

PAMPHLET NO. 19

Association of American Railroads

OPERATIONS AND MAINTENANCE DEPARTMENT
OPERATING-TRANSPORTATION DIVISION

METHODS FOR LOADING AND HANDLING LIVE STOCK

ISSUED APRIL, 1925
REVISED JANUARY, 1942

For Additional Copies
Address
EXECUTIVE VICE-CHAIRMAN
OPERATING-TRANSPORTATION DIVISION
59 EAST VAN BUREN STREET
CHICAGO, ILLINOIS
Printed in U. S. A.

PREFIX

No attempt has been made in the preparation of this pamphlet to cover any of the classification requirements, Quarantine tariffs, or other tariff requirements involved in the loading, billing, shipping and movement of livestock except as they, or any portion thereof, may bear on these Rules and Regulations for Loading and Handling Livestock, which are intended to insure the safe, proper and prompt transportation of livestock.



Prepared by
**COMMITTEE ON CLOSED CAR
LOADING RULES
FREIGHT STATION SECTION**

Approved and Published
by
**GENERAL COMMITTEE
OPERATING-TRANSPORTATION
DIVISION**

1. Careful mechanical inspection of cars must be made prior to loading to avoid delays in transit account of defective car and to insure the use of sound and suitable equipment free from protruding nails, bolts and other projections, and that floor is solid and side walls free of broken slats, that the doors are safe and Bull Boards available. When shipments include horses, cars with high ceiling must be used. A straight edge board drawn along the sides of the interior of car will quickly locate exposed nails or bolts.
2. In cars for interstate shipment, bedding which makes cars unfit for loading must be removed and replaced with new and suitable bedding. The railways in Canada are required, when shipments arrive at destination, to thoroughly clean and disinfect cars before putting them in use again. Sand bedding is the most satisfactory for livestock in warm weather—an even spread of one inch or more must be placed on car floor; more may be desirable for horses. In cold weather, hay or straw must be added and cars for hog loading must have the hay or straw bedding piled about one foot high around the sides and ends of car to act as a wind breaker. Not less than one and one-half bales must be used per deck and in extreme weather at least two. **Bales to approximate in weight 200 lbs.**
3. During periods of stormy or severe cold weather the sides of the car **should** be papered or battened in order to provide additional protection allowing for ventilation. When such protection is given to hogs, it tends to keep them from piling up in an effort to keep warm. When hogs pile up, heavy casualties and shrinkage always result.
4. Time of Loading, Feeding and Resting Livestock—Place, date, time and zone in which livestock is loaded, unloaded and reloaded must be shown on waybills. The zone may be abbreviated as follows:
 - E.S.T.—Eastern Standard Time
 - C.S.T.—Central Standard Time
 - M.S.T.—Mountain Standard Time
 - P.S.T.—Pacific Standard Time.
5. Pens, water troughs and feed racks must be kept clean and in good condition.
6. Loading and unloading chutes must be equipped with cleated floors and wide side boards. Unloading chutes for animals from double deck cars or trucks must have a flat deck for animals to step on before the slope is started. Animals will not step directly on a short chute with a steep incline without being forced. Cleats on chutes must be in good condition at all times to avoid slipping and falling. After sleet storms and in icy weather, spread sand

on chutes and throughout pens. Frequent inspection of loading chutes are necessary.

7. Prod poles, clubs, etc., **must never be used**. Use canvas slapjacks to avoid bruising of animals. See Illustration No. 1. Electric prod poles may also be used.
8. Allow animals to move slowly through gates, chutes and doors.
9. Avoid crowding in cars and allow more space for animals in hot weather. As a guide to prevent overloading and to insure safe loading, see Illustration No. 2.
10. Livestock should be rounded up and driven quietly. Hogs should not be driven but trucked to loading point. Animals should be yarded at shipping point in sufficient time to become rested and cooled before loading **and should be loaded within a reasonable time in advance of the arrival of the train.**
11. At markets where feeder stock is offered for shipment, careful inspection should be made to see that hemorrhage has ceased in calves that have been dehorned or castrated before they are accepted. Branded animals must not be loaded until they have had a chance to become rested from the excitement and sheep or calves that have been dipped must be held approximately five hours until the wool or hair next to the skin has had a chance to dry.
12. Records must be made of injured, crippled or vicious animals (fighters), showing full description of the ones involved, such as their color, size, age, weight, sex, etc., and any failure to properly segregate the different type of animals in cars through the use of partitions. Record must also be made where it is evident more animals are loaded than can be safely transported.
13. It is unlawful to transport or offer for transportation in the same car with live animals, dead animals from the original point of shipment.
14. Horses and mules should be tagged or otherwise marked so they can be identified.
15. Horses from public markets are usually not placed in with other horses until loading time. This results in some fighting that could be avoided in many cases by giving the animals a chance to become acquainted.
16. Mated horses that have teamed together will fight to join each other if separated in cars.
17. Horses should have shoes on hind feet removed to prevent injuring each other.
18. In loading to cars, different kinds of livestock must be separated

