

# BULL QUARTERS

## BREEDING CHUTE — YARD — HOUSE

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



**MICHIGAN STATE COLLEGE**

**EXTENSION DIVISION**

**EAST LANSING**

Cooperative Extension Work in Agriculture and Home Economics,  
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Department of Agriculture Cooperating.

BULL GEARTEERS

BRANDS OF CLOTH — JAWNS — HORSE

By A. J. ...

WISCONSIN STATE COLLEGE

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## 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.



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 fore-legs 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

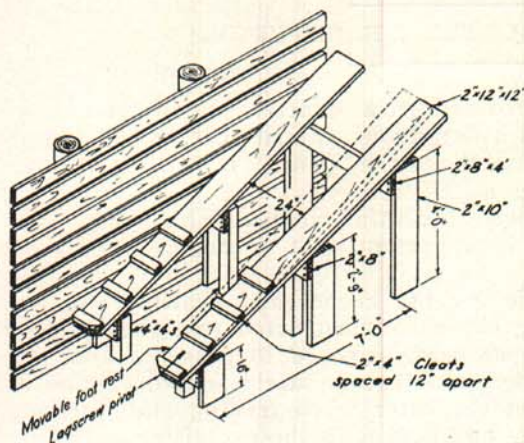


Fig. 1. The breeding rack. This sketch is adapted from Bulletin No. 180, New York State College of Agriculture, Ithaca, N. Y. The breeding chute must be built as large as 4'8" x 12' to accommodate this rack.

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 upper ends when a small animal is being bred.

#### 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 handle the particular bull involved, The cost of two single chutes is little if any more than that of the more complicated double chute.

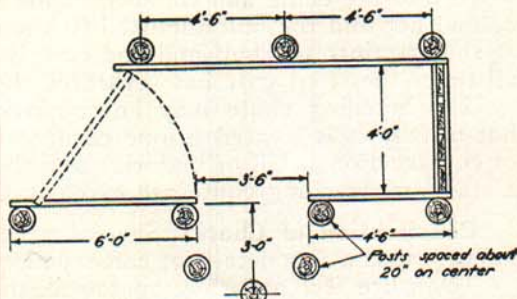


Fig. 2. Chute adapted for use with artificial insemination.



## THE YARD

Dryness is a main essential of the exercise yard. A southern, sandy slope is an ideal natural set-up. Where the yard area is level and the soil is heavy, a fill should be made of sand, gravel or cinders. A section of concrete pavement just outside the doorway is very serviceable.

Other desirable features of an exercise yard include: a southern or eastern exposure; a long narrow area (e.g. 20 x 60 feet), rather than a square area; installation of such exercise promoters as posts, suspended logs, truck tires; and a location where the bull can see other cattle.

### THE FENCE

Strength is the main requisite. A height of not less than 5'6" is recommended. For material, ingenious dairymen have used "junk" material such as old railroad rails, chassis or axles from autos, metal cementing forms, boiler flues.

**Posts and Planks:** (Fig. 3.) Cedar posts treated with preservatives are the best. Posts should not be less than 6 inches wide at the top and 8 feet long. They should be set at least 2½ feet in the ground. Planks should be not lighter than 2" x 8". The fence should be not less than 4 planks high, with the lower plank about 10 inches from the ground. Lag screws are stronger and hold more securely than spikes in attaching planks to

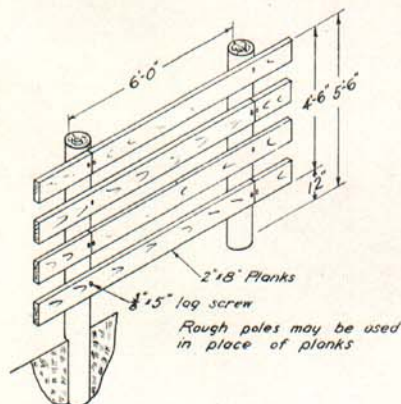


Fig. 3. Post and plank make a satisfactory fence where lumber is available.

