

# **BULL QUARTERS**

## **BREEDING CHUTE -YARD -HOUSE**

By J. G. Hays, A. J. Bell and C. H. Jefferson



**MICHIGAN STATE COLLEGE**

**EXTENSION DIVISION**

**EAST LANSING**

# **BULL QUARTERS**

## Breeding Chute, Yard and House

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Why should a dairyman provide special quarters for his bull?

First-because any bull is a dangerous animal that should be restrained. No bull can be trusted. Even the "gentle" bull, often without apparent provocation, becomes a "killer".

Second-because any bull needs healthful exercise. This is especially true of older bulls since it is important that breeding potency be encouraged.

Bull quarters that are safe for the keeper and healthful for the bull should include a breeding chute so constructed that the bull can breed a cow without the keeper being exposed to possible injury by the bull; an outside exercising yard that is safely fenced; a pen or box stall that the keeper need not enter when feeding and watering the bull; a door connecting the box stall with the exercising yard that is easily controlled from within or without, so that the bull may be shut either in the stall or in the yard.

### **THE CHUTE**

The breeding chute is a safety device. Danger is removed because the bull does not have to be handled with a staff or ropes. The cow is led into the chute and confined in the stanchion. The gate is opened behind her and the bull admitted to the chute. After service, the gate is shut against the bull and the cow is released from the chute. At all times the stout gate has separated the bull and the caretaker.

The breeding chute may be constructed in any convenient place; but usually it is located in one corner of the exercising yard. Details of construction, a bill of material, and the progressive steps in building a standard breeding chute are given in Center Spread of this bulletin.

**Construction of Chute:** Several years' experience with this chute indicate that a few details of construction should be observed carefully.

To insure free and easy operation, the gate which controls the entrance to the breeding chute should be adequately braced, and the post on which it is hung should be securely anchored into the ground. The gate should clear the ground by approximately 6 inches to allow for any accumulation of snow or earth. If the clearance is greater than 6 inches, the bull can get his head under the gate and may do serious damage.

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The most practical hinges seem to be the screw-hook and eye-strap. Three of these hinges are desirable. The middle screw-hook is set upside down to prevent the bull from lifting the gate off its hinges.

The planks forming the sides of the chute should be spaced not more than 2 inches apart to prevent the bull from getting his forelegs between the planks during service.

**Adaptations of Chute:** A breeding rack can be built into a breeding chute. The purpose of the rack is to prevent injury where a small heifer is bred by a big bull. Very few breeding racks are in use in Michigan. However, in some states the use of the rack is common. Not every bull will work on a rack, especially older bulls not acquainted with the rack when young. The Cornell (New York) style of rack has some good features (Fig. 1). One foot-plank is free at the upper end and is pivoted on a single lag screw to the support at the lower end. Thus the planks can be drawn together at the tipper ends when a small animal is being bred.

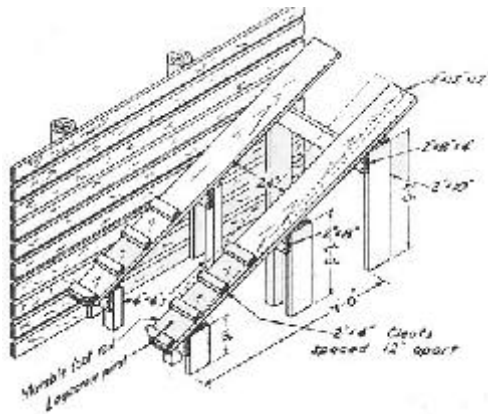


Fig. 1. The breeding rack. This sketch is adapted from Bulletin No. 180, New York State College of Agriculture, Ithaca, N. Y. The breeding chute must be built as large as 4'8" x 12' to accommodate this rack.

### Artificial Insemination:

It is possible to use a breeding chute for collecting semen to be used in artificial insemination without an attendant managing the bull on a staff. A suggested construction is shown in Fig. 2. This should give the needed "elbow room," along with safety.

