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A. D. MELVIN, CHIEF OF BUREAU.

### A PLAN FOR A SMALL DAIRY HOUSE.

By ERNEST KELLY, *Dairyman*, and KARL E. PARKS, *Dairy Engineer*, *Dairy Division*.

Recent developments in dairying have caused a large demand for a dairy house which will fulfill sanitary requirements and at the same time be practical and inexpensive. For those who are striving to improve the quality of their products, such a building is an absolute necessity. Milk which is poured or strained in the barn, or allowed to stand there, is apt to be contaminated by germs and to absorb stable odors. The best practice is to remove the milk to the dairy

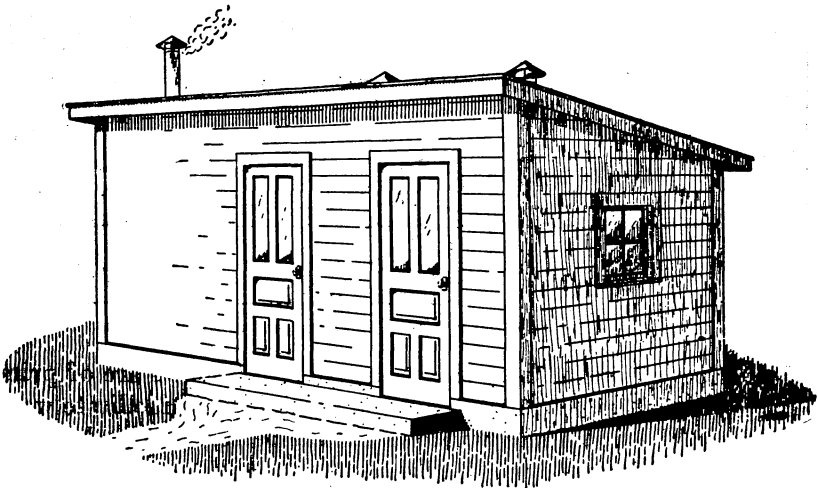


FIG. 1.—An inexpensive sanitary dairy house. Perspective view.

house as soon as each cow is milked. Milk should also be cooled immediately; so the dairy house should be provided with proper facilities for this purpose.

#### REQUIREMENTS FOR A DAIRY HOUSE.

While the dairy house should be conveniently located so that the milkers do not have a long walk from the barn, it must be so placed that it is free from contaminating surroundings. It should be built

somewhat away from the barn on a well-drained spot, and the drainage of the dairy house itself should be carried well away from the building. If possible the ground should slope from the dairy house toward the barn, rather than from the barn toward the dairy house.

The principal purpose in building a dairy house is to provide a place where dairy products may be handled apart from everything else. To carry out this idea it is necessary to divide the interior of the building so that utensils will not have to be washed in the same room where the milk is handled. Thorough cleanliness must always be kept in mind; therefore there should be no unnecessary ledges or rough surfaces inside the building, so that it can be quickly and thoroughly cleaned. Ventilators are necessary to keep the air in the milk room fresh and free from musty and other undesirable odors,

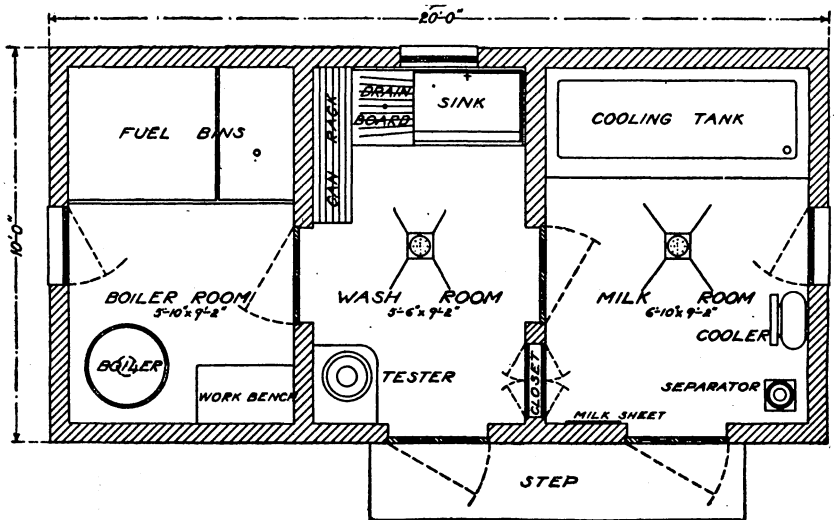


FIG. 2.—Floor plans of dairy house, showing general arrangement.