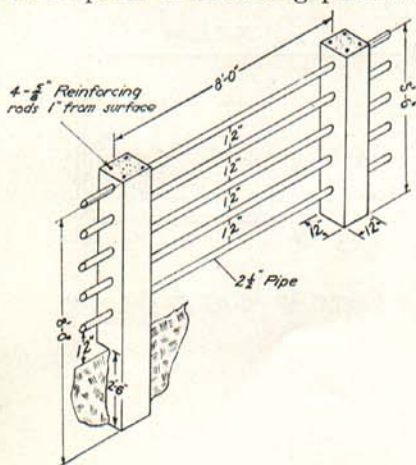


Fig. 4. The pipe and concrete post fence recommended.

posts, and are easier to install than bolts. Poles from the farm woods such as oak, hickory, or evergreens can, of course, replace planking.

**Permanent Construction** calls for concrete, or steel, or a combination. The solid concrete wall—or half wall—is objectionable because it obstructs air movement. The yard is hot in summer, and in the winter the solid wall catches snow. Pipes and concrete posts make an unusually strong and durable bull fence. Pipes range from 2 inches to 4 inches in diameter. Sometimes old boiler flues from the junk yard can be utilized. The flues are sometimes filled with concrete (Fig. 4).

## 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"

## Hardware

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

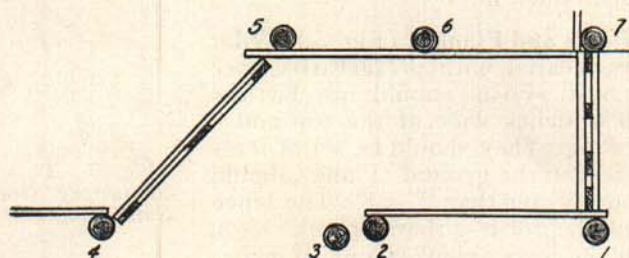
1. Build Panel A  
 2 posts (#1 and #2)  
 6 pieces plank each 6' long, cut from 12' lengths  
 (nail top board first and leave 2" spaces)
2. Build Gate  
 6 pieces plank 6' long for 5 horizontals and 1  
 brace, cut from 12' lengths  
 3 pieces plank 5' long for uprights, each piece  
 cut from a separate 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)

5. Build Stanchion  
 4 pieces plank, 5' long, for uprights  
 from Panel B, 1 cut from 14'  
 4 pieces plank 4' long for horizontals  
 9' piece left over and a 12' le  
 Pieces of asphalt roofing nailed  
 zontals and the 3 rigid upright  
 horizontals so that the movable  
 freely.

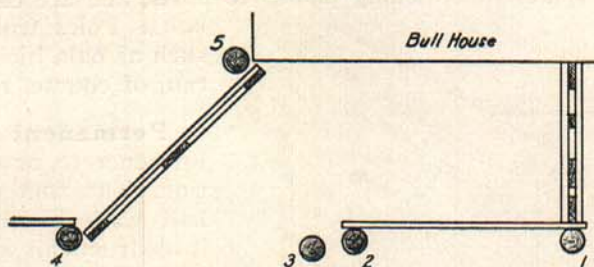
There should be one 5' length of  
 This may be used for strips to  
 to Panel A and B and to make

Where the bull house, or the d  
 for one side of the chute, (re  
 lumber required is:

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



STANDARD PLAN



PLAN SHOWING CHUTE ADJACENT TO BUILDING



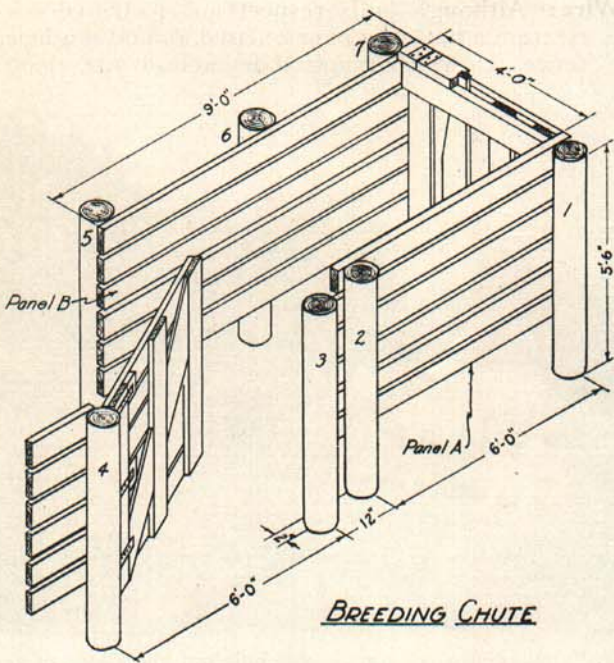
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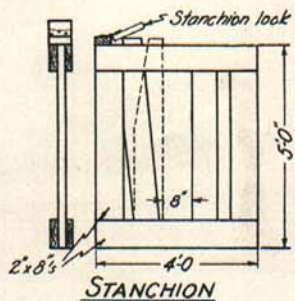
ghts (3 left over  
length)  
tals, cut from the  
ngth  
n between hori-  
ts will space the  
upright will move

of plank left over.  
attach stanchion  
stanchion lock.

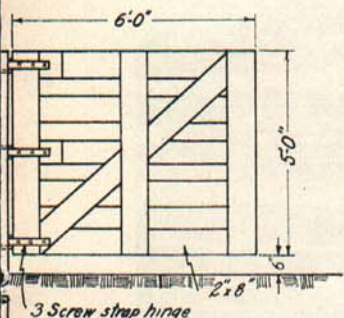
airy barn is used  
replacing Panel B)



**BREEDING CHUTE**



**STANCHION**



**GATE**

<b>MICHIGAN STATE COLLEGE</b> AGRICULTURAL ENGINEERING DEPARTMENT EAST LANSING, MICH.		
<b>12'-0" x 16'-0" BULL HOUSE WITH PEN          AND BREEDING CHUTE</b>		
Planned J.H.	App. by R.H.	1-3-40
Drawn R.H.	Date 11-16-39	Sheet 2 of 3
Traced M.H.	Scale 1/2" = 1'-0"	No. 77507-13
Checked C.H.J.		

**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

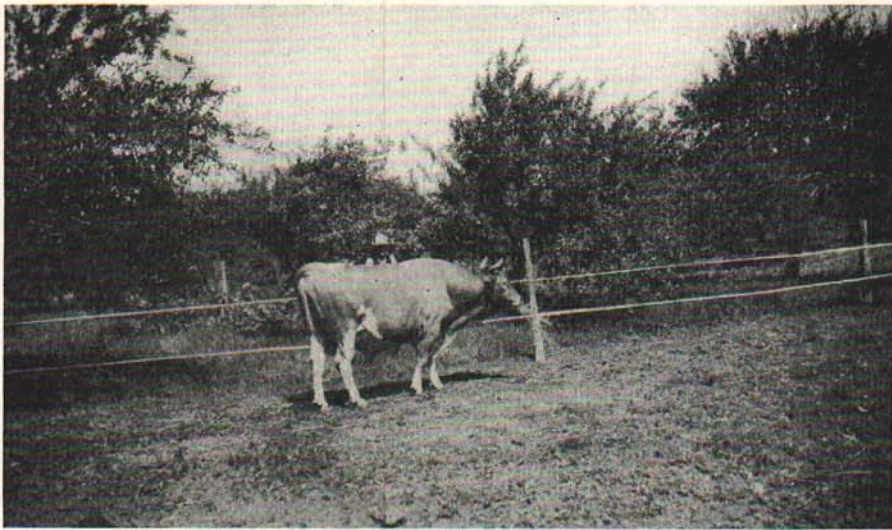


Fig. 5. Two electrically charged wires confine this bull, but allow him an acre of runway with some pasture during summer.