by strong partitions or tied, except that goats may be mixed with sheep or veal calves.

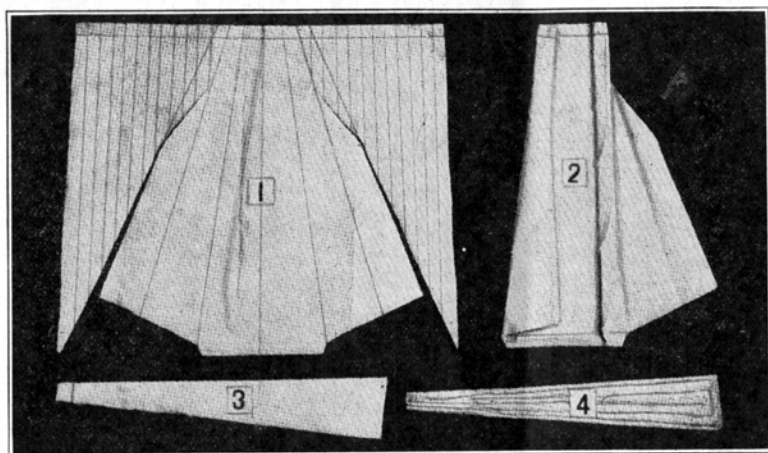
19. Bulls with cattle must be securely tied. Each bull loaded with small stock must be partitioned and securely tied. Tying of bulls is a large factor in their safe transportation. In tying animals, not less than one-half inch rope should be used. Rope must not be run through the nose ring or slip knot used in tying rope around neck. Length of rope between neck knot and place where tied to side of car must be thirty to thirty-six inches above car floor, so that animals that may fall down will not be strangled.
20. Mares with suckling colts, or cows with suckling calves must be separated from other stock in same car by partitions, except that a carload shipment of mares with colts, or a carload shipment of cows with calves will be accepted without requiring partitions in cars.
21. Horses and mules may be loaded in same car without requiring partitions.
22. Other kinds of stock may be handled in mixed carloads if separated by partitions, such as stags, stallions, jacks, runts, weaklings, cripples and vicious animals (fighters). Notation covering must be made on the proper documents.
23. The loading of hogs, calves, sheeps or goats with cattle, horses and mules will not be permitted, unless car is suitably partitioned.
24. Partitions must not be nailed to sides of car, but must be fastened with wire hooks around upright posts of car. See Illustration No. 3.
25. When cars of livestock are held in transit in warm weather, they should be placed where there is free circulation of air and not alongside of buildings or between cars.
26. **On interstate shipments** it is unlawful to confine livestock in cars for a longer period than 28 consecutive hours, unless upon written request in duplicate by shipper or men in custody, when the time may be extended to 36 hours; time of confinement to be computed from time loading is completed until unloading. Sheep that had been in transit 28 hours and time of confinement expires at night, may continue in transit to suitable place for unloading, providing it will not confine them in cars more than 36 hours. Written request from owner or custodian will not be required.
27. **In the Dominion of Canada, the law permits livestock to be confined in cars for a period of 36 consecutive hours, before the confinement becomes unlawful.**
28. When livestock is unloaded in transit for feed, water and rest, animals must be allowed to eat before they are watered to prevent

indigestion and other bad effects of water before feeding. Horses must not be watered for at least one-half to two hours after feeding. The effects of watering before feeding are most apparent in horses or feeder calves. The rest period must not be less than five hours. **Before reloading, condition of the bedding must be determined and more bedding added or cars rebedded if necessary.**

