has most to commend it. A study of Prof. Robertson's plans and furnishings, valuable as a starting point, indicate that additional suggestions on the part of the FARMER'S ADVOCATE may be useful.

We believe it would be prudent to equip factories both for the manufacture of butter and cheese, at least till such time as a steady and remunerative export butter trade be established. With a possible glut of summer butter, prices may drop to 15 and 17 cents for butter, and if at the same time cheese goes from 8 to 10 cents, then it is a losing game to put milk into butter. Some of our creamery men have found that out before now. Hoard's Dairyman estimates that 17-cent butter means about 52 cents net per 100 lbs. milk containing 3.75 per cent. butter fat, and cheese at 9 cents from the same grade of milk would mean 75 cents net to the patron. Therefore, the maker who is going to do the best for his patrons must be prepared for the emergency of low prices in butter, because for the farmer to part with his milk for 52 cents per 100 means a dead loss. There is no reason why first-class cheese and first-class butter cannot be made in the same establishment and by the same man. About $300 would supply the extra furnishings. The capacity of the 3,000 lb. receiving vat should be doubled, besides which a curd sink, gang press, curd grinders, knives and other articles would be needed, together with a small curing room.

For summer making the room "A" on the plan would likely be found too warm for working the butter, but "E" could be used for that purpose, being kept at about 50 degrees.

Instead of the three heaters marked "5" a large can arranged to be heated with steam and suspended over the milk vat, might be found an improvement. A small tin pump will readily elevate the milk from the vat to this heating can, from which, when at the proper temperature, the milk will run by gravity to the separators. The can should have three taps.

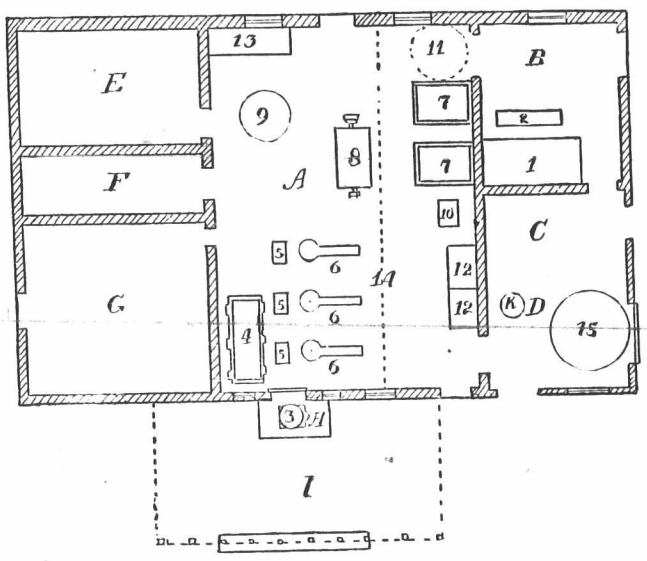
To cool the cream *en route* from the separators to the cream vat, run it through a conductor with a corrugated bottom holding ice underneath.

In order to avoid any interference with the perfect working of separators through jarring of the engine, set them on posts that run through the floor deep into the ground.

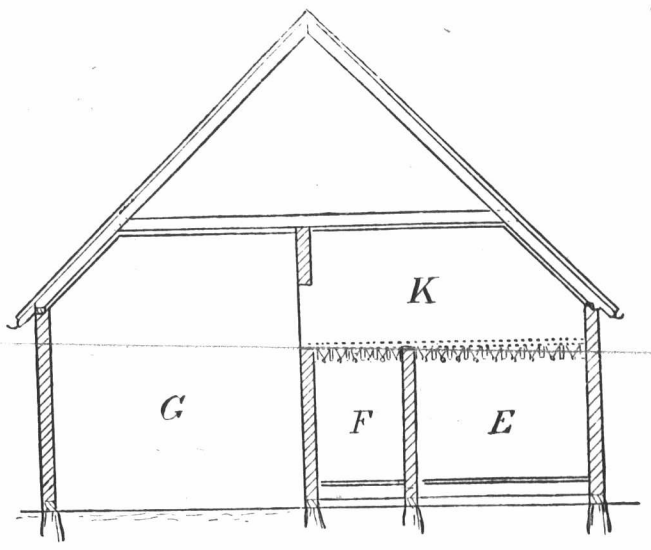
An improvement might be made by turning the rooms "E" and "F" the other way, putting a window in "E" and a door between the two. Each would then have ice against the end partition.

In a combined factory the receiving vat must be kept reasonably low down for cheese-making, hence there is a special reason for the suspended can over the vat and the small pump.

A word in conclusion : Aim to produce as much butter in winter as possible. It is easier handled then and brings the best price. Summer butter is always plentiful.



GROUND FLOOR.



END VIEW.

A.—Working Room, 36 ft. x 26 ft
B.—Boiler and Engine Room, 16 ft. x 14 ft,
C and D.—Shed for fuel and Skim-milk Tank, 19 ft. 6 in. x 14 ft.
E.— Butter Store-Room, 18 ft. x 12 ft.
F.—Refrigerator Room, 18 ft. x 6 ft.
G.—Ice House, 18 ft. x 17 ft,
H.—Milk-weighing Platform, 3 ft. 6 in. x 7 ft. and 4 ft. 6 in. high.
I.—Covered Roadway.

1. Steam Boiler; 2. Engine ; 3. Weighing Can and Scales ; 4. Milk Receiving Vat ; 5. Heaters; 6. Centrifugal Separators; 7. Cream Vats ; 8. Churn ; 9. Butter-worker ; 10. Milk Tester ; 11. Water Tank, placed overhead ; 12. Hot and Cold Water Tanks ; 13. Table ; 14. Line in floor towards which it falls from both sides ; 15. Skim-mile Tank ; 16. Buttermilk Tank in D.

E.—Butter Store-Room. F.—Refrigerator Room. G.—Ice House (no floor). K.—Ice Box over E and F.

NOTE.—The ceiling in E and F is 7 ft. 6 in. high and is finished with joists, 2 in. x 10 in., placed 12 inches apart ; between the joists, V-shaped galvanized iron troughs are laid ; they are soldered over the top of every joint to prevent leaking ; to the troughs at the lowest points are attached small troughs, 1½ in. wide, to receive the drip from the condensation of water which takes place on the E and F side of the galvanized iron ; the troughs all have a fall of 1 inch to one side of the building, where the water from melted ice, and the water from the drip in the small under-troughs is received and conducted out. One door between G and K serves for the putting of ice into the Ice Box K. The partition between E and F prevents the butter in the Store-Room E from being affected by the changes in temperature, which are consequent upon the frequent openings of the door, between F and the Working Room, during working hours.

CENTRIFUGAL CREAMERY PLAN.

A Lesson from Denmark.

The New Zealanders are pushing boldly forward in hope of building up a profitable butter trade with Britain. Last year Denmark exported nearly 90,000,000 lbs. of butter, of which 83,000,000 went to England. Canada, with all its splended natural capabilities, exported less than 2,000,000 lbs. Denmark is not one-tenth the size of the Province of Ontario. The astonishing development of Danish dairying is attributed to the centrifugal separator system, by which much more butter can be got from the same quantity of milk, and enables the operators to work greater quantities than was possible under the old system. Associated dairies are increasing, and old ones are being enlarged and improved. Canada must move forward.