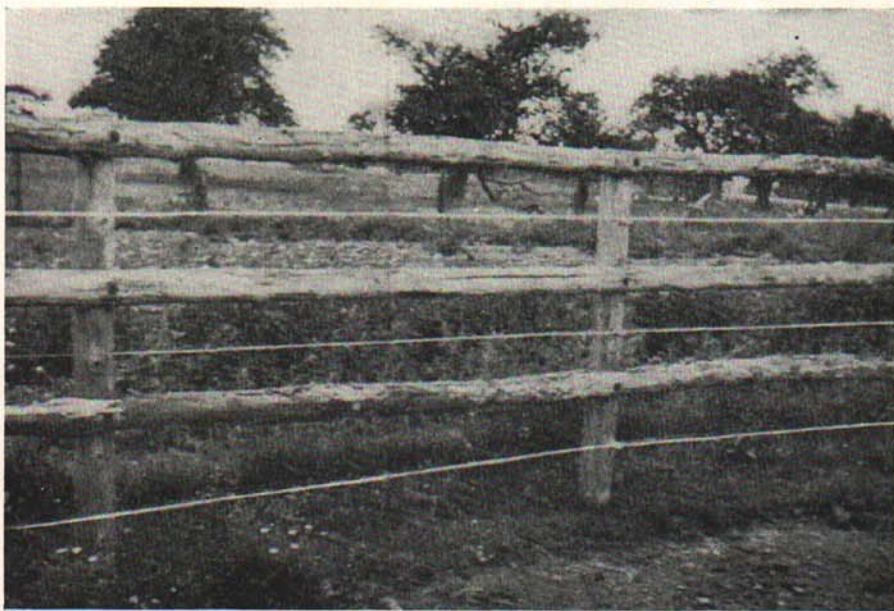


Fig. 6. Electrified wires reinforce aging pole fence. Note—Even with new strong poles, the wires are desirable if but three poles are used.



wire to fence off a sizable area, believing the bull yard should be large enough to grow some pasture (Fig. 5). One use for the electrified 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.

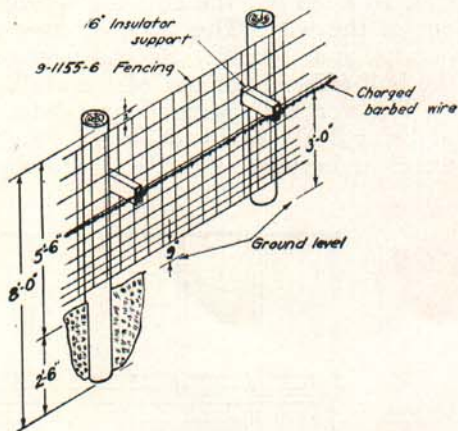


Fig. 7. Woven wire fence, reinforced by an electrified wire.

## 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.

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.

