## The Pairy.

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## Greameries.

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

ings and apparatusforthe two purposes arenecessarily different. In the former plan, a butter factory and a cheese factory combined are necessary.

These creameries are constructed in a great variety offorms which are made to vary according to the partion, and the fancy or different purposes of the builders. Perhaps

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 tion at its convention in 1872, by II. Cooley Greene, larger quantity might be desirable. The next thing, ches in diameter. They hold about fifteen quarts each,

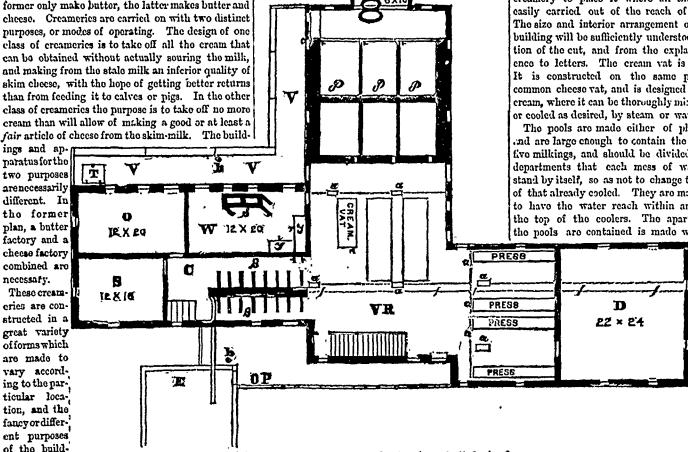
of Woodcockboro', Crawford Co., Ps. It was drawn on a large scale for exhibition at the convention; a plan of it greatly reduced is herewith presented.

Upright 24 x 60 feet; wings each 24 x 40; ground descends towards the right and rear; R, R, receiving room, 31 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 chura-room, C; B is walking beam with arms for attaching sixteen churns. Motive power in enginehouse, E; D, curing-room for new made cheese; s, store-room; o, office; w, washroom; 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 after the water, is a proper site for the buildings. under left wing; A, A, are traps to drain for slops; I is drain for whey and buttermilk. An liquids carried beneath the floor; o, r, open plat- whey, buttermilk, and wash, may be conducted to a form for airing churns, &c.; second floor devoted safe distance.

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

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 600 Cows, by H. Cooley Creens.

no single plan, however well arranged, would be 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 was presented to the American Dairymen's Associa- per day for each cow will do very well, though a

Dash Churn.

They should stand on a dry and airy place and high enough to allow of ready drainage, so that all the

In the successful working of a creamery, drainage is a matter of primary importance. It is more difficult to secure puro air in a creamery than in a butter factory as there is more wash in the former and the addition of whey to dispose of, and unless the air is kept pure where the milk and butter stand, the butter will be faulty in flavor and keeping quality. It is an important item, therefore, in locating a creamery to place it where all the waste can be easily carried out of the reach of the buildings. The size and interior arrangement of the creamery building will be sufficiently understood by an inspection of the cut, and from the explanation by reference to letters. The cream vat is a new feature. It is constructed on the same principle as the common cheese vat, and is designed as a storage for cream, where it can be thoroughly mixed and warmed or cooled as desired, by steam or water connections.

The pools are made either of plank or cement, and are large enough to contain the milk of foar or five milkings, and should be divided into so many departments that each mess of warm milk shall stand by itself, so as not to change the temperature of that already cooled. They are made deep enough to have the water reach within an inch or so of the top of the coolers. The apartment in which the pools are contained is made with tight walls

> so as to guard against currents of air and sudden or rapid changes in the temperature of the room. It is preferred to keep the temperature of the air in the room as even and as low as it conveniently can be, and tho light pretty

well shut out, both on account of flies and from its offect 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 have been described in a previous number as being tin pails about nincteen inches high and nearly eight in.

> 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 58 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.