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Oregon, State Dairy & Food Com.

Cow Stalls & Adjustable
Mangers.

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COW STALLS AND ADJUSTABLE MANGERS

FOR DAIRY BARNS WHERE COSTLY
CONSTRUCTION IS NOT
PRACTICAL

WITH INSTRUCTIONS
FOR THE PRODUCTION
OF CLEAN, PURE MILK
AND QUOTING CERTAIN
SECTIONS OF THE LAW
REGULATING DAIRIES

BULLETIN ISSUED BY THE
State DAIRY AND FOOD COMMISSIONER
PORTLAND, OREGON

SF92
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ADJUSTABLE TILTING MANGER COW STALL

SCALE FEET

PLATE A

Detail Manger Construction

D. of D.
OCT 30 1915

COW STALLS AND ADJUSTABLE MANGERS

This bulletin contains drawings of two home-made cow stalls that are in use by many dairymen in Oregon. Their chief advantage lies in the fact that they are adjustable to the length of the cow and therefore, a material aid in keeping the cow clean. They are also convenient, full of cow comfort and, being home-made, they are inexpensive.

These stalls have been criticized for having too much woodwork and for appearing insanitary on account of such woodwork. Iron construction has been found to present a much more sanitary appearance and, having smaller and smoother surface, filth is less likely to accumulate upon it.

Whenever a dairyman is erecting a permanent cow stable, and can afford the cost, we prefer to see him install the most sanitary iron stall and concrete manger. Where the cost seems too great, or where old stables can be made to serve for several years, either of the two stalls here described are recommended.

In constructing or remodeling a cow stable, clean cows with the minimum labor should be the prime object. Clean milk cannot be produced from dirty cows, and the dairymen are unused to spending much time cleaning them, hence, it is highly important that the stable arrangements be such as to facilitate cleanliness. The herds of cows kept in stalls like the two described herein have been found as clean in midwinter as they are on June pastures. This was accomplished with very little work and dairying was thereby made much more pleasant than where cows are laden with filth and where each succeeding night's stabling adds to the cow's flank millions of fresh and vigorous bacteria, only to drop off into the milk pail the next morning to endanger the lives of healthy people as well as infants.

These stalls have individual mangers which are easily and quickly adjusted to the length of each cow. The cow is, therefore, compelled to stand back to the gutter where the excreta is cared for and the cow's bed remains clean. The cow is perfectly comfortable, a factor vital to profitable dairying. If the long hair, usually found on cows' udders, have been singed or clipped off, a few minutes work with the brush will clean the right hand flanks and the udders of quite a large herd. This, with the use of a damp cloth to wipe the cows' udders at milking time, will insure clean milk insofar as the cleanliness of the cow effects it.

Plate "A" represents a manger and hayrack that slip in between the partitions shown in Plate "B." The manger or feed trough has an

axis, made out of a 2x4-inch with rounded tenons on which it can be tilted forward in the right position for feeding silage, kale or mill feed. When in this position, the cow cannot get the feed. A slight push with the foot by the feeder or a pull by the milker will cause it to tilt over the center into position for the cow to eat. The cow soon learns to push it out of her way when through with her feed, giving her the entire stall in which to lie down.

The hay is fed in the rack which is above the manger but fastened on the same two upright boards, $\frac{7}{8}$ x8-inch. This makes it practical to adjust both the manger and hay rack in a moment's time to fit any length cow by simply drawing two nails with which it is fastened. After adjustment, these nails are driven in again far enough to hold the manger rigid.

Plate "B" shows the partitions running all the way back to the gutter. The partitions are in two sections, the rear section opening like a gate by swinging to the right so that each cow can turn and walk out when leaving the stall and is not compelled to back over the gutter.

Cows are not tied in this stall, but are secured by means of a chain, with a snap on each end, fastened across the stall behind the cow. One snap is fastened into a staple shown in the gate on the left of the stall and the other is snapped into a staple driven into the 2x4-inch post on the right of the stall. Each gate is fastened to the post by means of a hinged hasp that fits over the same staple.

All doors must open to the right. When cow number one at left end of stable is to be milked, the door is unfastened and the milker walks in between the door and post on territory belonging to cow number two. The chains behind both cows remain fastened and the milker has additional room to milk in.

Width of stall should be such that a cow can not turn around, 3 feet 3 inches for Jersey, 3 feet 6 inches for Holstein. In case a small heifer is placed into one of these stalls, the stall can be made narrower by nailing two upright strips on her left side door and one wide board lengthwise of stall over these strips.

Two errors crept into these drawings. In Plate "A" the height of the front and back of tilting manger should be 16 inches in the upper drawing, same as below. In Plate "B" the short post should be made of 1x4-inch, instead of 2x4-inch.

Plate "B" shows a 2x4-inch post, running from floor to ceiling with round tenons at each end which serve as hinges for the gate. Where this is not practical or desirable, strap hinges can be used. This plate also shows the tilting window which is a very cheap and simple means of providing the very best of light and ventilation in a mild climate like ours. One such window should be provided for each cow.