**Double Chute:** Where two bulls are kept in adjoining yards it is possible to construct a chute usable by either bull. However, it is more desirable to build a single standard chute for each bull. Experience has shown that the single chute operates better than the double, because it is easier to cost of two single chutes is complicated double chute. Handle the particular bull involved, The little if any more than that of the more

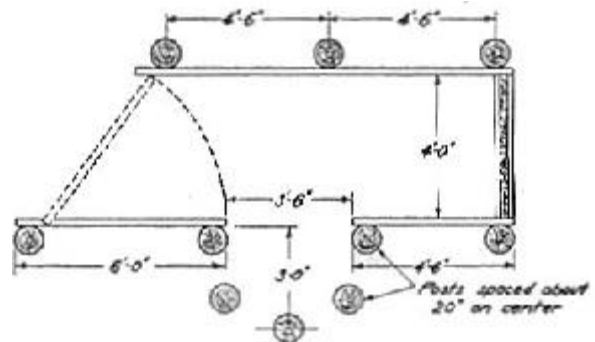


Fig. 2. Chute adapted for use with artificial insemination.



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### MATERIAL NEEDED AND ORDER OF CONSTRUCTION

#### Lumber

- 7 Posts, 8'-0" long, 6" top
- 7 Pieces 2' x 8" x 12'-0'
- 7 Pieces 2' x 8" x 14'-0"

#### Build Panel A

- 2 posts (#1 and #2)
- 6 pieces plank each 6' long, cut from 12' lengths (nail top board first and leave 2" spaces)

#### 2. Build Gate

- 6 pieces plank 6' long for 5 horizontals and 1 brace, cut from 12' lengths
- 3 pieces plank 5' long for uprights, each piece cut from a separate 14' length

#### 3. Hang Gate

- 2 posts (#3 and #4). #3 to be set 2" back from line of #1 and #2. #4 to be extra well set and braced; on line of #1 and #2

#### 4. Build Panel B

- 3 posts (#5-#6-#7)
- 6 pieces plank 9' long (3 left over from gate, and 3 cut from separate 14' lengths)