and to carry off steam from the wash room. Windows are of prime importance, as they let in fresh air and sunlight, and facilitate work. In summer the doors and windows should be screened to keep out flies and other insects.

It is imperative that there should be a plentiful supply of cold, running water at the dairy house. If it is not possible to have a regular water system, the supply may be piped from an elevated tank fed by a hydraulic ram, engine, windmill, or hand pump. The dairyman can ill afford to spend his time in carrying water in a pail to cool his milk and wash his utensils.

For the proper sterilization of utensils an abundance of steam or hot water is needed. A pail or can may be clean to the eye and yet may carry numberless germs which will hasten the souring of milk,

cause bad flavor in butter or cheese, or spread contagion. After utensils are washed clean they should be either scalded with boiling water or steamed.

The dairy house should be so built that labor is economized to the greatest extent. To do this the building must be arranged so that unnecessary steps will be avoided.

It is not possible to submit a plan which will suit all conditions, but it is believed that the accompanying design will meet the needs of the average dairy that ships either milk or cream in cans. This

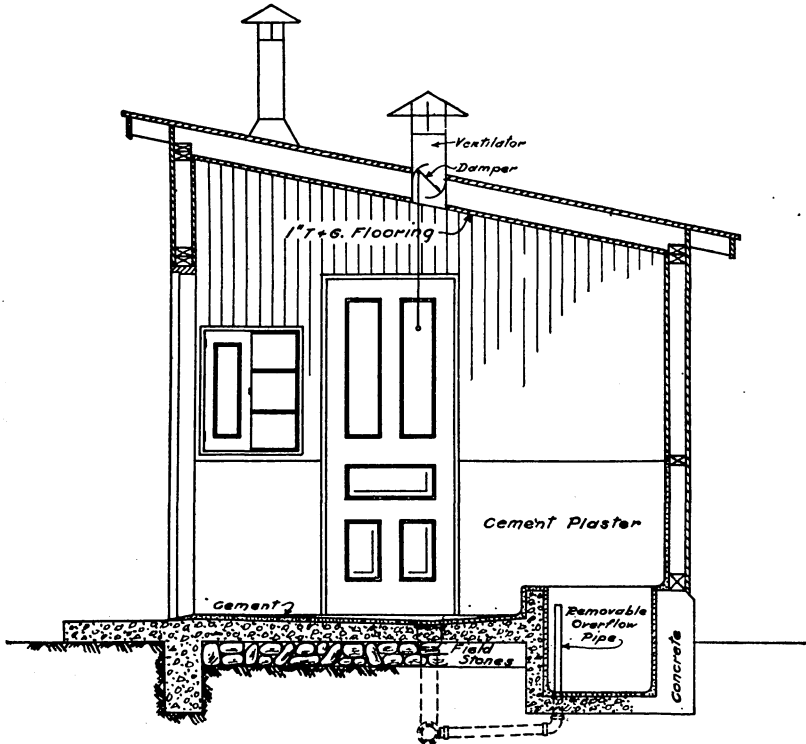


FIG. 3.—Cross section through dairy house.

plan is capable of considerable variation to adapt it to a wide sphere of usefulness. For larger dairies the same arrangement may be used on a larger scale, each room being made of greater size.

