



RUNNING CATTLE

and other beasts

Dan Lewis, MMR

The Stock Industry

For more than a century, the railroads hauled “live loads” from ranches and farms into big city stockyards.

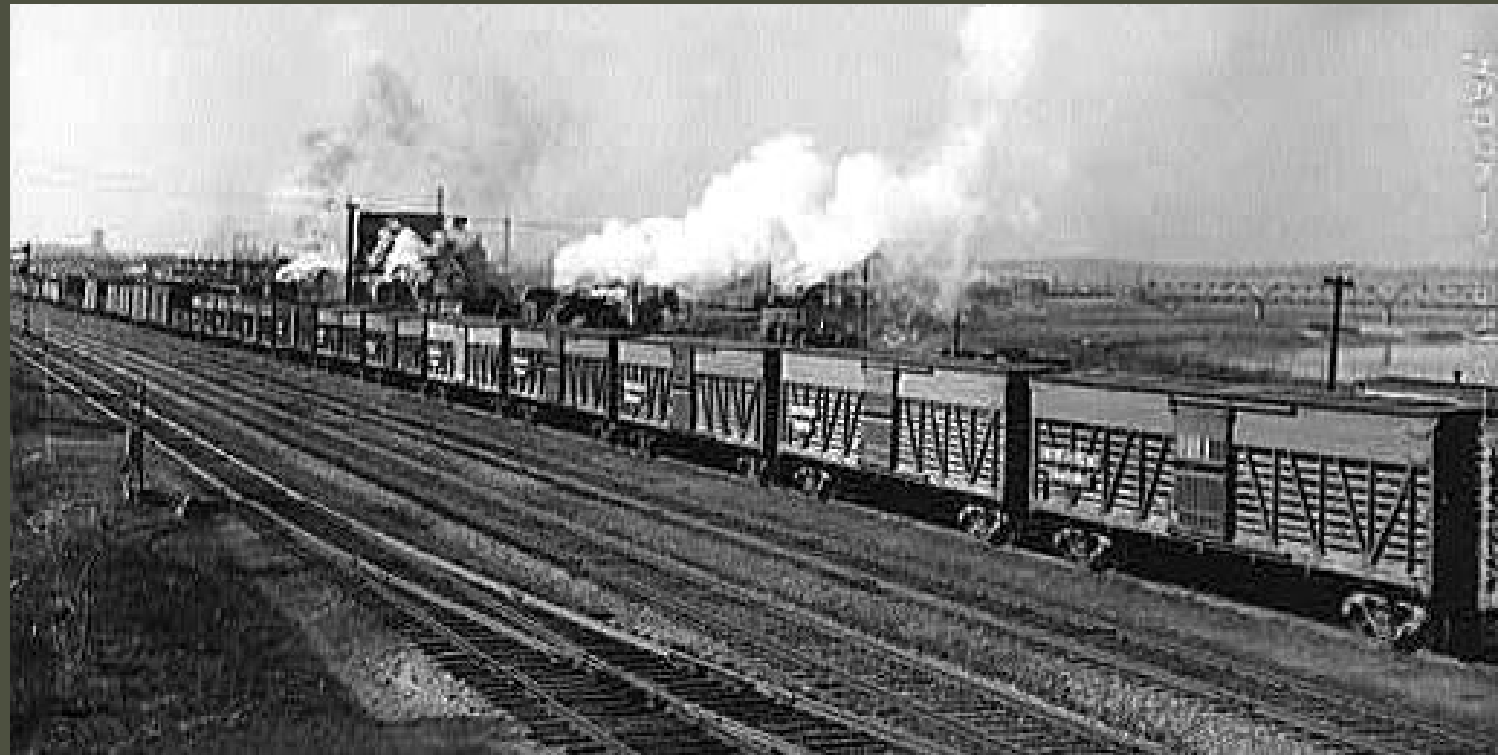
- *From the mid-1800s through the 1950s, livestock accounted for a significant amount of railroad freight traffic.*
- *By 1950, there were more than 50,000 stock cars in America owned by sixty-six different railroads.*
- *However, only three roads east of the Mississippi had more than a thousand at a time.*
- *Eighteen railroads owned more than three-quarters of the total.*

Volume of Stock Traffic

As an example of the volume of stock traffic, animals shipped and slaughtered in American packing plants in 1938 are representative:

- *59 million hogs*
- *24 million head of cattle*
- *22 million lambs and sheep*
- *In addition, ranchers shipped smaller numbers of horses, mules and goats.*

AT&SF stock cars



STOCKCARS

Beginning of Stockcars

Railroads always have been reluctant to build specialty freight cars for a single commodity.

- *Single commodity cars stay empty half the time.*
- *They don't generate as much revenue as other types of freight cars.*
- *In the mid-1800s, the railroads attempted to ship live loads in standard boxcars, but this effort was largely unsuccessful.*
- *Hence, the railroads began building stockcars, first all wood, then with steel framing, and finally with steel ends, roofs and sides.*

Types of Stockcars

The most common stockcars were 36' and 40' throughout the era.

- *They could be single-deck, double-deck, convertible or (more recently) triple deck.*
- *Single-deck cars were used to transport all kinds of livestock.*
- *Double-deck cars were used to transport smaller animals (sheep, calves, hogs).*
- *Convertible cars had a movable upper floor that could be raised under the roof when not in use.*

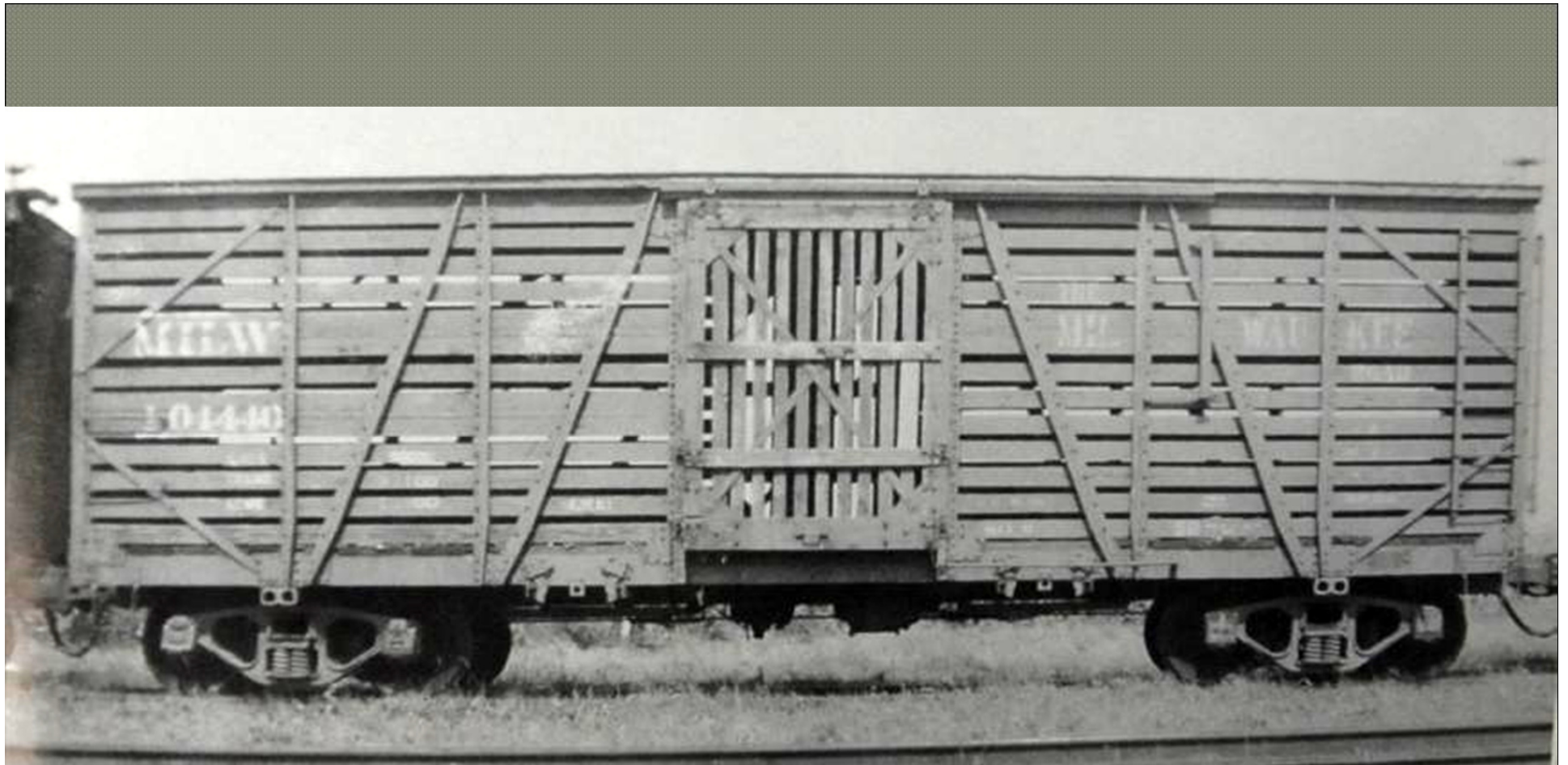
AAR Reporting Marks

Class “S” Stock Car Types:

- SA = fixed deck
- SC = convertible single or double deck
- SD = single deck, drop bottoms
- SF = fixed double deck
- SH = horse car
- SM = single deck
- SP = poultry, wire netting, shelves
- ST = triple deck (modern)