29. In hot weather, shippers of hogs must wet down the bedding of cars before loading and several chunks of ice may be placed on each deck or hung in burlap bags from ceiling. After loading, cars must be sprayed with water by use of spraying device which will direct a stream of water against sides and ends of cars, and into the bedding underneath the hogs, but not directly on hogs. This must also be done at suitable intervals while cars are enroute. See Illustration No. 4.
30. Illustration No. 5 shows a photographic reproduction of three lungs of three hogs about the same age and weight. The function of the lungs is to purify the blood of the body; perspiration (sweating) being almost impossible, a large part of the excess moisture and heat of the body is passed off through the lungs; therefore, a hog with undeveloped lungs will suffer more quickly in hot weather than when the organs are well-developed. A hog that is fattened quickly does not develop more than 80% of its normal lung space and is therefore not in condition to withstand unusual exertion; it is the hog with the poorly developed lungs and heart that comprises 90% of death losses in transit. Strain on the vital organs starts when the hog is moved from its home pen to the loading point. This exertion causes increased heart action and dilated blood vessels of the lungs. The hog becomes short of breath and if it is not immediately placed in a cool quiet place, where it can return to normal, it will die of acute congestion of the lungs or other acute lung disease.
31. When a hog eats its fill in the feed lot under normal conditions, it will find a quiet place and sleep while digestion takes place, but in the excitement of transportation, sleep is impossible; therefore, digestion is not normal and fermentation and gas formation takes place and death may result. When the stomach and bowels are full and distended, pressure is exerted on the diaphragm, pushing it forward, pressing the lungs and heart forward into their cavity, which cannot distend, being surrounded by the ribs. When this occurs in hot weather, the animal will suffer greatly and the lungs become congested and death may result. See Illustration No. 6. A large percentage of hogs that die in transit show this condition.
32. Same care must be exercised in unloading and handling all animals at unloading points in transit and at destination as called for in handling and loading at point of origin. Injured, crippled, weak-

lings, vicious (fighters) and other animals that must be separated from others in cars by partitions, or bulls required to be tied, must not be unloaded into one pen without affording them the same protection required for them in transit by paragraphs 12, 18, 19 and 22. Exceptions given account of injury or loss must show full description of the injury or loss and cause or apparent cause. The part of the animal that is injured must be shown and also full description of the animal including tag number.

33. When shipper or consignee demands notation of inconsequential injury or loss, add to the notation the words "To satisfy shipper or consignee."



CANVAS SLAPPERS

Above is a picture showing how canvas slappers can be made. No. 1 shows how to cut a piece of No. 8 canvas 36 inches long and 32 inches wide, the line indicating the folds. No. 2 shows the slapper partially folded; No. 3 shows it completely folded and No. 4 shows the slapper after it has been stitched. Use of slappers would eliminate much loss from bruised meat and reduce death loss in transit. An animal with painful bruises on its body, from clubs and whips, is nervous after being placed in the car and will not rest properly in transit and will prevent other animals from resting.

Illustration No. 1

Illustration No. 2

CATTLE

AVGE. WEIGHT PER HEAD	300	400	500	600	700	800	900	1000	1100	1200	1300	1400
Size Car 36'—No. Head.....	60	50	42	36	33	30	27	25	23	22	21	19
Size Car 40'—No. Head.....	67	56	46	40	37	33	30	27	25	23	22	21

HOGS

AVGE. WEIGHT PER HEAD	100	125	150	175	200	225	250	275	300	325	350	400
Size Car 36'—No. Head*.....	130	115	100	89	79	73	68	62	60	57	54	48
Size Car 40'—No. Head*.....	145	127	110	98	88	81	76	69	66	64	60	54

*Single deck cars.

HORSES

AVGE. WEIGHT PER HEAD	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800
Size Car 36'—No. Head.....	29	27	25	24	23	22	21	19	18	17	17	17
Size Car 40'—No. Head.....	32	30	28	27	26	24	23	21	20	19	19	18

SHEEP OR LAMBS

AVGE. WEIGHT PER HEAD	50	75	100	125	150	180
Single Deck 36'—No. Head.....	150	125	105	95	85	75
Single Deck 40'—No. Head.....	165	138	116	105	94	82
Double Deck 36'—No. Head.....	300	250	210	190	170	150
Double Deck 40'—No. Head.....	330	276	236	210	188	164

In loading proper animals in double deck cars, the number loaded on the upper deck should be eight to ten (8 to 10) head less than on the lower deck.