#### Hardware

- 3 10" Screw-strap hinges
- 10 lb. 40d Common nails a
- 10 lb. 20d Common nails

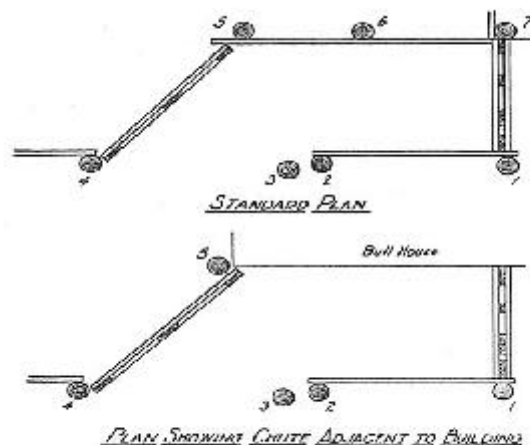
#### 5. Build Stanchion

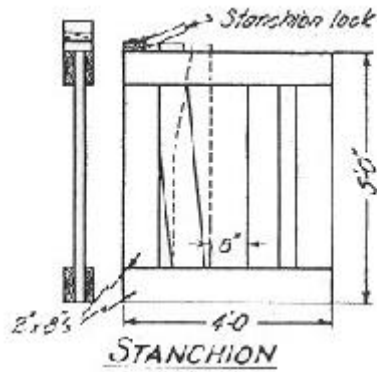
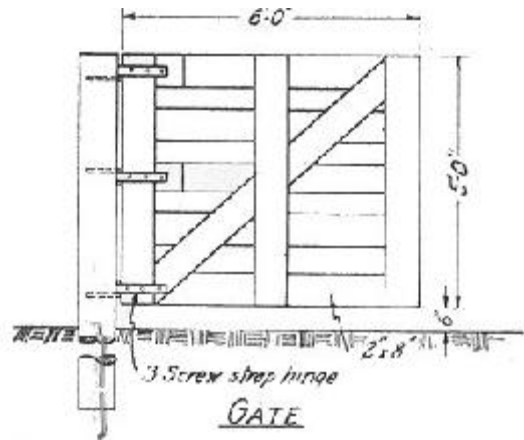
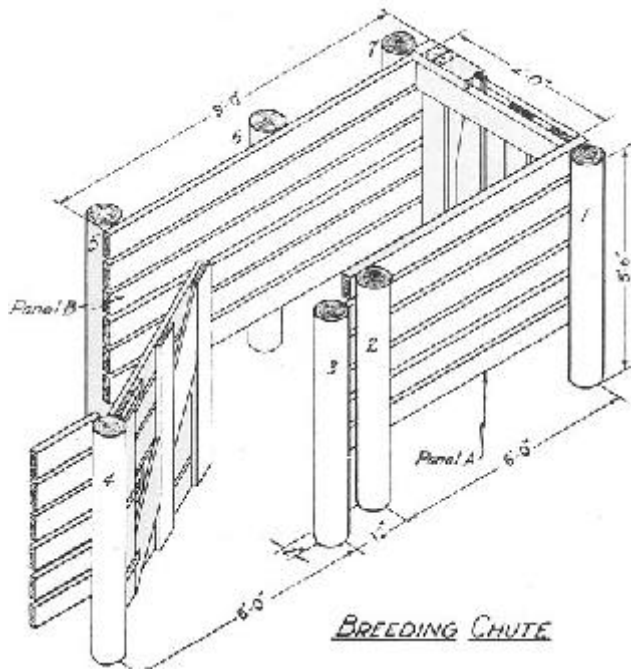
- 4 pieces plank, 5' long, for uptights (3 left over front Panel b 1 cut from 14 length)
- 4 pieces plank 4' long for horizontals, cut from the 9' piece left over and a 12' length
- Pieces of asphalt roofing nailed in between horizontals and the 3 rigid uprights will space the horizontals so that the movable upright will move freely.

There should be one 5' length of plank left over. This may be used for strips to attach stanchion to Panel A and B and to make stanchion lock.

Where the bull house or the dairy barn is used for one side of the chute (replacing Panel B) lumber required is:

- 5. Posts
- 6 Pieces 2" x 8" x 12'-0"
- 4 Pieces 2" x 8" x 14'-0"





|  |                  |              |
|--|------------------|--------------|
| MICHIGAN STATE COLLEGE<br>AGRICULTURAL ENGINEERING DEPARTMENT<br>EAST LANSING, MICH. |                  |              |
| 12'-0" x 16'-0" BULL HOUSE WITH PEN<br>AND BREEDING CHUTE                            |                  |              |
| Planned J.H.   | App. by M.F.L.   | 1-3-40       |
| Drawn R.H.   | Date 11-16-39    | Sheet 2 of 3 |
| Traced H.S.  | Scale 1/2"=1'-0" | No. 17907-13 |
| Checked C.H.J.   |                  |              |

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**The Charged Wire:** Although bulls respect an electrified wire, it seems too fragile to restrain a bull. An over-excited animal might easily go through a "hot" fence. However, many dairymen do use electrified



Fig. 5. Two electrically charged wires confine this bull, but allow him an acre of runway with some pasture during summer.