NP 36' stockcar with wood ends



MILW 36' wood stock car with
drop bottom mechanisms



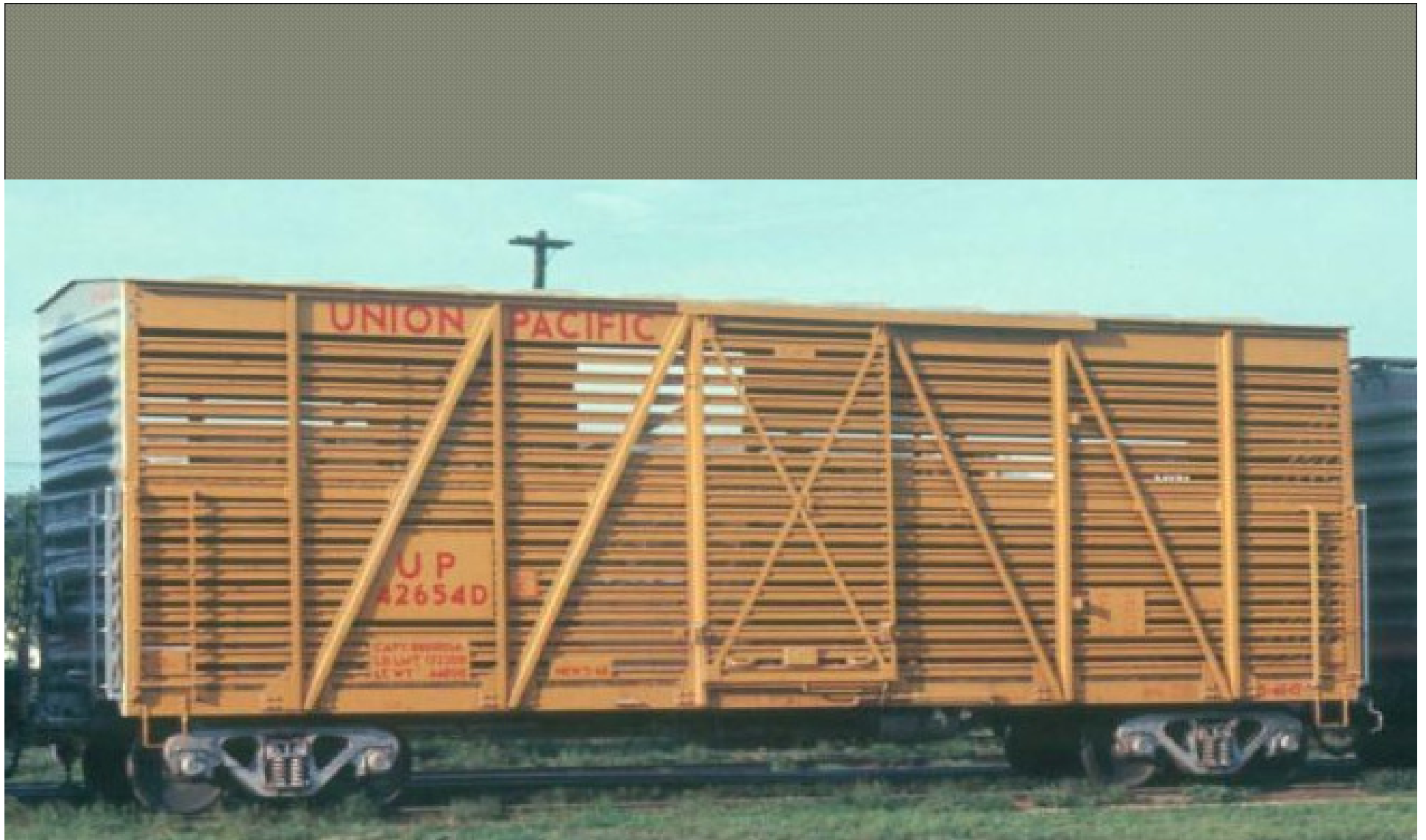
D&RGW narrow gauge stockcar



TC convertible stockcar with roller & chain mechanism for raising and lowering the deck



AT&SF 40' wood stockcar with steel ends
and roof



UP all steel modern stockcar



poultry car (unknown road)

Capacities

Average 36' or 40' stockcar capacities:

	SINGLE DECK	DOUBLE DECK
Steers	25 to 30	
Steers (feeders)	35 to 40	
Hogs	70 to 75	125 to 140
Sheep	110 to 130	220 to 230

Demise

With the advent of the interstate highway system and the advance of the trucking industry, rail livestock traffic declined sharply beginning in the late 1950s.

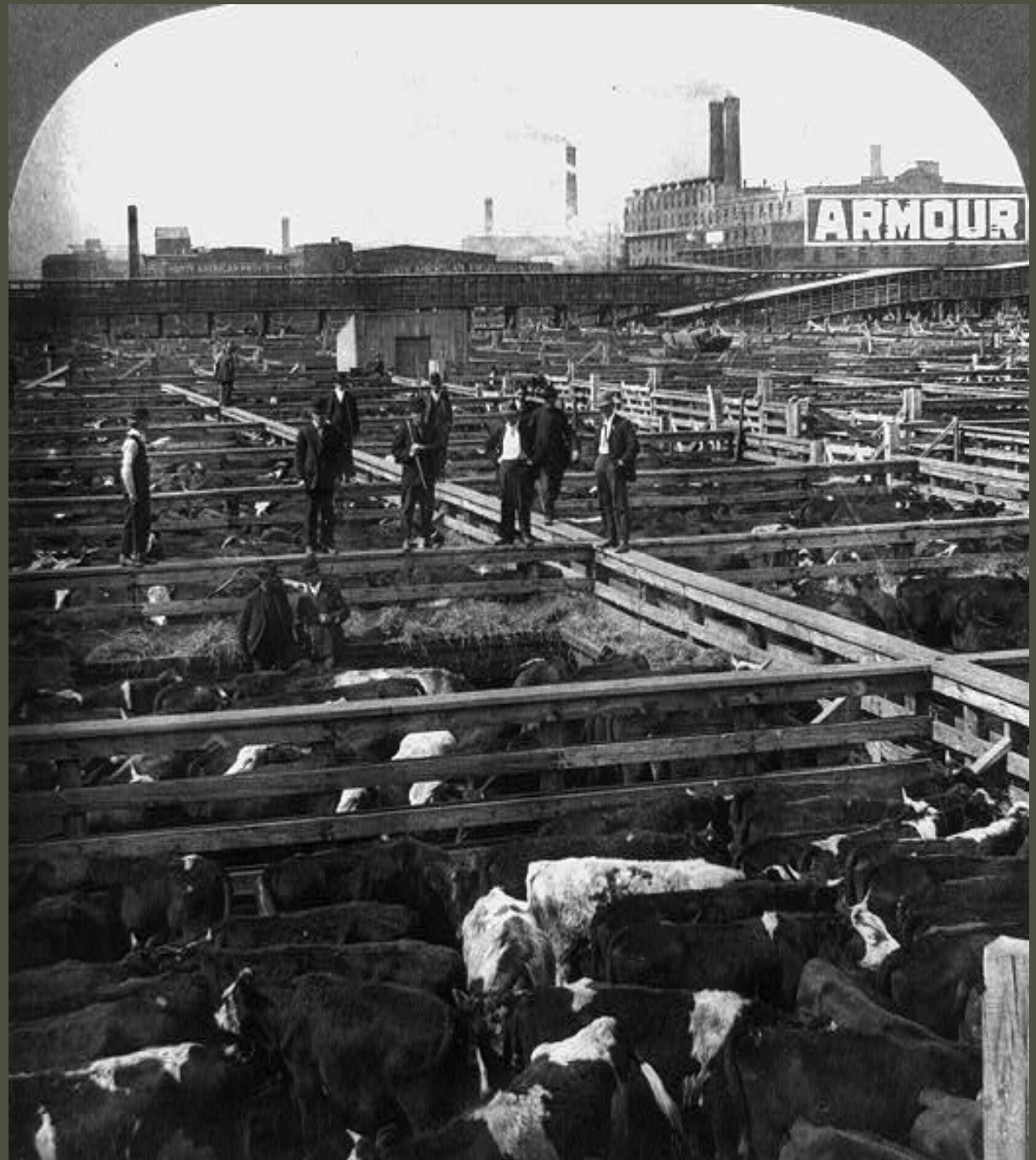
- *It was cheaper to ship by truck.*
- *Packing companies began to build plants next to feedlots instead of railroad stockyards, further reducing traffic.*
- *By the 1970s, stock traffic on most railroads had ended.*
- *In 1971, the Chicago Union Stockyards closed.*

Decline of Stock Car Fleets

	1955	1977		
ATSF	7,709	0		
B&O	1,195	0		
CNW	2,059	0		
CBQ	3,493	--		
MILW	3,315	34		
DRGW	909	3		
GN	1,718	--		
MP	1,517	0		
NYC	1,600	--		
PRR	1,299	--		
SP	2,302	0		
UP	3,336	1,024		
			BN	2,197
			PC	0

