

The Dairy.

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Creameries.

Butter factories and creameries differ in this, the former only make butter, the latter makes butter and cheese. Creameries are carried on with two distinct purposes, or modes of operating. The design of one class of creameries is to take off all the cream that can be obtained without actually souring the milk, and making from the stale milk an inferior quality of skim cheese, with the hope of getting better returns than from feeding it to calves or pigs. In the other class of creameries the purpose is to take off no more cream than will allow of making a good or at least a fair article of cheese from the skim-milk. The build-

ings and apparatus for the two purposes are necessarily different. In the former plan, a butter factory and a cheese factory combined are necessary.

These creameries are constructed in a great variety of forms which are made to vary according to the particular location, and the fancy or different purposes of the buildings. Perhaps

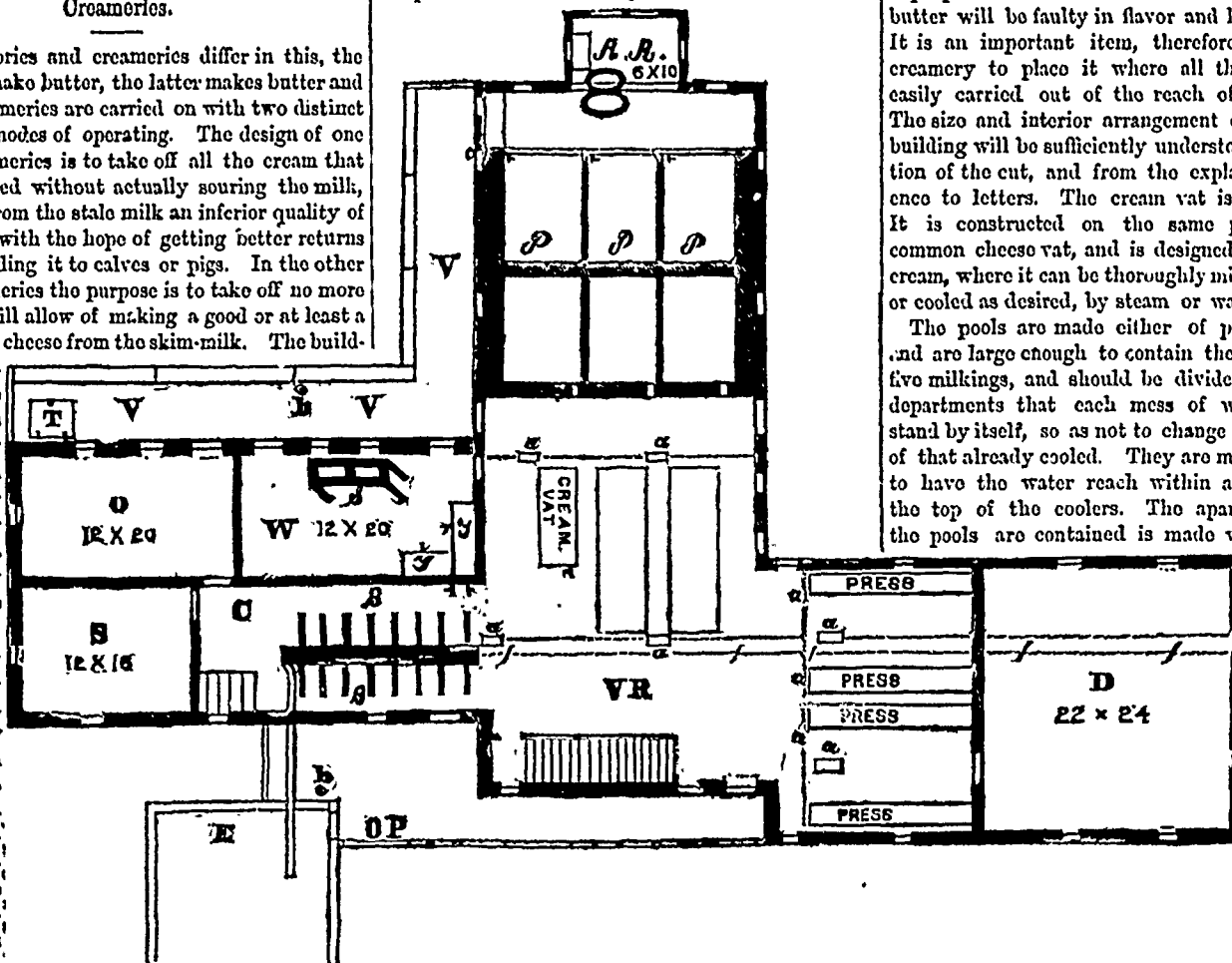
no single plan, however well arranged, would be best under all circumstances. Yet there are certain requirements which run through them all, and which may be described in general terms, and contained in one comprehensive structure.

