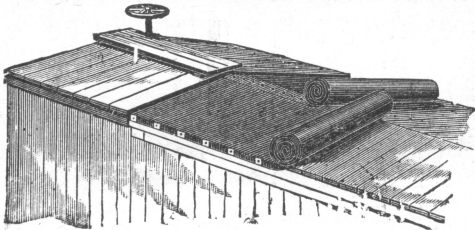


# THE HUTCHINS FREIGHT CAR ROOF.

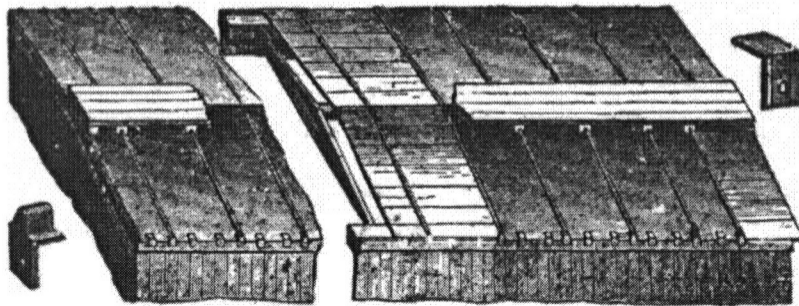


This roof has been in extensive use for over ten years. It is strong, durable and attractive in appearance and costs less than a grooved board roof.

In repairing old cars, the under course of boards can always be utilized—a great saving—making it the cheapest and best roof for repair work in the market. This roof is standard on a large number of leading railroads in the country. *Send for Pamphlet and Blue Print.*

**C. B. HUTCHINS & SONS, DETROIT, MICH.**  
Chicago Office: 904 "The Rookery."

# The MURPHY STEEL CAR ROOF



**H**AS no surface nail or screw holes. It has no joints where cinders, rain or fine snow can get through. It allows for contraction and expansion, and has ample elasticity to provide for sagging, twisting, buckling and cornering of the car body. It is as solid as the car frame itself. It has no soldered joints. It can be repaired readily, and without taking off more of the roof than is damaged. It is much cheaper than any other metallic roof now in use, and is cheaper than the double board roof made of good lumber. It is unlike any other metallic roof for the reason that everything is furnished to make it complete; so that the parties buying it have no expense other than to apply it.

This ROOF can be applied on OLD LEAKY BOARD-ROOF CARS without making any changes in the board roof; thereby saving the expense of replacing the old boards with new, and thus utilizing material that must otherwise be thrown away.

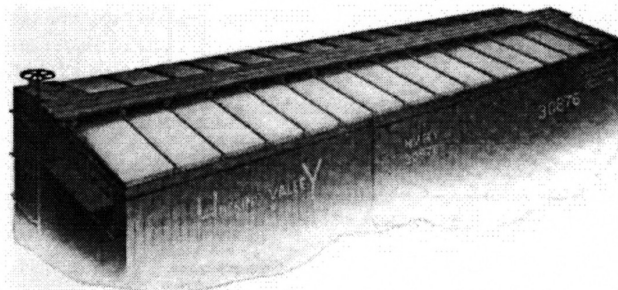
Manufactured by the **P. H. MURPHY MFG. CO.** EAST ST. LOUIS, ILL.

## The Excelsior Car Roof



WHILE a large amount of attention is being directed to the building of large capacity cars, and trucks, couplers and draft rigging are being greatly improved, the car roof, which is one of the important parts, should not be overlooked. An absolutely good car roof should be regarded as a necessity. The number of cars out of service on account of bad roofs is at all times large, and the loss sustained by railroads from this cause is sufficient to warrant a much larger expenditure for a good roof than they have been called on to meet. An attempt is made to run a car a little longer by continual patching, from day to day, until the repairs exceed first cost, not considering lost service, damages to freight, damage to trains from sparks, and general deterioration of car body from leakages.

We show in the accompanying illustration the Excelsior Car Roof, a patented roof of galvanized iron, which has proven to be a most excellent and durable

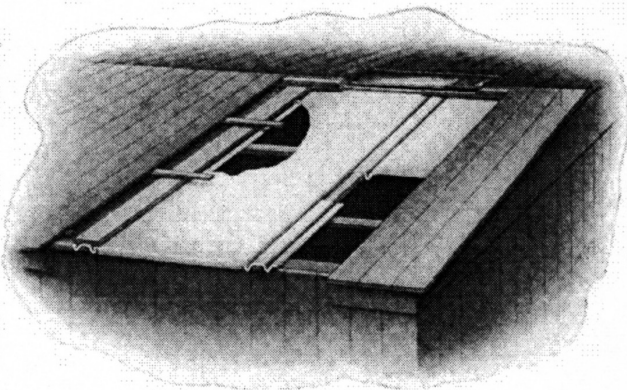


THE EXCELSIOR CAR ROOF.

material when on the outside where the sulphur from the smoke can wash or blow off, and when supported by a strong back, so that the weaving of the roof-frame is not contributed to the sheets.