Chicago Union Stockyards,
the largest stockyards in
the United States

STOCKYARD STRUCTURES



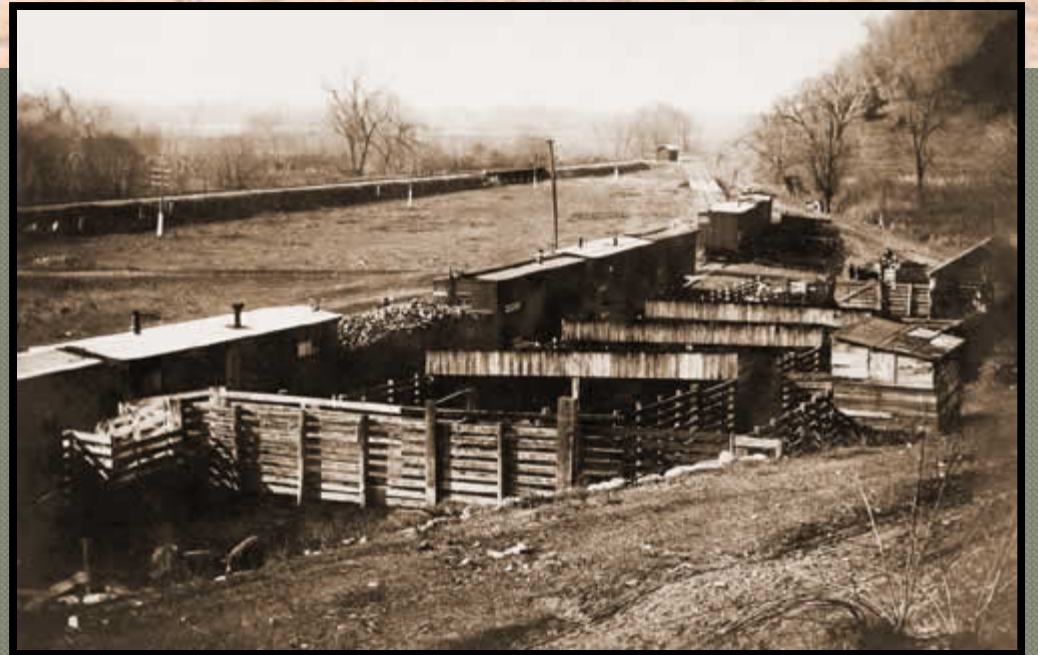
Stock Corrals

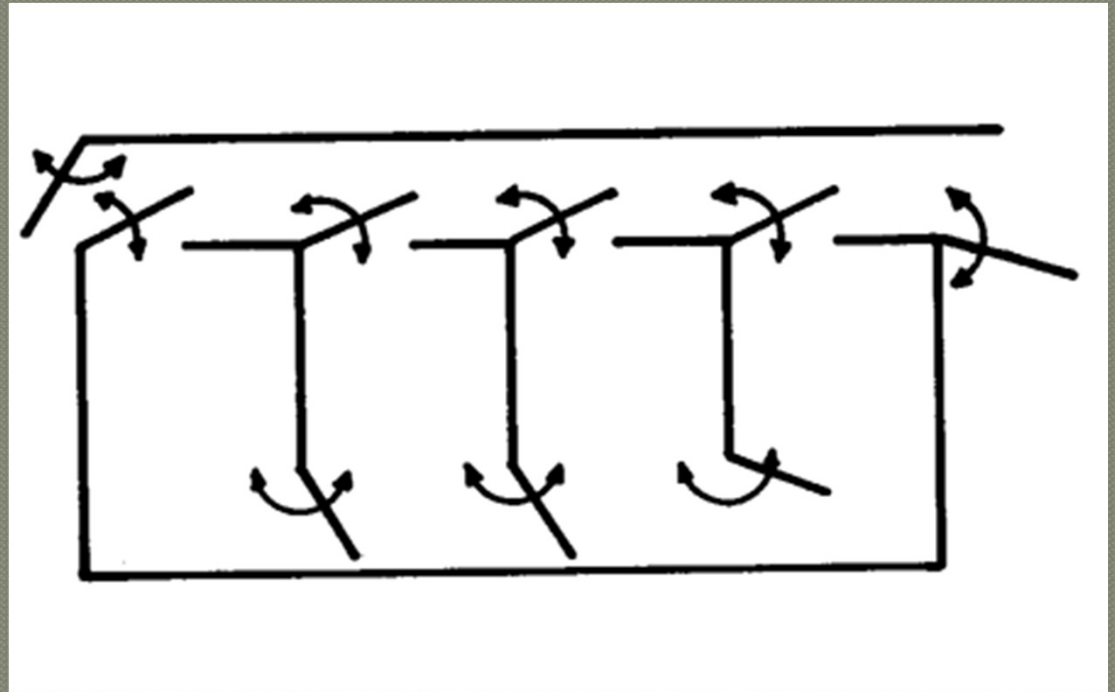
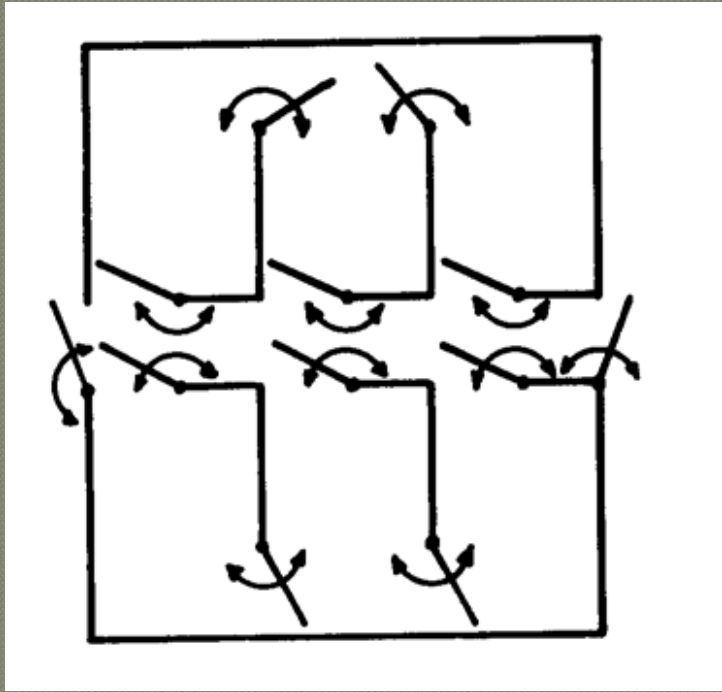
At the shipping end, livestock waiting to be loaded was corralled in pens usually located on spurs.

- *From these pens, the stock was loaded for transit.*
- *Stock pens could be alongside trackage near ranches.*
- *Stock corrals also frequently were built in railroad sidings in towns to serve local farms and ranches.*
- *Stock pens usually had access to water for watering the animals (pump, water tank car, windmill, etc.).*
- *Hog pens were often roofed, since swine were especially sensitive to light and heat.*



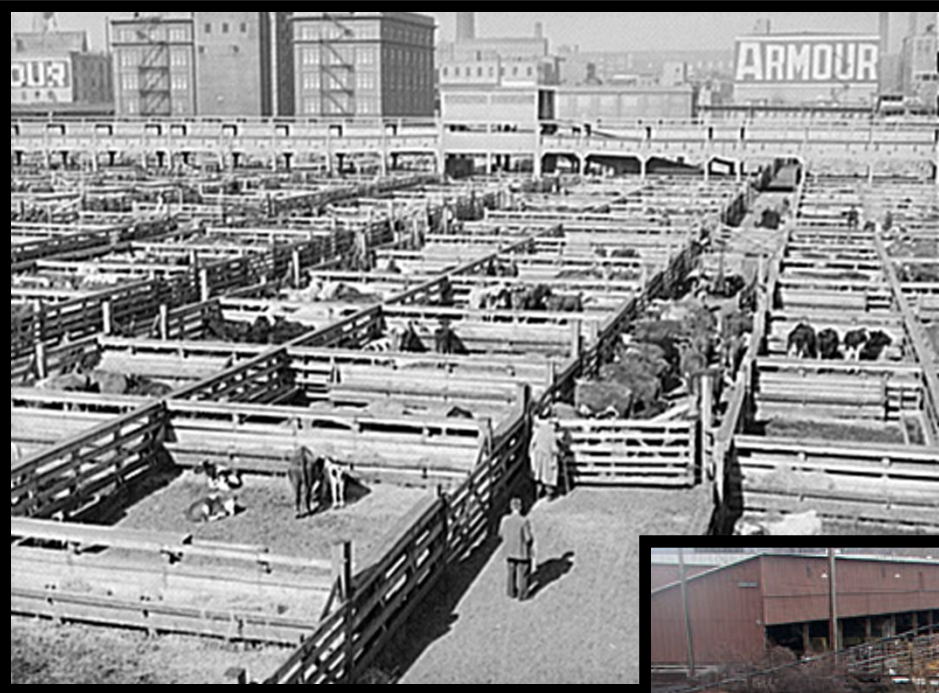
smaller stock
pens on rural
sidings





Typical fencing arrangements of stock pens included:

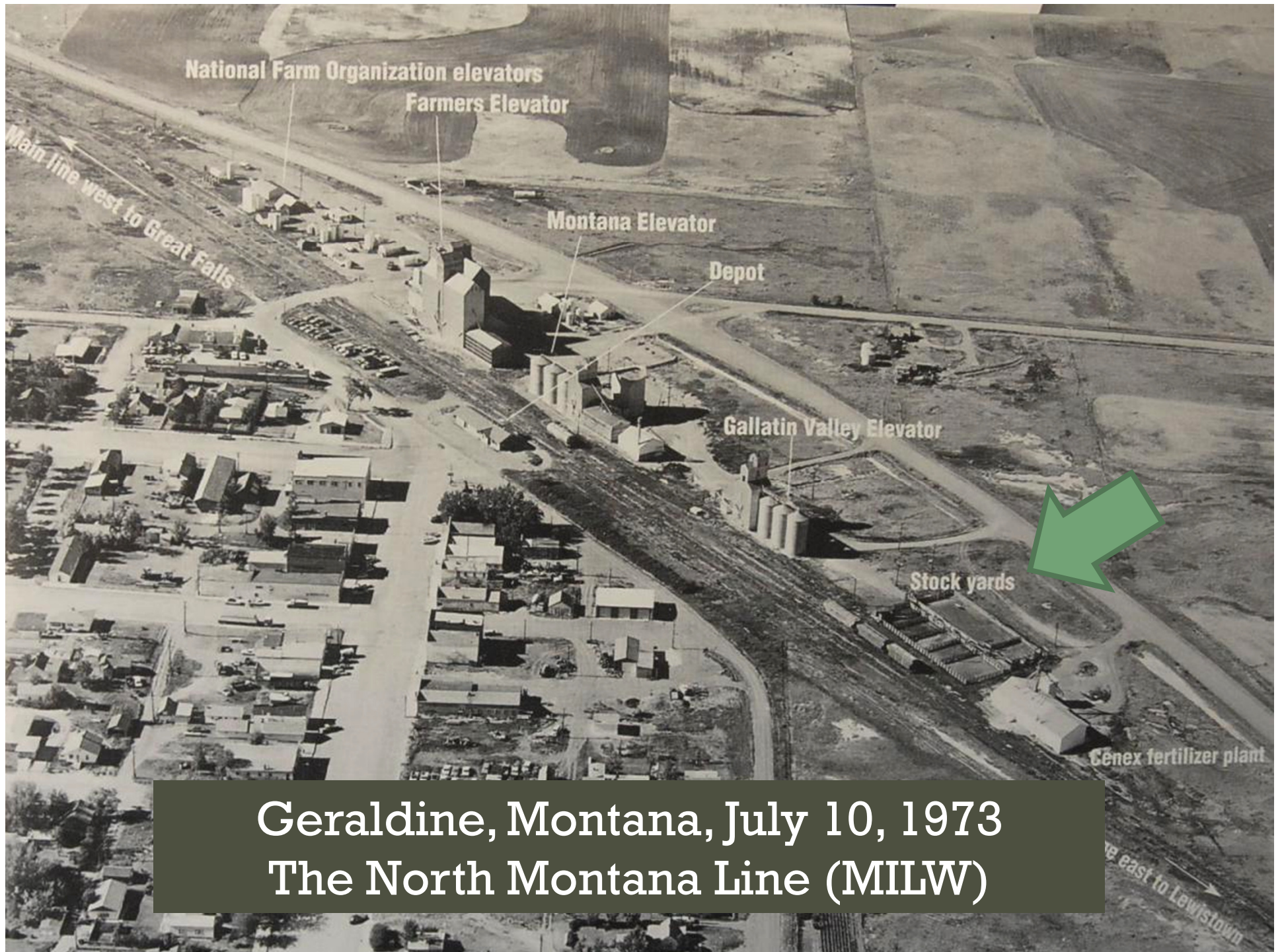
- *A “run” linking the holding pens*
- *Multiple gates for ease in moving animals*
- *Gates along the “runs” that could both open and close in two directions.*



gates sectioning off
cattle runs between
holding pens

Note that railings
are often on both
sides of the posts
to minimize
injury to animals
in the runs



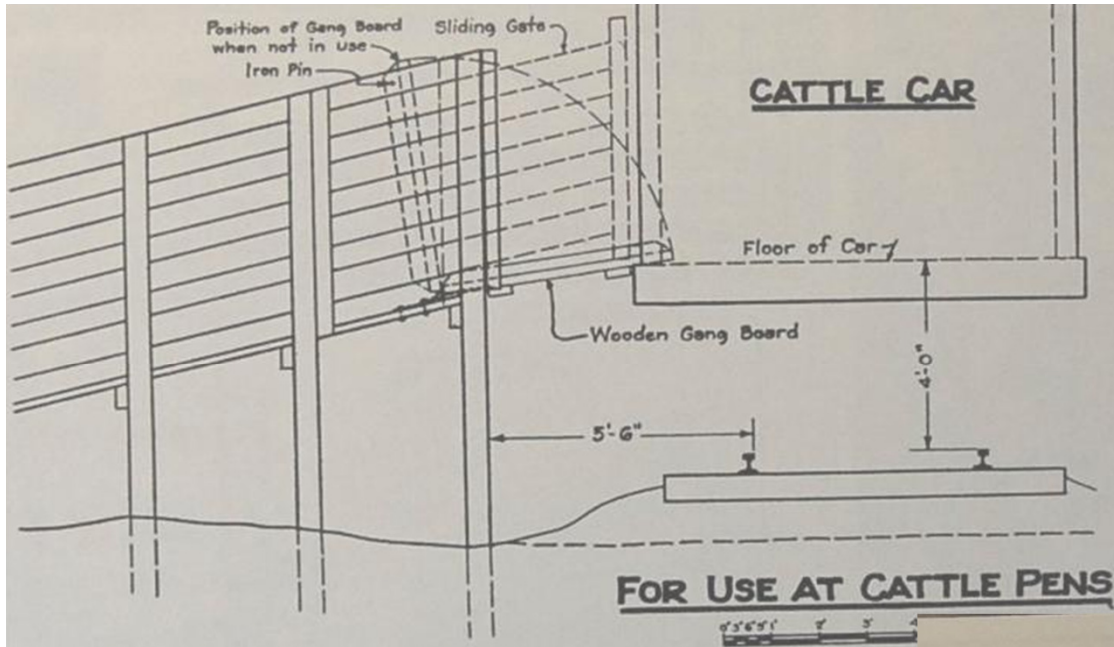


Geraldine, Montana, July 10, 1973
The North Montana Line (MILW)

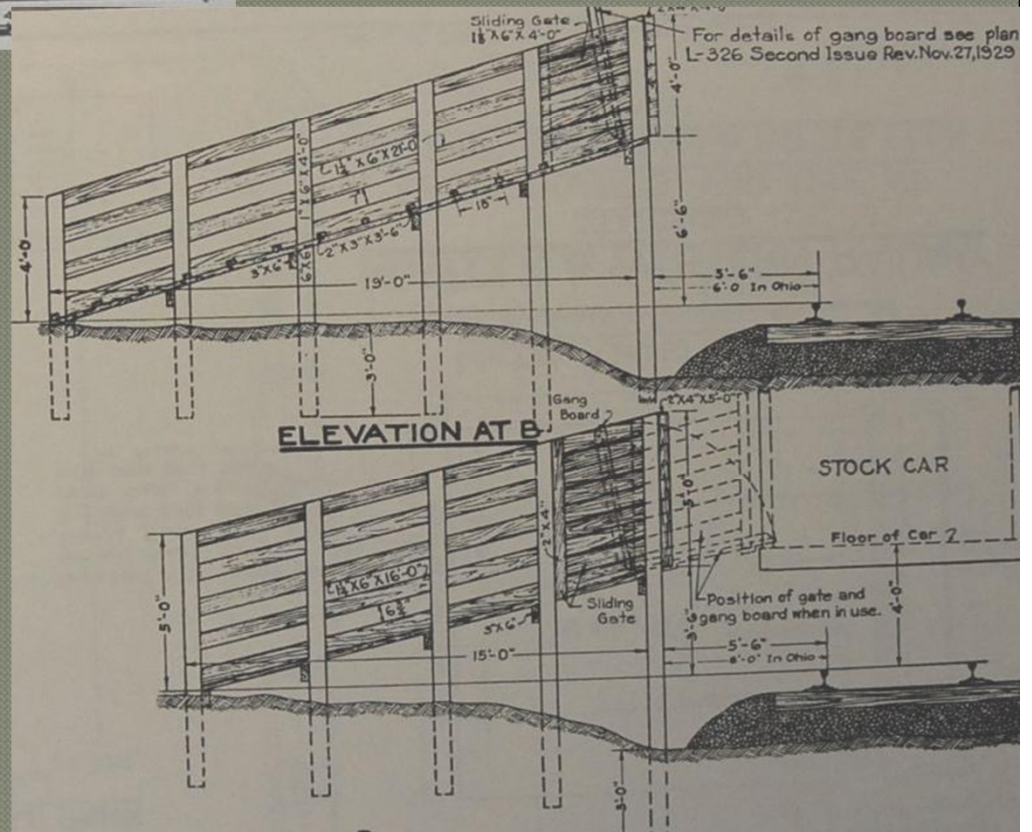
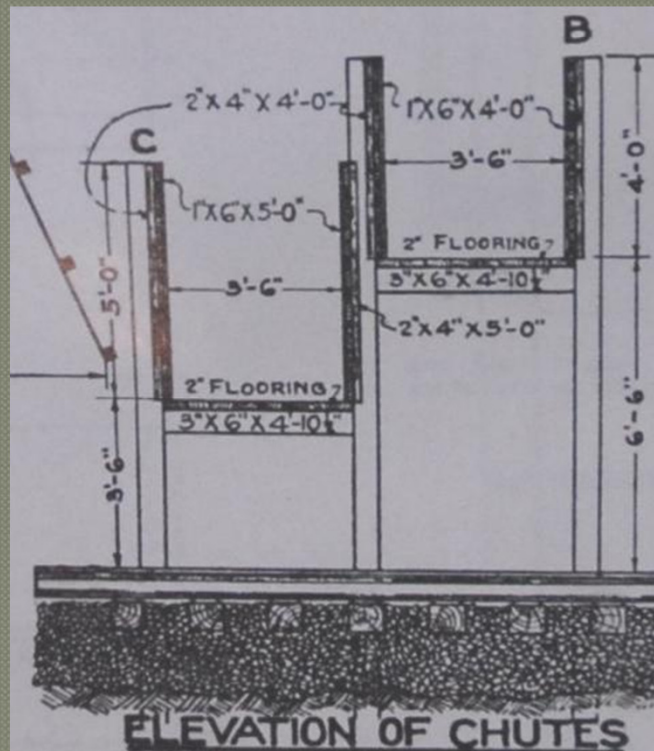
Loading and Unloading

Ramps or platforms for loading and unloading were necessary given the floor heights of railroad stockcars.