One of the best designs for a creamery of this class was presented to the American Dairymen's Association at its convention in 1872, by H. Cooley Greene, of Woodcockboro', Crawford Co., Pa. It was drawn on a large scale for exhibition at the convention; a plan of it greatly reduced is herewith presented.

Upright 24 x 60 feet; wings each 24 x 40; ground descends towards the right and rear; R, R, receiving room, 3½ feet above the floor of main building; P, P, P, pool in three apartments, separated by 3-inch plank, which are tied by a cross plank 10 inches wide; the milk-room opens by sliding doors to the vatroom, V, R, which is open to press-room and churn-room, C; B is walking beam with arms for attaching sixteen churns. Motive power in engine-house, E; D, curing-room for new made cheese; S, store-room; O, office; W, wash-room; S, sink on castors; V, verandah with pail racks; R, steam jets for scalding pails, churns, &c.; E, engine-room; T, T, water tanks, lower one for cold and upper one for hot water, with faucets in either room; T, trap for elevating butter from cellar, which is under left wing; A, A, A, are traps to drain for slops; I is drain for whey and buttermilk. All liquids carried beneath the floor; O, R, open platform for airing churns, &c.; second floor devoted

to curing rooms, separated by rolling doors at each aisle.

The first consideration in locating a creamery, after securing a supply of milk, is a plentiful supply of pure water from a cool spring or well, to control the temperature of the milk just as desired. This is a



Model Plan for a Complete Factory for 500 Cows, by H. Cooley Greene.

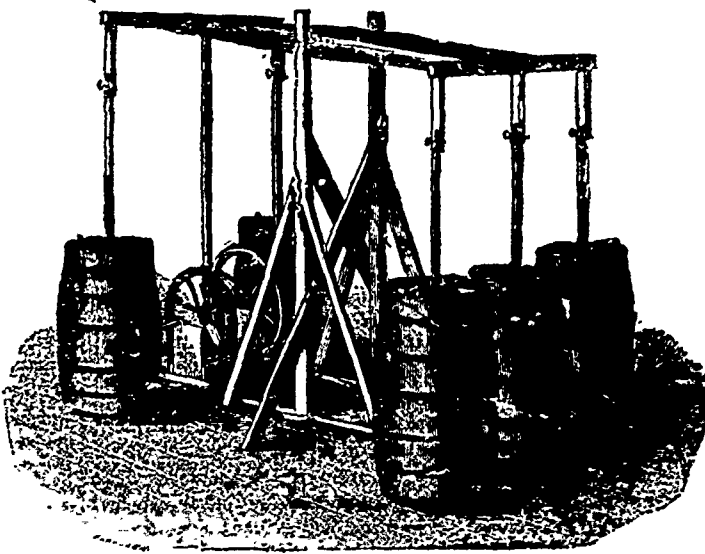
sine qua non, as not to be able to cool the milk at the proper time, and to keep it at a proper and uniform temperature, would be fatal to success. The quantity of water required will depend somewhat on the temperature; the colder the water the less will be needed. With water at 50 degrees a cubic foot per day for each cow will do very well, though a larger quantity might be desirable. The next thing,

well shut out, both on account of flies and from its effect in fading the cream while rising.

It is the custom in creameries that make butter a leading object to use only cooler pails to keep milk in while the cream is rising. These coolers have been described in a previous number as being tin pails about nineteen inches high and nearly eight inches in diameter. They hold about fifteen quarts each,

and are straight-sided or cylindrical in form. When the milk is brought into the creamery and weighed, it is usually discharged into a receiving vat, where the milk of several patrons is mingled together, and from this vat it is drawn into the coolers and set into one of the pools to be cooled down to 53 or 60 degrees. The coolers are not filled full. Enough is put in each to have the top of the milk in them about an inch below the top of the water that surrounds them. This ensures perfect cooling. The rapidity with which milk is cooled to a desired standard varies very much in different creameries according to the fancy of the operators.

In the different establishments we have inspected, the time in which the cooling is done, varies all the way from one hour to twelve. When the coolers, filled with warm milk, are set into the pools, the milk within them, and the water that surrounds them, soon assume very nearly the same temperature. If now only a small stream of water is let into the pools, the warmed water will be very gradually displaced and the cooling slowly done. The process is hastened by admitting a larger stream.



Dash Churn.

after the water, is a proper site for the buildings. They should stand on a dry and airy place and high enough to allow of ready drainage, so that all the whey, buttermilk, and wash, may be conducted to a safe distance.