The above tables were devised by the Western Weighing & Inspection Bureau Veterinarian Service after much research and study, and may be used as a guide in determining the approximate number of head that can be loaded with safety.

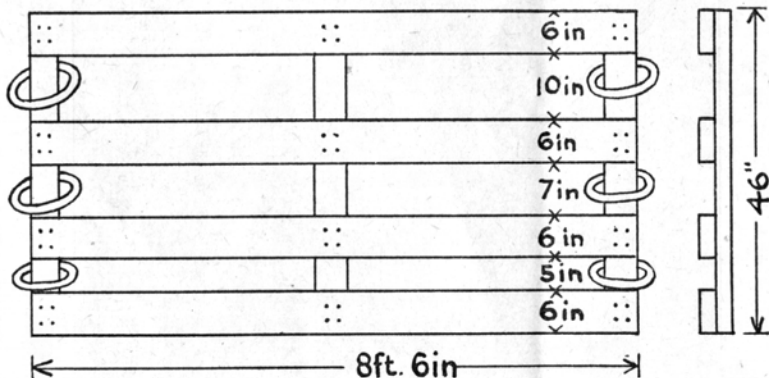
PARTITIONS FOR LIVE STOCK

Wire used to fasten to side posts of car



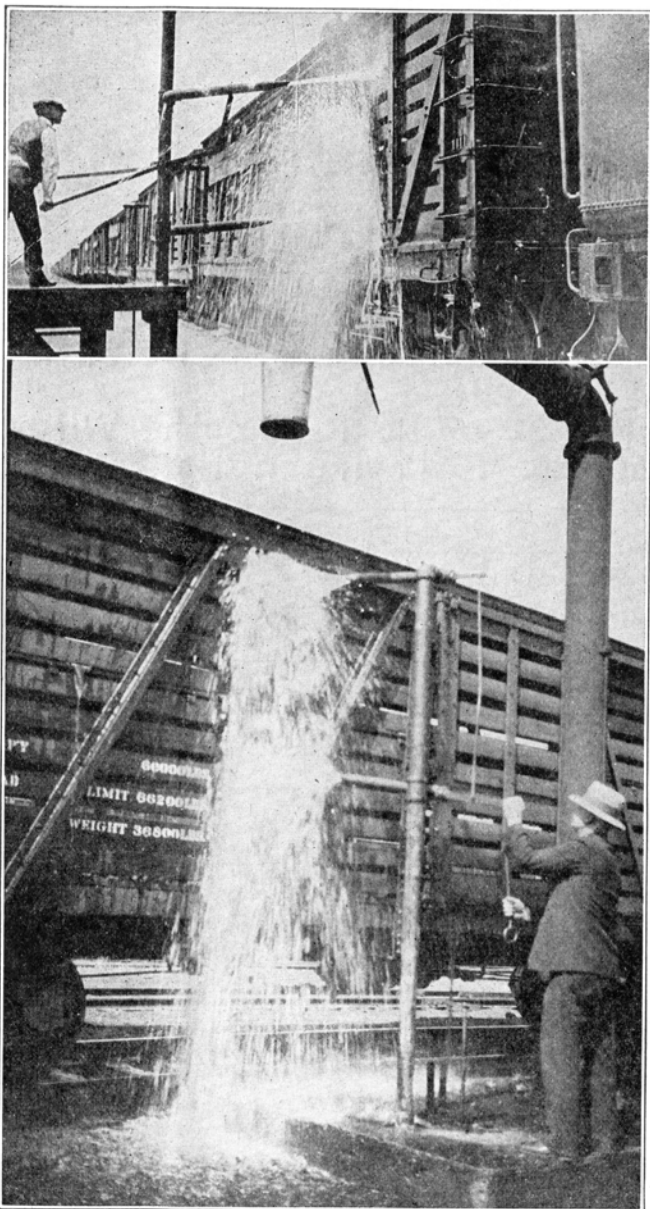
BILL OF MATERIAL

3 pieces 2X4 ... 46 in long pine or fir
 4 " 2X6 ... 8' 6" " " " "
 About 32'-6" No 11 Smoothe Wire
 60-No. 16d wire nails.