While the standing seam iron roof is very old and

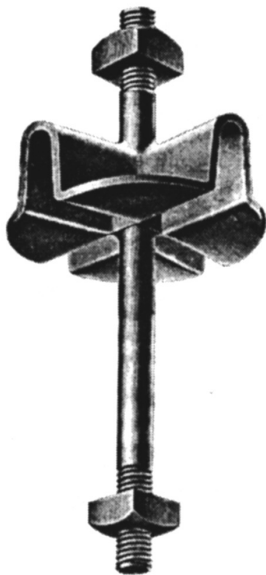
there are hundreds of patents on different forms, the Excelsior Car Roof Company present in their roof something entirely new and entirely different from any other car roof now in use. They pay especial attention to the formation of the seam, which provides for contraction and expansion, and allows one edge of

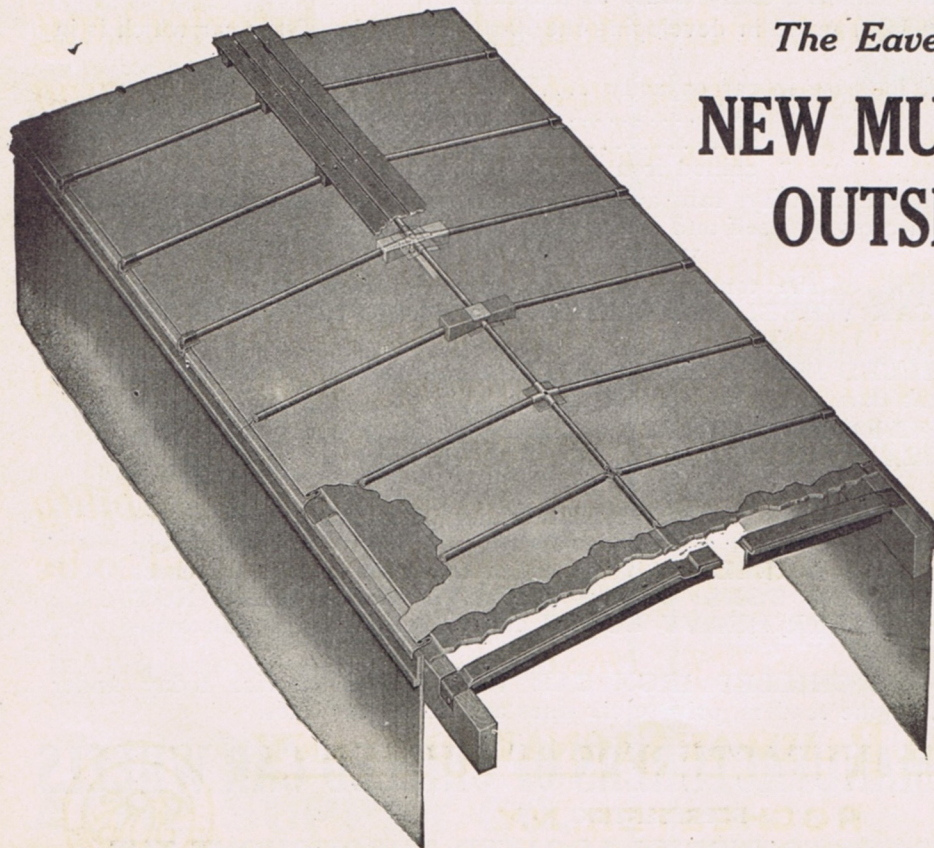


THE EXCELSIOR CAR ROOF.

sheet to be nailed to roofing boards, while the other edge is sufficiently free to take up any motion of frame work; also, to the malleable iron corner cap which is absolutely novel and effectually provides against leakage and at the same time holds the running board secure to the car. The roof as laid is formed as follows: A double bend with a nailing flange is made on one edge of sheet, and a single bend upward on opposite edge; the nailing flange is covered by the adjoining sheet coming close against the double bend; this joint is covered by a seam cap of same material, thus forming a standing seam with two rivets—the malleable iron corner cap holding it at the ridge; the ends of the sheets, where they meet at ridge, are

formed so that one covers the other, as shown in drawing. No nails are exposed to action of the weather. The malleable iron corner cap is integral (cap and stem in one piece), protects itself and overcomes the objection to bolts passing through ridge pole. It is shown in the illustration published herewith. The manner of nailing the sheets to the under course of boards, together with the fact that this roofing admits of the boards running lengthwise of the car, materially strengthens and ties the frame-work of the roof, and makes the purlins entirely unnecessary. The under course of boards may be of a low grade, and even old lumber may be used. In case car is wrecked, only such sheets as are damaged need to be replaced; and this can be done with little trouble on the road, not requiring in all cases to be shipped. Further information will be gladly furnished by the Excelsior Car Roof Company, St. Louis, Mo.