#### OUTLINE OF CONSTRUCTION AND EQUIPMENT.

The building illustrated herewith is 20 feet long, 10 feet wide, 8 feet 6 inches high in front, and 6 feet 6 inches high in the rear, and is covered with a shed roof. The exterior of the building may be covered with sheathing and building paper or weatherboarding, and shingles; expense, durability, and appearance being the deciding factors. The interior, however, should be carefully finished, so that the

walls and ceiling may be smooth and free from corners or projections which might accumulate dust and dirt.

The building should have a good concrete floor, pitched to drain through bell traps. The side walls should be plastered with cement plaster on metal lathing as high as the windows. The remainder of

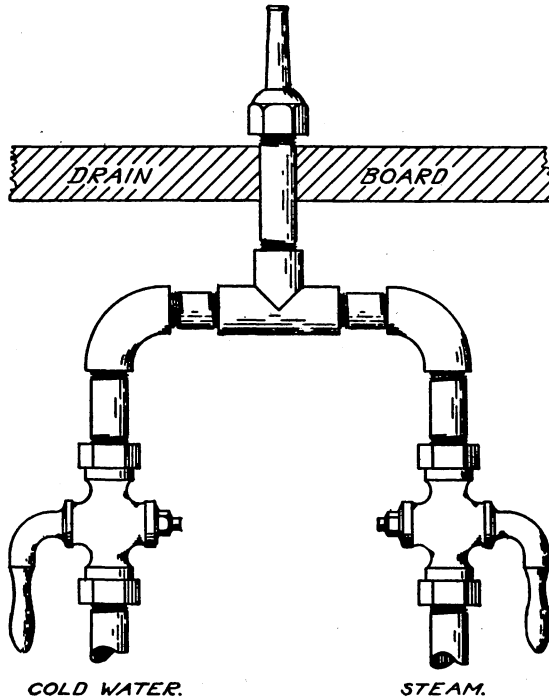


FIG. 4.—Detail of water and steam jet.

the walls and ceiling may be covered with matched flooring, and both walls and ceiling should be painted with a white, washable, enamel paint. Ventilating flues should extend through the roof from the ceilings of the cooling room and the wash room. The windows should be hinged as shown in the drawings, and set to be flush with the inside wall when closed.

The equipment consists of a  $1\frac{1}{2}$  to 2 horsepower vertical boiler, which supplies steam to the sink and to the steam jet in the drain board; a galvanized iron wash sink, a can rack, a Babcock tester, a concrete cooling tank, a milk cooler, and milk scales. A separator may also be located in the milk room if desired.

#### ROUTINE WORK IN THE DAIRY HOUSE.

After a cow is milked the pail of milk should be carried to the milk room, weighed, recorded, and sampled for the composite test. Then the milk is run over the cooler, using cold running water for

the first cooling. When a can is filled with milk from the cooler it is put in the cement tank, which should be filled with ice and water high enough to come well up on the neck of the can, and the contents should be stirred frequently with a clean stirrer until thoroughly cooled. When the milk is not being stirred the cans should always be kept covered to prevent the entrance of dust, dirt, insects, etc. Never mix warm and cold milk or cream. The doors of the milk room should be kept shut except when necessary to pass in or out.

When all the milk is cooled the cooler, pails, strainers, etc., can be carried into the wash room, where they should be rinsed in cold water and then washed with hot water and washing powder. After this they are inverted on the drain board and rinsed and steamed. For this purpose two pipes may be used, one carrying cold water, the other steam. These may be controlled by either hand or foot levers. Or a single jet may be installed, fed by both cold water and steam. Utensils after being steamed should be inverted on the drying rack.

The little closet in the wall between the milk room and the wash room is to hold bottles in which composite milk samples from each cow may be kept. The closet can be opened from either room, so that the samples can be placed in the bottles from the milk room, and when the samples are to be tested the doors on the wash-room side can be opened and the samples measured into the test bottles, thus saving the labor of carrying the bottles from room to room.

A shelf may be built in the wash room, over the tester, on which may be kept the glassware used in the Babcock test and also the scales for weighing out cream samples.

Approved.

JAMES WILSON,  
*Secretary of Agriculture.*

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