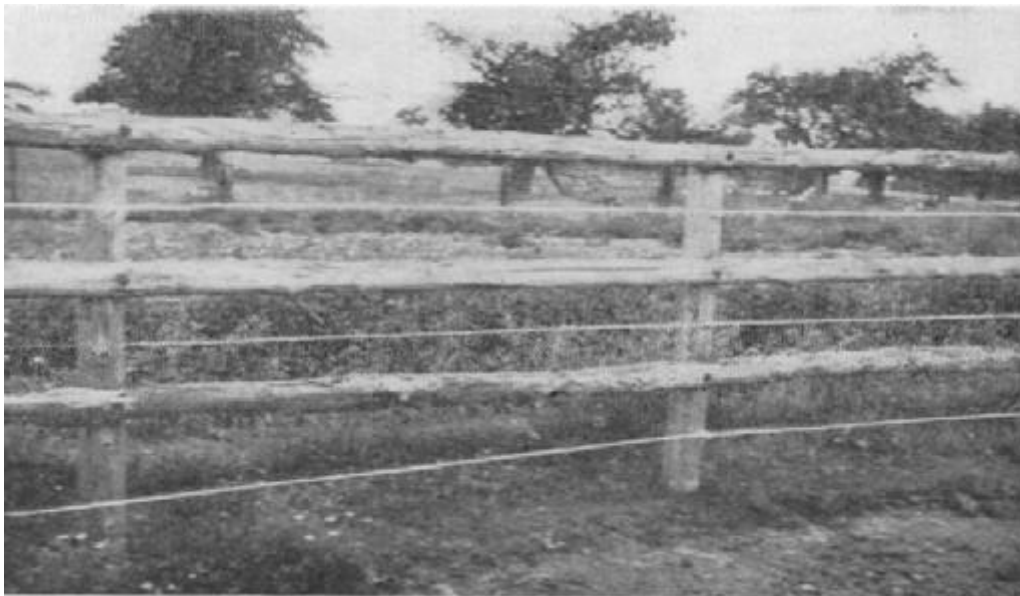


Fig. 6 Electrified wires reinforce aging pole fence. Note-Even with new strong poles, the wires are desirable if but three poles are used

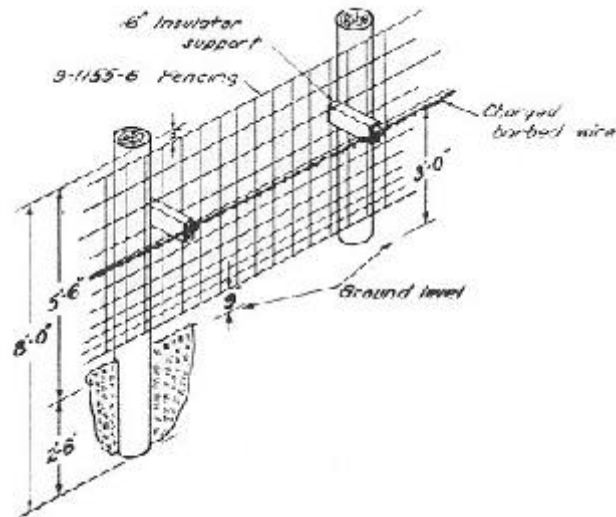
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wire to fence off a sizable area, large enough to grow some pasture wire is to bolster any type of fence that appears insecure, owing to old age or original faulty construction (Fig. 6).

**Woven Wire:** (Fig. 7.) Even though extra strong, this fencing used alone is undesirable. In time the bull will bunt it apart or "scrub" it out of shape. An electrified wire, however, will keep the bull away from the woven wire. The woven wire will restrain the bull if the electrified wire temporarily goes dead.

The best woven wire to use is commercially known as 9-11-55-6. This means

No. 9 wire throughout, 11 horizontal wires, 55 inches high, and 6 inches between vertical wires. Fig. 7. Woven wire fence, reinforced by an electrified wire.



## INDOOR QUARTERS

Whether the indoor quarters are located in a special building or as a part of the dairy barn, there are a few fundamental requirements. Floor area of the pen should not be less than 10 feet by 10 feet. Feeding and watering devices and operation of any door to the yard must be arranged so that there is no necessity to enter the pen. By manipulation of the door to the yard or by bars, it must be possible to shut the bull either in the yard or in the pen. An adjustable stanchion, which is shut on the bull, at least occasionally, as he feeds, is very convenient when the bull must be caught (Figs. 8a and 8b).

## THE DOOR

What is a good door? One that can be shut in a hurry and one that is strong,

An ordinary swinging hinged door is the poorest kind of all because the bull can wreck it easily when it is open and because it is hard to provide an easy and safe way of opening and closing.

A sliding (roller) door is not much better. When it is shut it serves as an effective barrier, but if it fails to slide completely shut, it is easily wrecked. When it is open it can be protected from the bull's bunting by sliding behind a shield. Inclining the track will utilize the weight of the door to speed closing and in opening will lift the bottom of the door away from any obstruction.

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The top-hinged or swinging door is satisfactory (Fig. 8b and cover). The bull can come and go as he pleases. In winter the door is always shut to keep out the cold and storms. In summer, it may be hung up out of the way. This type of door withstands much abuse by the bull because it is flexible. Special bars or other devices are needed to keep the bull either in or out of the stall.

The vertical-sliding door (slides up and down) has the advantage of being least easily damaged (Fig. 9). It is difficult for the bull to wreck it because it is always firmly supported in its vertical grooves.