*The Eaves Design of the*  
**NEW MURPHY X L A**  
**OUTSIDE METAL**  
**CAR ROOF**

*Eliminates All*  
*Strain from*  
*the Roofing*  
*Sheets*

**This Roof Will With-**  
**stand the Fire Hose Test**

**STANDARD RAILWAY EQUIPMENT CO.**

Chicago, Ill., 707 Great Northern Building

St. Louis, 421 Old Bank of Commerce Bldg.

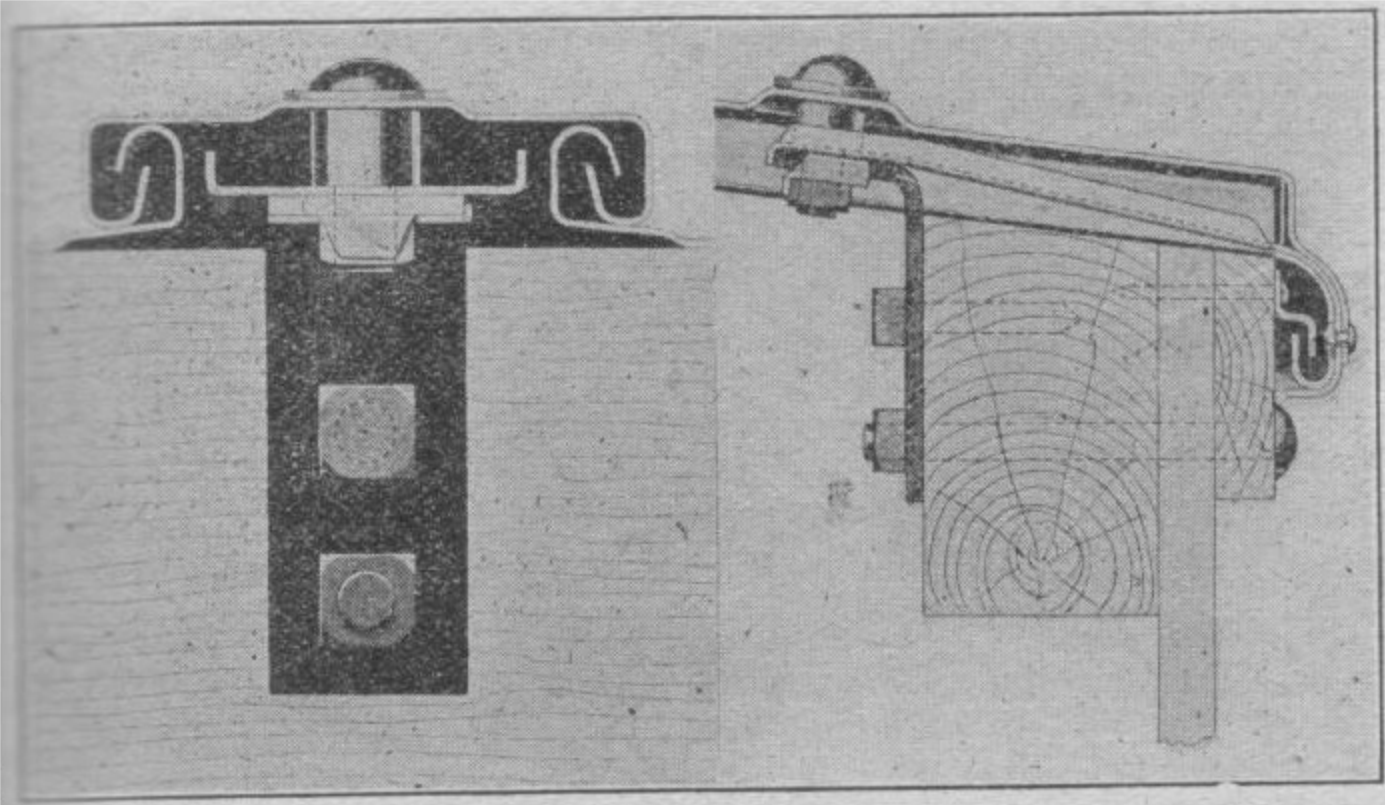
Home Office : 722 Frick Building,  
 Pittsburgh, Pa.