Model Cow Stall

The Model Cow Stall shown on opposite page is a little more simple of construction. It has one disadvantage in that the feed trough is not so easily cleaned while stalls are occupied. It also is adjustable to the length of the cow in the same manner as that shown in Plate "B." In this manger, all the feed is fed into the same place, the concentrates or cut feed dropping on down into the trough while the hay is wedged into the rack afterwards. The manger is at a convenient height to feed—no stooping nor lifting above your head.

In stalls made according to this cut, cows are tied with ropes around their necks and fastened to one of the slats, the ends of which are seen nailed to the 1x4-inch upright.

The partitions shown in Plate "B" can be used with this manger also, and the short partitions shown here can be used with the tilting manger, if desired. The Model Stall, shown here is for Jersey cows. For Holsteins, they should be six inches longer and the space between the partition and gutter, should be two inches longer.

In order to prevent cows from wasting hay when fed in a rack like either of these, two things are necessary. First, the slatted rack must be vertical or nearly so, and the front sloping. Second, the top of the manger must not be over 18 inches across and if small quantities of hay are fed, it may be only 16 inches. In other words, if the hay is wedged in with some force, the cow will take it out as fast as she eats it without waste, while if the manger is wide and the hay rests loosely, the cow may pull it all through the rack at once and trample it under her feet. These stalls are, therefore, devised for the production of clean milk in stables where the owner cannot afford expensive construction and, in advocating them, we have not lost sight of the importance of health and comfort of the cow, nor of the comfort and convenience of the one who feeds and milks her.

DAIRY LAW

That the dairymen may understand what is expected of them in the production of clean milk and cream, the following sections of Chapter 343 of the Session Laws of 1915 are appended:

Cows and Stables, How Kept

Section 45. When cows are kept by any person for dairy purposes, either for the production of butter or cheese or for the production of milk or cream for sale and are confined in stables, such cows so confined shall each be allowed at least five hundred cubic feet of air space and such cows so stabled shall not be confined facing each other closer than ten feet and all stables where such cows are kept shall be well ventilated and kept in a good healthful condition, and if there be any suspected diseased cows or other animals belonging to or about any dairy, the owner or person in charge of such dairy shall report the same to the Dairy and Food Commissioner. The stables or barns where such cows are kept shall be thoroughly cleansed every day and kept in a sanitary condition. The cow's udder shall be well cleansed immediately before each milking, and when the udder is soiled by mud or

other filth it must be thoroughly washed with water and wiped with a clean dry cloth. If any dairy as above stated is found to be in a filthy or unhealthful condition the Dairy and Food Commissioner shall notify the proprietor that said dairy shall be put in a healthful condition; and in the event of the failure of said proprietor to put said dairy in a healthful condition within a reasonable time from the receipt of said notice, he shall be deemed guilty of a violation of this act.

Cream Separators Kept Clean

Section 46. It shall be unlawful for any person who skims his milk by cream separator process to offer or expose for sale or sell any milk or cream coming from a separator that is not thoroughly washed and cleansed within three hours after each use thereof, or to offer or expose for sale or sell any milk or cream coming from a separator that is kept in any stable or other building where any animal is housed or in any other place that is unsanitary or where bad air exists; provided, that this does not prohibit keeping such separator in a room that is wholly separated by tightly ceiled partitions from that part of the stable in which animals are housed. All tinware and woodenware and other utensils used about any dairy shall be kept in a clean and sanitary condition.

Milk or Cream, Unwholesome, Not to Be Sold

Section 47. Whenever it is determined by the Dairy and Food Commissioner, his deputy or inspector, that any person is using, selling or furnishing to any skimming station, creamery, cheese factory, condenser, milk depot, milk dealer, the retail trade, or to any consumer of milk, any impure or unwholesome milk or cream, caused by the unsanitary or filthy condition of the premises where cows are kept, or by the unsanitary or filthy care in handling these cows, the use of unclean utensils, unwholesome food, holding the cream too long before shipping, or for any other cause, the person so offending shall be notified and warned by the Commissioner, his deputy or inspector, not to use, sell or furnish such milk or cream at any of the places or to any of the persons above mentioned. A failure to obey such notice and warning or the continued use, sale or furnishing of such milk or cream shall be deemed a violation of this act.

Cream, Unfit, Not to Be Used by Creamerymen

Section 48. It shall be unlawful for any person engaged in the manufacture of butter for commercial purposes to use in the manufacture of said butter any cream that is pronounced unfit for use by the Dairy and Food Commissioner, his deputy or inspector. Possession of cream unfit for use in the manufacture of a food product shall be considered prima facie evidence of intent to use the same and shall be deemed a misdemeanor within the meaning of this act, unless said person possessing said unfit cream shall have made complaint immediately upon receipt of said cream to the Dairy and Food Commissioner and requested his inspection of said cream, in which case, if the cream is found upon inspection to be unfit, it shall be confiscated, and such person shall not be liable to fine and shall not be required to pay for said cream.

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