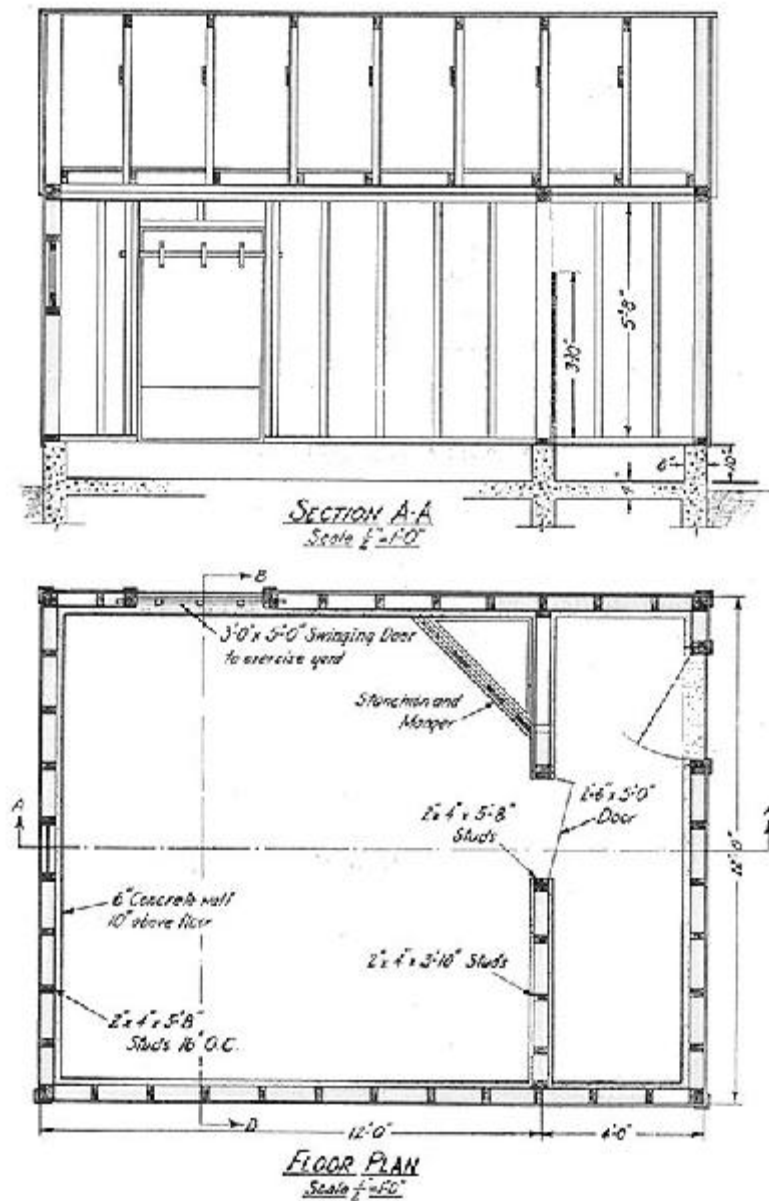


Fig. 8a Floor plan and side section of individual bull barn.