- *Lower ramps for single deck cars were for larger animals (cattle, horses, etc.)*
- *Double ramps for double-deck cars were for smaller animals (sheep, hogs, etc.)*
- *Most ramps had movable chutes bridging the gap between the ramp and the stockcar to protect livestock during loading.*
- *Some stockyards featured platform level loading and unloading.*



Norfolk & Western standard plans for stock loading chutes. The distance of chutes from the centerline of the track varied from 6'6" (typical) to 8'6" (Texas state law).





UPPER LEFT:

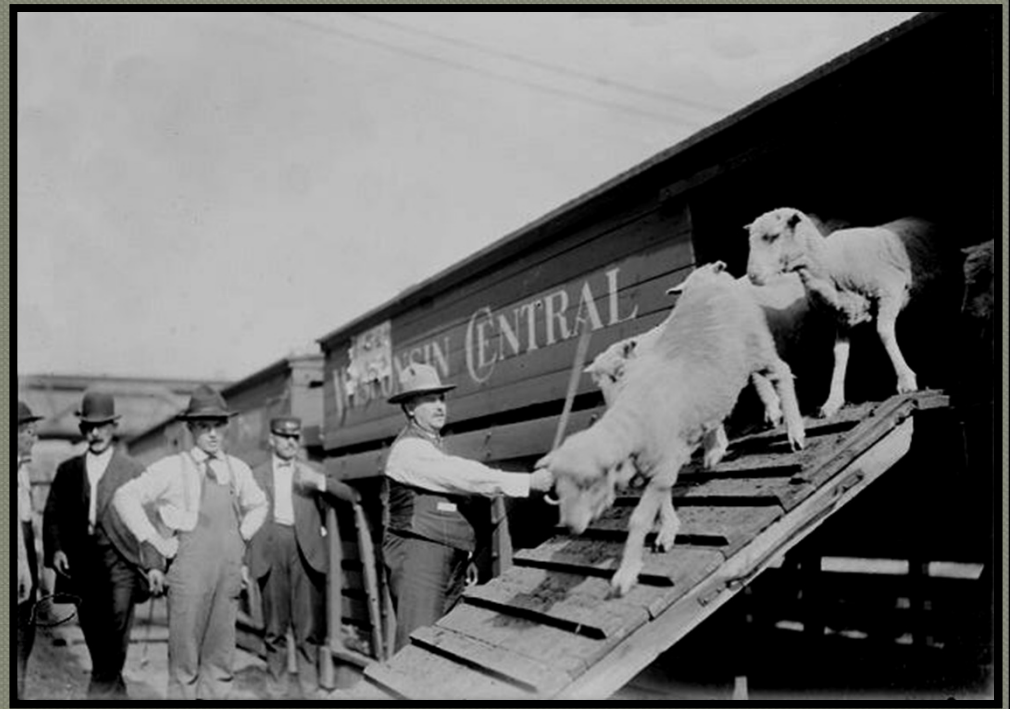
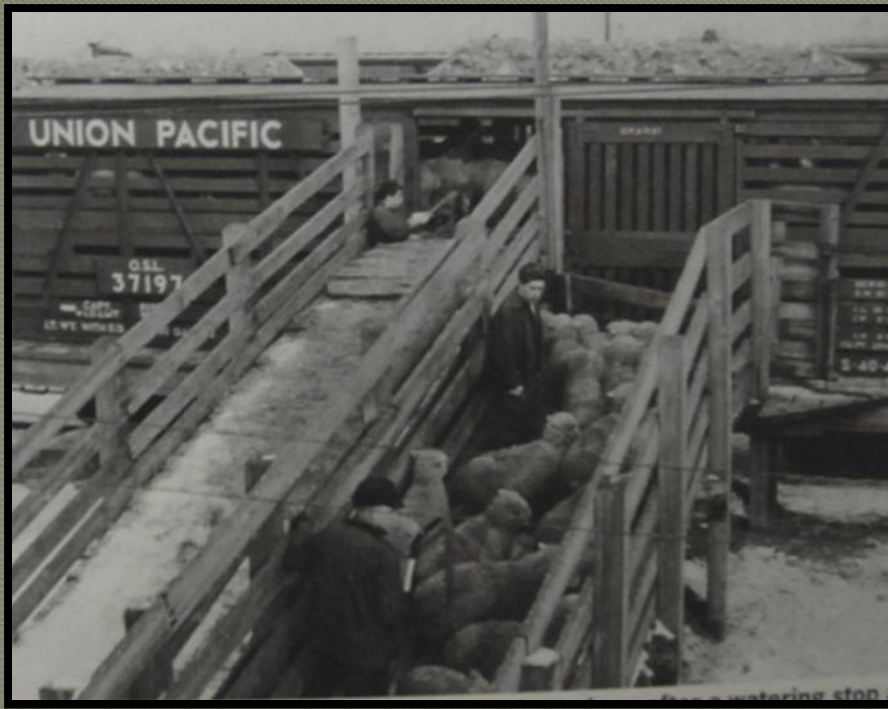
Single level chute

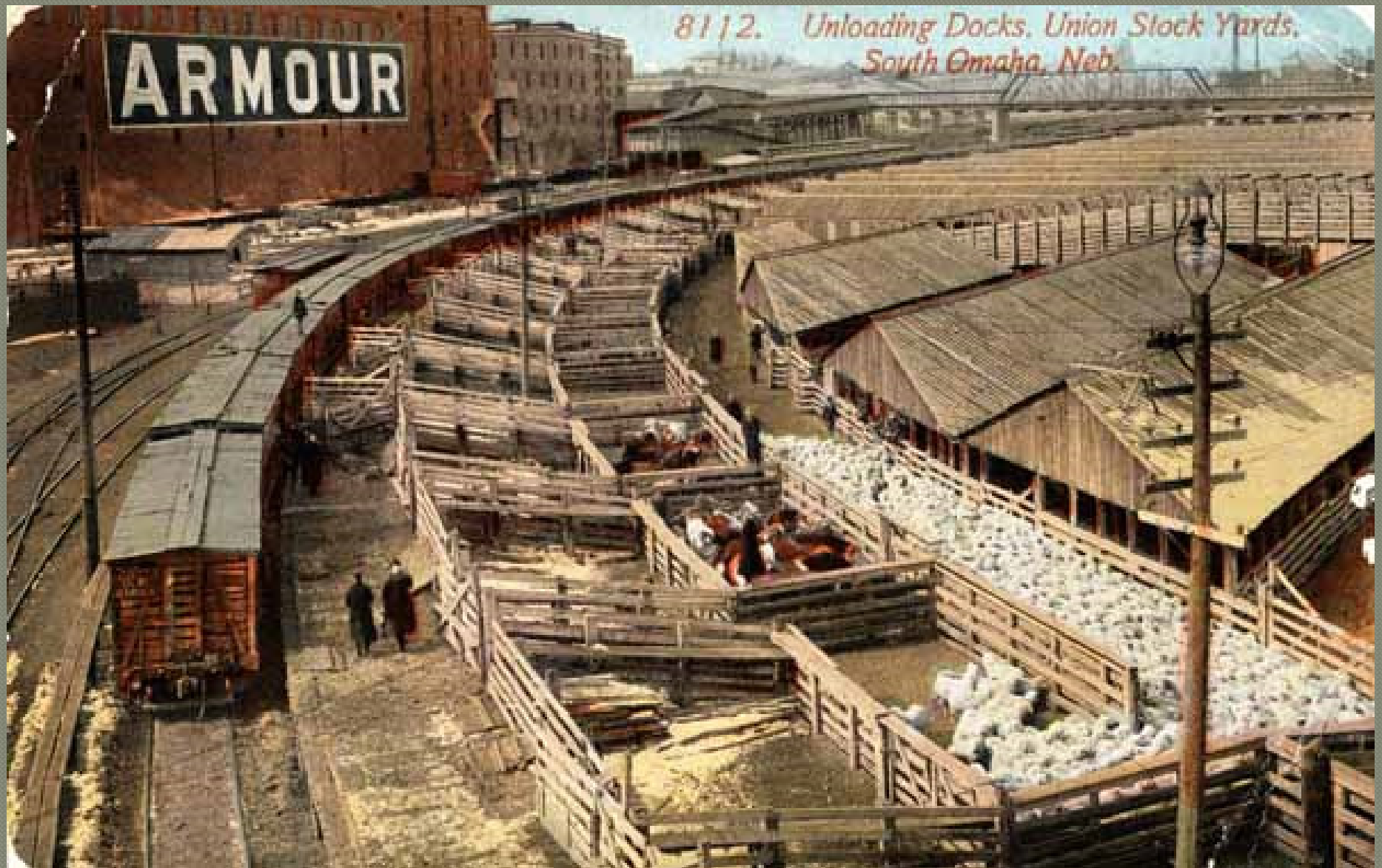
LOWER LEFT:

Double level chutes

LOWER RIGHT:

Upper level ramp





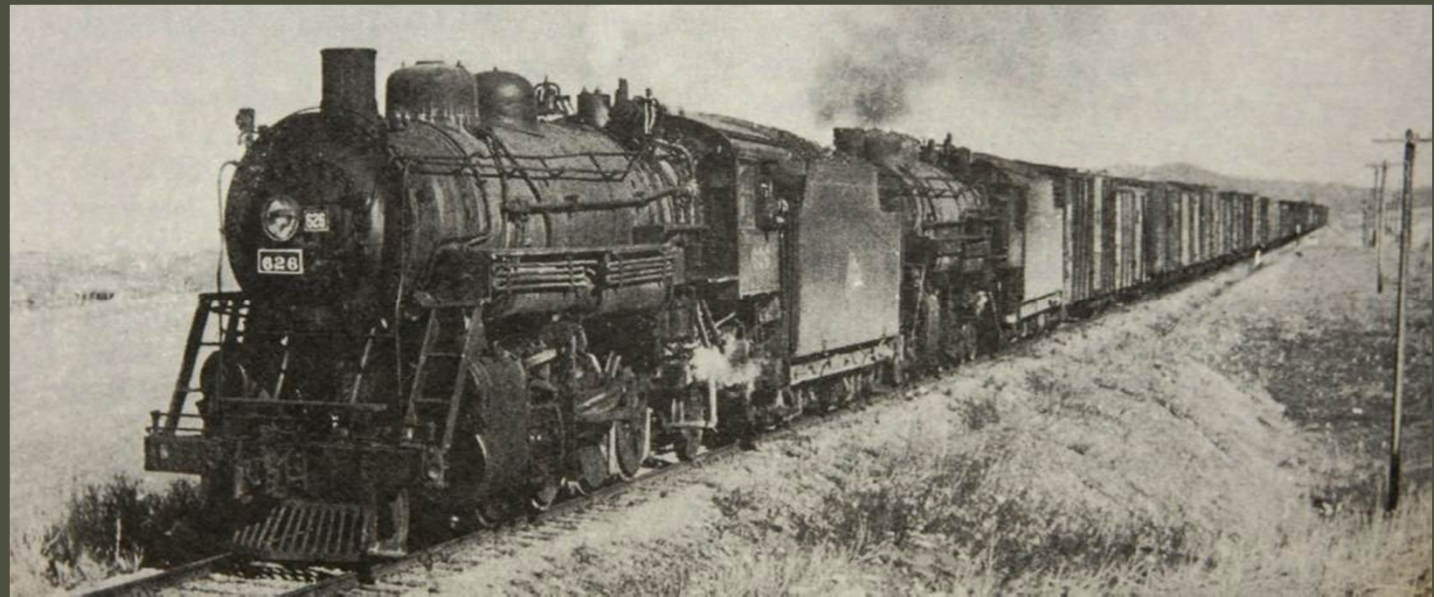
8112. Unloading Docks, Union Stock Yards,
South Omaha, Neb.

Unloading docks, Union Stock Yards, South
Omaha, NE



**Car level loading platforms with movable chutes
for upper decks, Omaha Union Stockyards (1941)**

Special Conditions, Special Rules



Stock train out of Glengarry, MT on the North Montana Line (MILW)

Open Range

In western states where Open Range Laws were common, it was the railroad's responsibility to fence livestock out, not the rancher's responsibility to fence livestock in.

- *Since it was cheaper to pay for dead cows than to build fences, the railroads simply reported and paid for cattle that were killed by collision.*
- *A cow so killed would be reported by brand (and the engine house crew got to clean up the engine)!*

The 28-Hour Law

Unlike most freight, livestock could not remain indefinitely without food and water.

- *Hence, stock movement required expedited delivery, and in 1873, the first laws governing stock shipping went into effect.*
- *The 28-hour law forbade that stock be kept aboard a stockcar longer than 28 hours.*
- *In 1906, it was amended to say that stock could be removed after 28 hours, fed, watered and rested for 5 hours, then reloaded.*
- *Typically, animals were reloaded in the same car in which they came.*

Exceptions

While the 28-hour law was maintained throughout the stock era, the law also had flexibility.

- *Sheep could be confined up to 36 hours if the 28th hour fell after darkness.*
- *Any animals could be kept aboard a stockcar if accidental or unavoidable causes occurred that could not have been anticipated with due care.*
- *Livestock owners could approve extensions up to 36 hours by written request.*

Working with the 28-Hour Law

In order to comply, railroads developed their own practical methods.

- *Livestock were not loaded until near the time for scheduled departure in order to minimize the hours in the stockcars.*
- *Larger railroads built rest stations for unloading and resting livestock.*
- *Some of these were quite expansive: the feeding station at Emporia, Kansas (AT&SF), for instance, could handle 7000 head of cattle and 45,000 sheep, while the one in Amarillo, Texas could handle 40,000 head of cattle!*



Calumet Park stockyards, Chicago, Illinois. The stockyards were operated by the Indiana Harbor Belt Railroad, (a New York Central affiliate), as a watering, feeding and resting point for the stock in transit through Chicago.

Preparation and Cleaning

Federal regulations required:

- *Stockcars had to be bedded with either hay, sand, sawdust, gravel, tanbark, shavings, or cinders 2 1/2" to 3" deep.*
- *Lime sometimes was spread on the bedding to reduce disease (and leaving whitish deposits on the lower slats and sills of the stockcars).*
- *At rest stops, the stockcars were cleaned and bedded again during the 5 hours of respite.*
- *Between shipments, stockcars were often steam-cleaned (meaning that stockcars typically had a lot of peeling paint).*

Feeding and Watering

Because stock had to be fed and watered in transit, various supplies were brought into the rest stations.

- *Carloads of hay*
- *Carloads of bedding*
- *Water tank cars where on-site water was unavailable.*

Hogs

Hogs, because they tended to overheat, required special treatment.

- *Hog bedding was wetted down.*
- *In hot weather, ice blocks were placed in the cars to melt in the bedding.*
- *The hogs themselves had to be sprayed during transit, sometimes by “hog drenchers” (poles with holes in them that sprayed cars as they passed), by hoses, and later, by line-side automatic sprayers.*
- *However, during oppressive heat, water was not to be applied to the heads or backs of overheated swine, since they could die. Rather, the floor and bedding was drenched.*



**Line-side
sprayers on
the Union
Pacific
(1977)**

**Pigs being
watered at
Dry Lake**



Stock Days and Stock Extras

On lines and branches that ran through ranch country, the railroads would schedule a “stock day.”

- *Prior to a “stock day,” trains would drop off empty (but bedded) stockcars at stock pens and corrals along the line.*
- *On the announced “stock day,” dedicated trains would pick up all the gathered livestock.*
- *This might include several ranches or several towns.*
- *Such trains were “fast freights” run as extras due to the 28-hour law.*

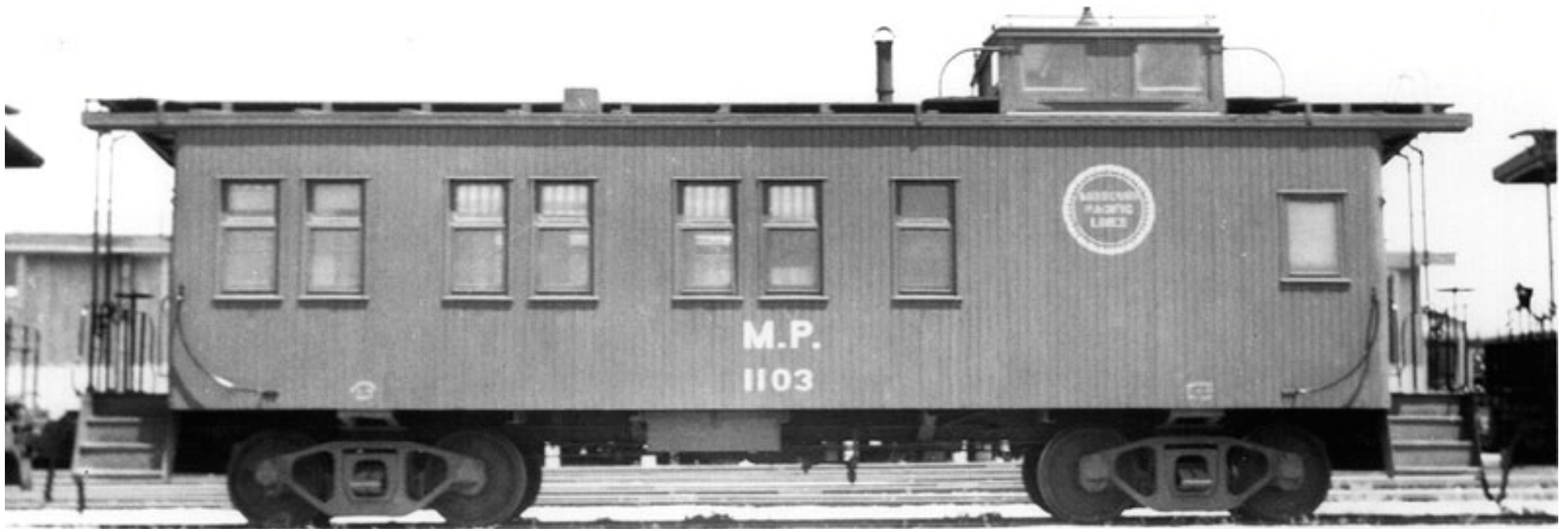
Drovers

Typically, railroad personnel did not handle livestock.

- *Rather, stockcars were loaded and unloaded by drovers (cowboys).*
- *Drovers rode on the same trains as the livestock, either in the caboose or in a separate drovers' car or drovers' caboose (nicknamed a "cowboy pullman").*
- *Such cars featured bunks and usually were placed in the consist behind the locomotive but ahead of the stockcars (or ahead of the caboose).*



AT&SF Drovers' caboose



MP Drivers' caboose

Stock Car Blocks

When not in dedicated trains, loaded stock cars usually were positioned at the head-end of priority freights (along with other cars carrying perishables), and usually directly behind the locomotive.