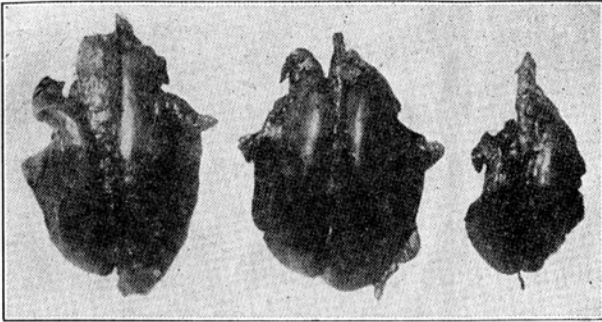


This illustrates a gate which can be provided at a reasonable cost, complies with the tariff, and has been found satisfactory.

Illustration No. 3



Method of Drenching Hogs in Transit. See Paragraph 29,
Illustration No. 4



A photographic reproduction of three lungs of three hogs about the same age and weight.

Illustration No. 5

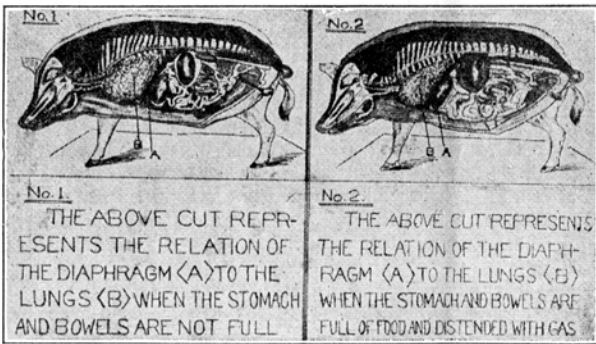


Diagram shows why hogs that have their stomachs and bowels full of food suffer in hot weather.

Illustration No. 6

LIST OF PAMPHLETS OF METHODS FOR LOADING CAR-LOAD SHIPMENTS OF COMMODITIES IN CLOSED CARS, ISSUED BY OPERATING-TRANSPORTATION DIVISION

Pamphlet No.	TITLE
1.	Automobiles and Trailers (privately owned) Shipped by Freight, Including Shipments Moving Under Passenger Ticket Plan
2.	Automobiles—Unloading, from Auto-Loader Device Cars
3.	Bags — Commodities In — Flour and Other Grain Products, Sugar and Kindred Commodities, Rice, Salt, Coffee, Beans, Peanuts, etc.
4.	Barrels, Drums or Kegs
5.	Batteries—Storage
6.	Brick and Hollow Building Tile
7.	Brick—Hot Top
8.	Butter in Tubs in Refrigerator Cars
9.	Cable and Similar Commodities on Reels
10.	Car Doors — Battening, as Protection Against Damage by Weather, Cinders, etc.
11.	Car Wheels—Loose
12.	Cylinders—Empty, With or Without Caps
13.	Fibreboard Containers—Commodities in (Solid or Corrugated)
14.	Freight—Loading, Bracing and Blocking Of
15.	Furniture—Carload
16.	Furniture—Less-Carload
17.	Grain and Grain Products in Fibreboard Containers and Sacks
18.	Ink and Like Commodities in Six-Gallon Steel Pails and Similar Containers
19.	Livestock—Loading and Handling
20.	Lumber (Dressed) and Mill Work
21.	Machinery
22.	Marble in Slabs—"A" Frame Method
23.	Sheet Steel, Tin Plate and Other Steel Products
24.	Paint (Mixed) in Wooden Cases, Cartons, Drums, Barrels or Pails
25.	Paper and Similar Commodities on Skids
26.	Plasterboard, Wallboard and Lath of Similar Composition— Either in Solid Loads, or with Bagged Commodities as Mixed Loads
27.	Projectiles, Bombs and Cartridge Cases (Empty)
28.	Radiators—Cast Iron
29.	Refrigerators—Mechanical
30.	Roofing Materials (Prepared)
31.	Soda Ash
32.	Stones—Pulp Grinder
33.	Stoves and Ranges
34.	Tank Cars—Loading and Unloading of—Used for Transporting Non-Dangerous Commodities
35.	Untreated Cross Ties
36.	Bulk Grain—Inspecting, Preparing and Coopering Cars and Methods for Releasing Grain Doors from Cars and for Protection of Grain Doors
37.	Pig Lead, Copper Bars and Similar Commodities