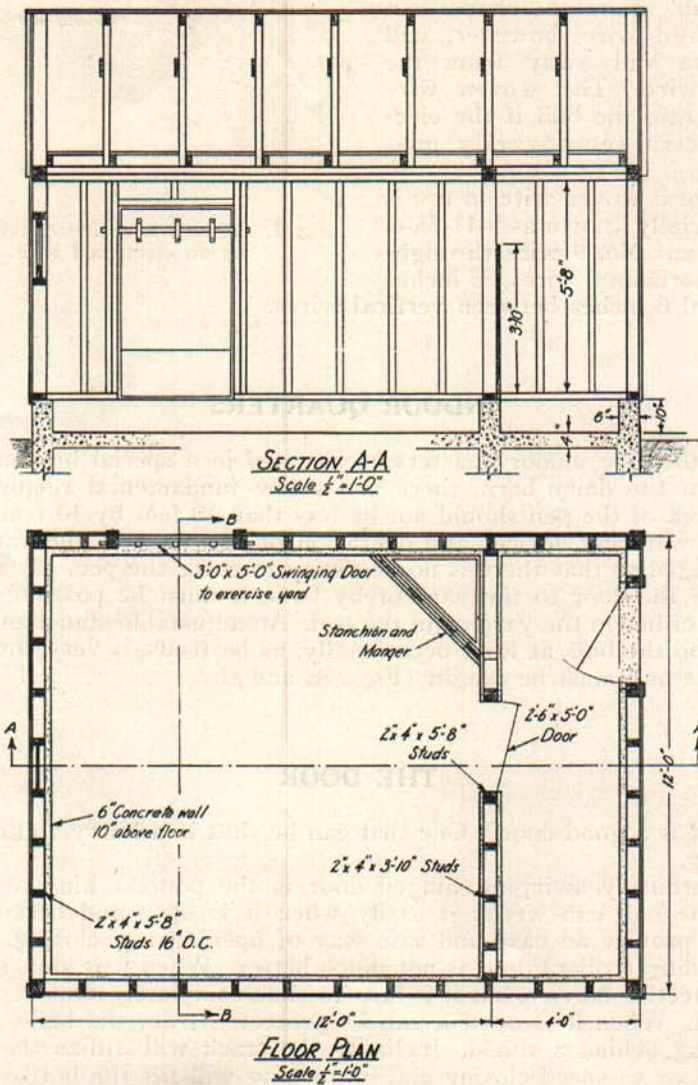


Fig. 8a. Floor plan and side section of individual bull barn.



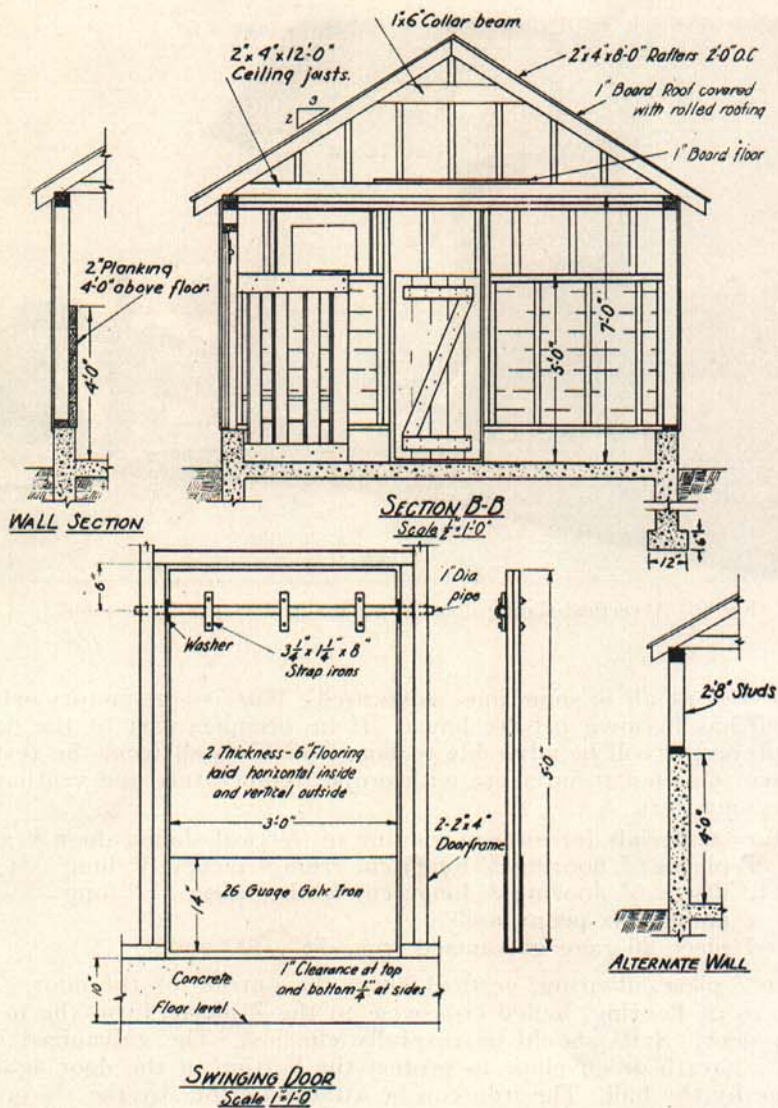


Fig. 8b. End section and construction details for individual bull barn.

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.



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.