- *This positioning made switching out stock cars faster.*
- *It also limited the slack action that could injure standing livestock.*
- *The railroad was responsible for stock that was lamed, gored or otherwise damaged in transit.*
- *Stock also could be shipped as LCL freight.*

Spring/Fall Stock Trains

Stock shipments were to some degree seasonal.

- *When the range started to dry up, stock was shipped to stockyards for fattening.*
- *Some ranchers in colder climates, such as Montana, might ship stock between summer and winter pastures.*
- *Each spring, King Ranch in Texas ran large stock trains to its stock farm in Chester County, PA, where stock was fattened before slaughter.*
- *Slow branch lines that customarily might see only one local a day might see half a dozen stock extras per day during the “cattle rush” each fall.*

Chicago Union Stockyard

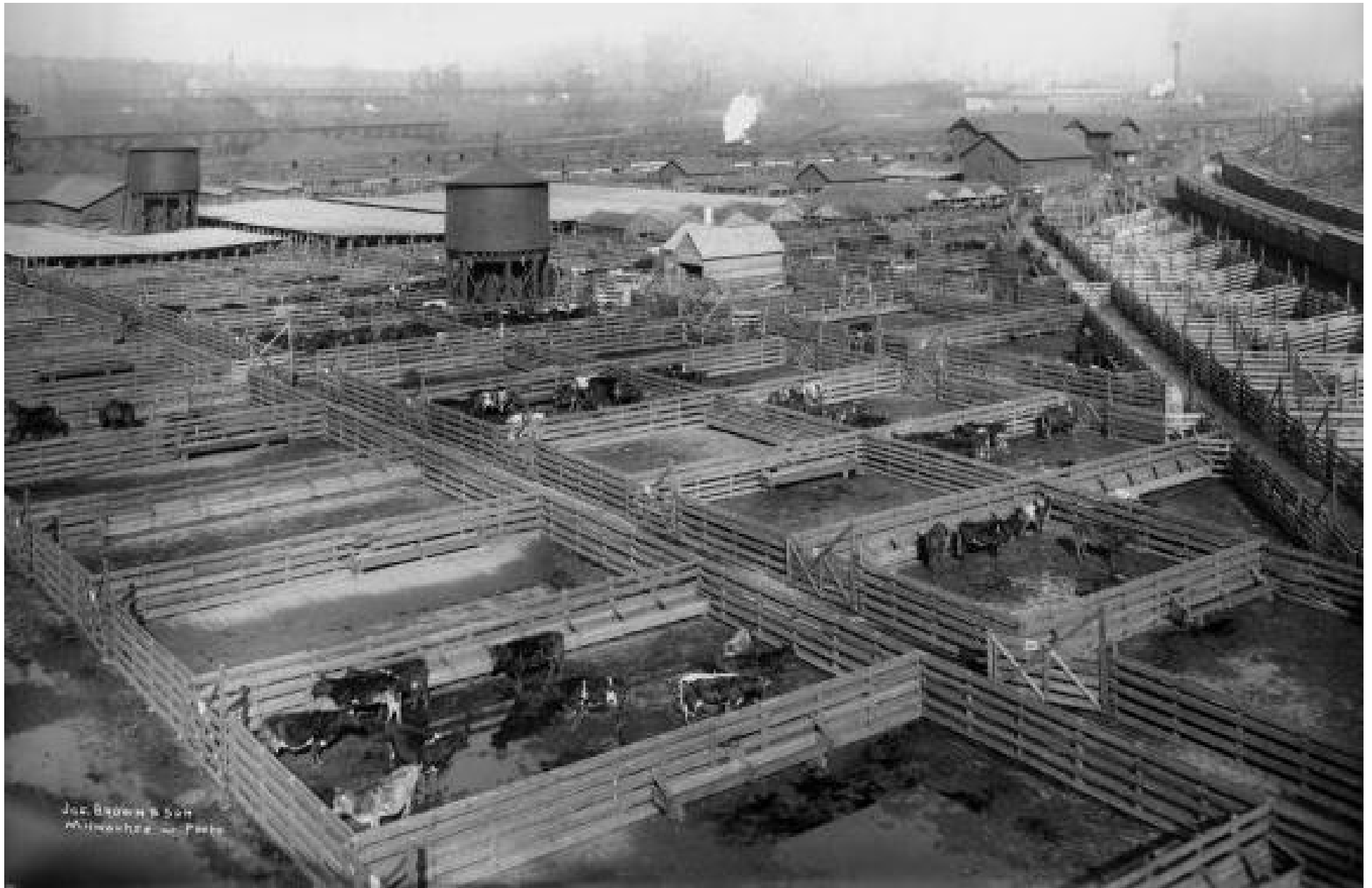


The Large Stockyards

The Union Stockyards

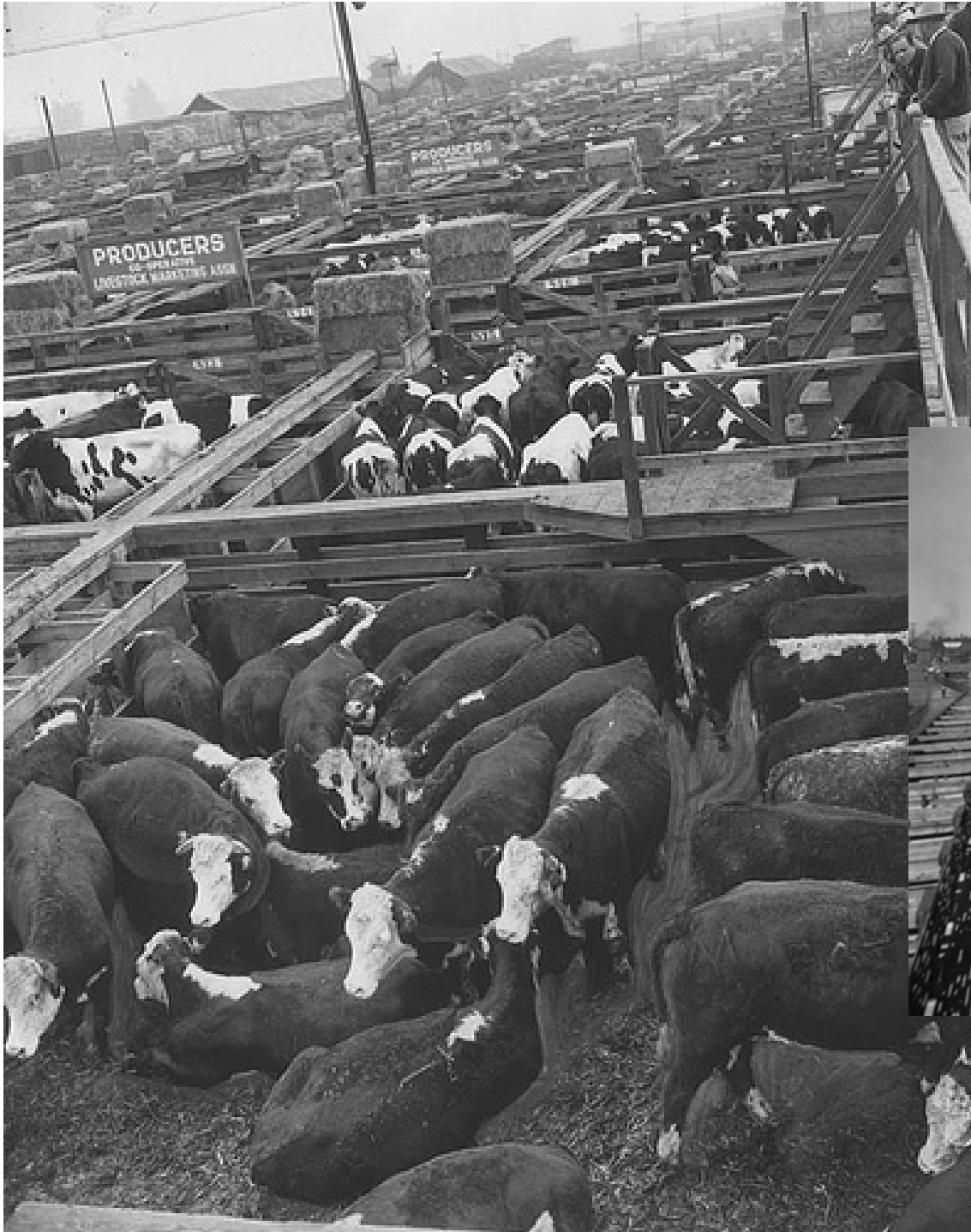
The usual destination for loaded stockcars was one of the union stockyards in a large, eastern city.

- *The union stockyards served as clearing houses between stock buyers and sellers.*
- *More than 60 cities had union stockyards, some of the largest being Chicago, Omaha and Kansas City.*
- *Large stockyards might have their own switcher.*
- *Before WWII, 90% of all livestock purchased by packing houses passed through a union stockyard.*



Joe Brown's son
Milwaukee, Wis. Photo

Elevated view of the CM & StP stockyards at about 25th Street, Milwaukee



L. A. Union
Stockyards



South St. Paul Union
Stockyards

Chicago
Union
Stockyards





The Stockyard Line of Chicago's "El"

Selling and Buying

Most sellers contracted with a livestock commission agency instead of selling directly to packing houses.

- *Each commission agency had assigned pens; hence, the large stockyards were arranged like small towns with “streets,” each pen having an “address.”*
- *Stockyards provided water and charged for feeding, and both were necessary, since livestock lost weight in the shipping process.*
- *Commission men arranged for sales directly or by auction, usually by groups, except for breeders.*

“Spec” Selling and Buying

Sometimes, livestock was shipped on speculation, called “riders,” leaving the actual sale to be closed en route.