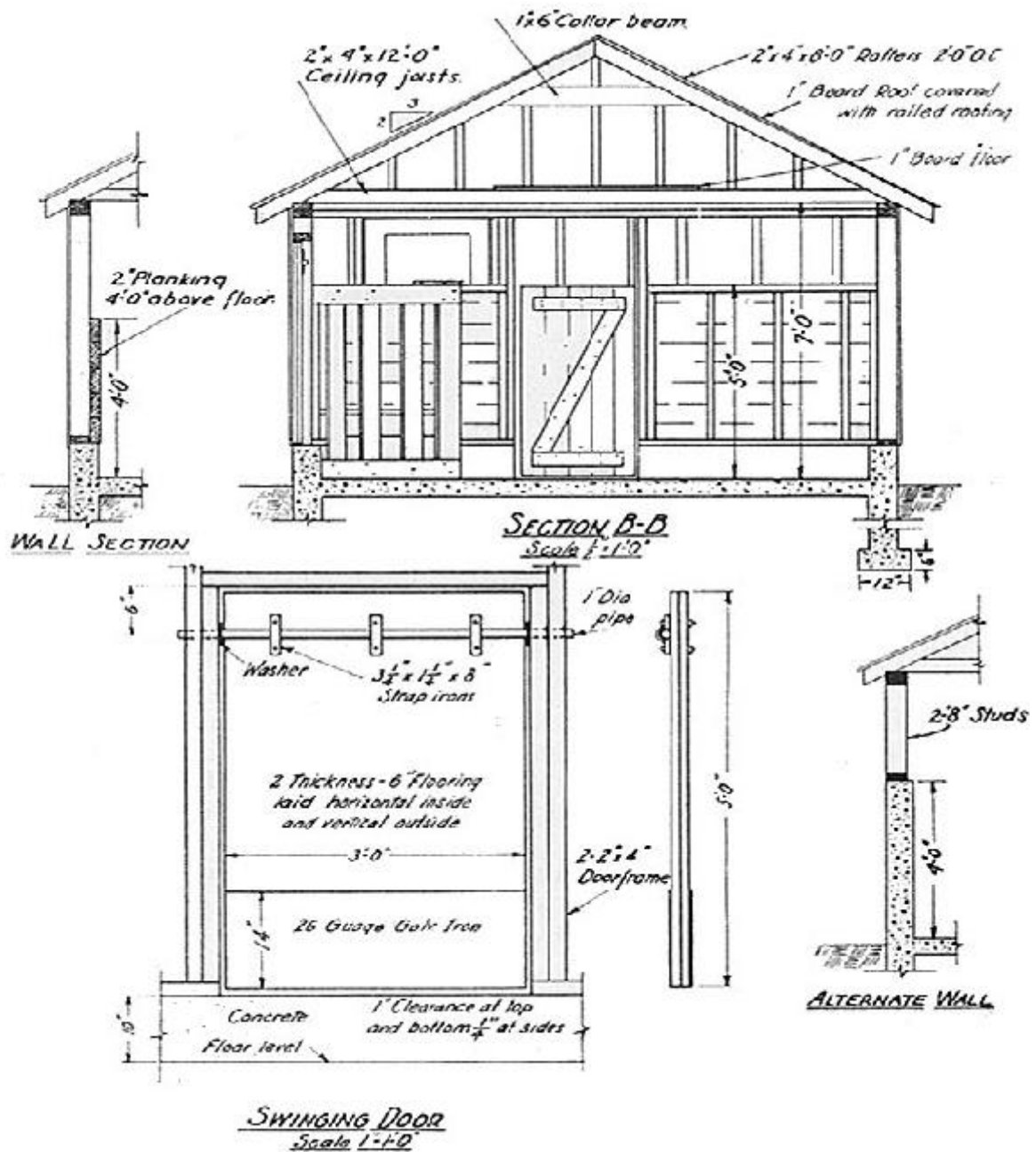


Fig. 8b. End section and construction details for individual bull barn.

It has no loose edges or corners. When it is in the down position it closes, regardless of manure or snow that might get on the threshold. It must, however, be operated by hand. If overhead space does not permit the vertical raising of a one-piece door, the door can be hinged in sections and rolled horizontally in the stall like the overhead-type garage door.

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Fig. 9. A vertical-sliding door is not easily damaged by the bull.

No- door at all is sometimes advocated. This is satisfactory where the bull has his own private house. If he occupies part of the dairy barn proper, it will be advisable to board off his stall from the rest of the barn so as not to interfere with proper temperature and ventilation for cow-quarters.

Bill of materials for either swinging or vertical-sliding door 3' x 5':

- 7 pieces 6" flooring 5' long; cut from 4 pieces 10' long
- 12 pieces 6" flooring 3' long; cut from 3 pieces 12' long
- 2 pounds six-penny nails
- 1 piece 26-gage galvanized iron, 3'8", 30" wide

The 7 pieces flooring, vertical, form the outside of the door. The 12 pieces of flooring, nailed crosswise to the 7 pieces form the inside of the door. Nails should be carefully clinched. The galvanized iron forms a sheath or envelope to protect the bottom of the door against damage by the bull. The iron can be attached either by the six-penny nails or by galvanized roofing nails.

One essential feature regarding any doorway is that it should have a high threshold. Twelve inches is not too high for the bull to step over, and the height prevents interfering with closing of the door owing to such obstacles as manure, bedding, mud, snow, and ice.