- *Hence, cattle initially bound for Kansas City might be redirected to Chicago, for instance, if a better price was discovered.*
- *Shippers sometimes chose a roundabout route in order to gain time for securing a buyer in transit.*
- *Livestock might be purchased by a feedlot operator, kept for a period of time, and then resold to a buyer elsewhere.*



Kansas City Stockyards

Stock buyers and
“commission men”
looking over new
arrivals



Kansas City Stockyards





Modeling Stock Traffic

The North Montana Line of the Milwaukee Road, Dan Lewis' N-scale Railroad



Pole corral on a siding with a single level loading chute



Spotting an empty stock car for loading



THINGS TO OBSERVE:

- *Bulls are penned separately*
- *Available water is pumped by a windmill*
- *Hay is trucked to the stock corrals*



**The six pens all are connected by a “run.”
Sheep are penned separately from cattle.**



Double chutes and hay racks for feeding



Small loading pen on a ranch siding

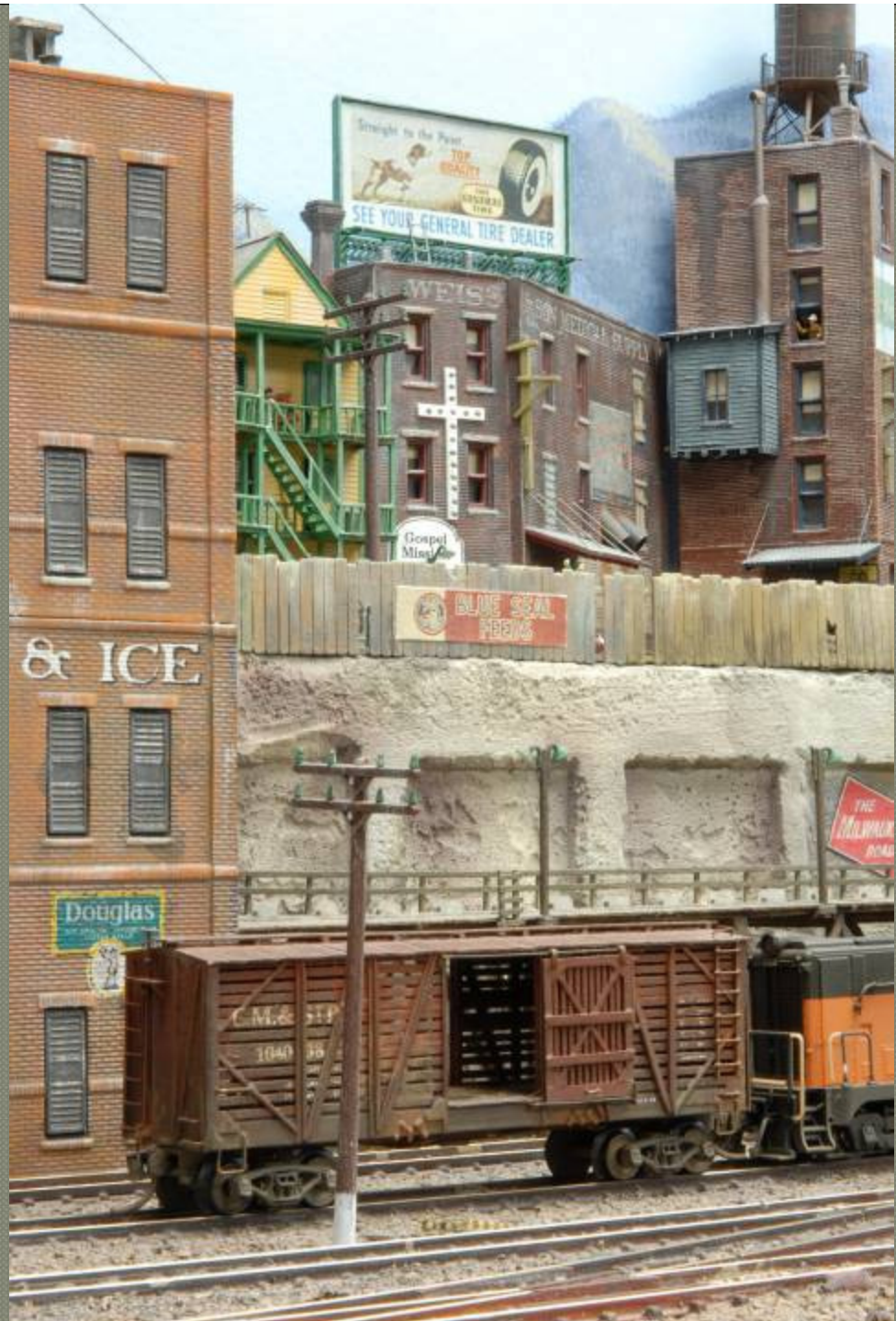


Switching out a stock siding on a stock train day



Hay and water. The bull is penned separately

**Scratch-built 36'
MILW stockcar
with drop bottom**





Scratch-built stockcar, originally from the Bellevue & Cascade RR.



**Stock train on the
North Montana
Line**



Pusher service on stock extra out of Harlowton

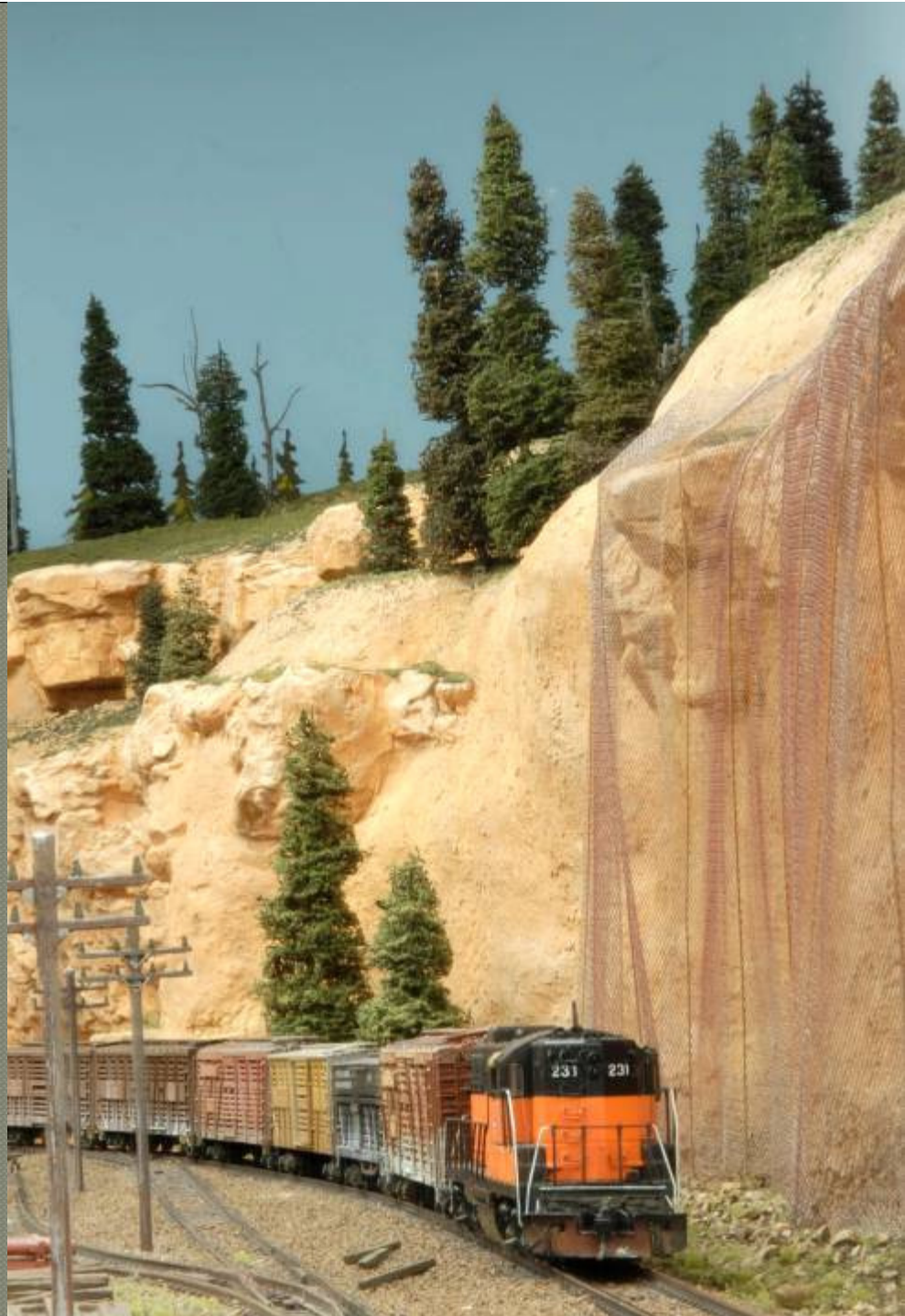


Stockcar loads behind engines, empties further back in the consist



GN train with stockcars at the head end

**Stock extra at
Teton County,
Montana**



CREDITS

Lewis, D. "Running Cattle and Other Beasts," *N Scale Railroading* (Mar-Apr 2006).

Sandifer, J. Stephen. "Livestock Operations on Model Railroads with an emphasis on the ATSF" (May 3, 2003).
<http://www.atsfrr.com/resources/Sandifer/Clinics/Stk/Index.htm>

Wilson, J. "Rolling Livestock," *How to Build Realistic Layouts*. Waukesha, WI: Kalmbach, 2007.