New York, N. Y., 1212 West Street Bldg.

# New Devices Among the Exhibits

## All-Steel Flexible Roof

**T**HE HUTCHINS CAR ROOFING COMPANY, Detroit, Mich., is exhibiting models of all-steel flexible roofs for new box cars and for replacement on old cars, both models incorporating recent improvements. Of particular interest is the design of the all-steel flexible roof as adapted for replacing inside and outside metal roofs on



Sections Through Ridge Pole and Side Plate

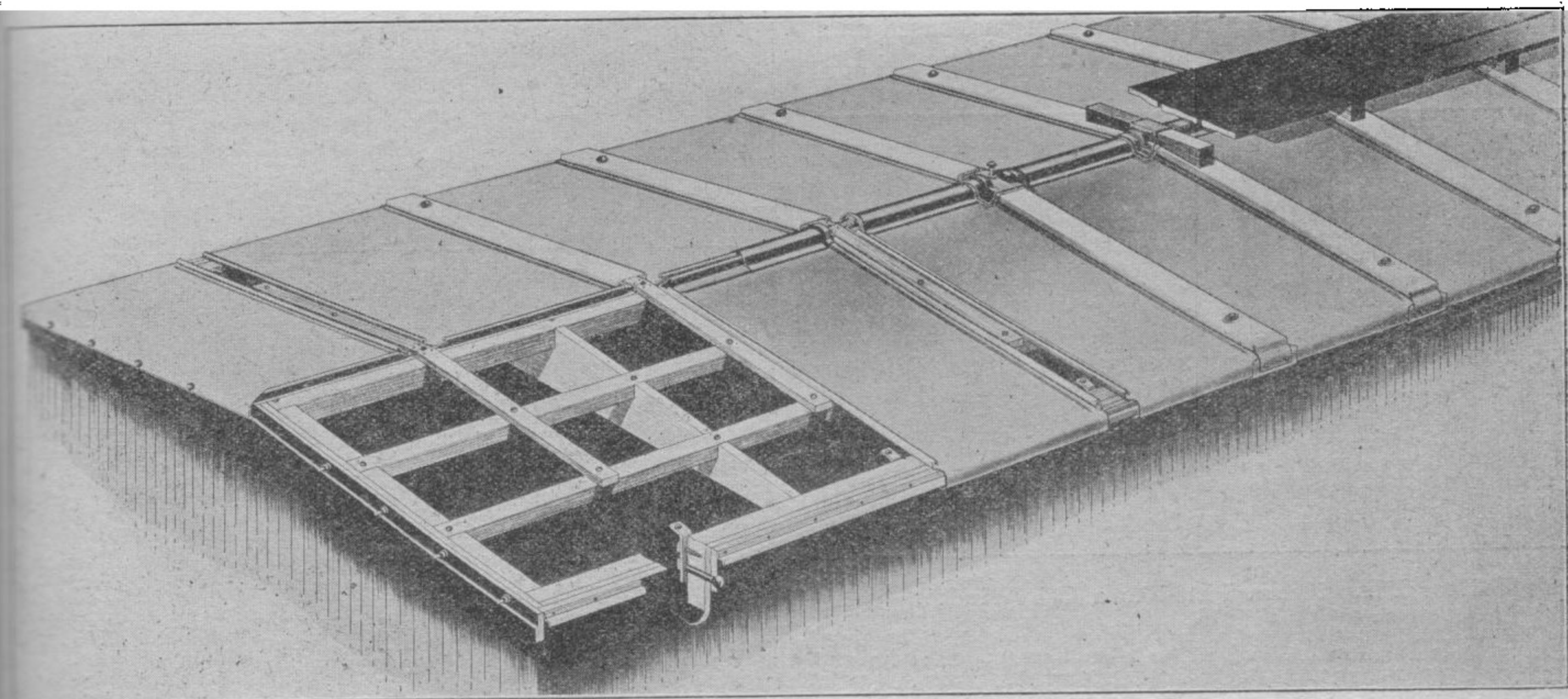
old box cars. The latest improvement of this design is in the method of interlocking the roof sheet flanges and transverse joint cap flanges to insure a weatherproof joint, even though the surfaces on which the roof sheets are supported are irregular, as is apt to be the case on old cars. The method of fastening the joint caps to brackets located on the inside surface of the side roof

steel, galvanized, is intended to be placed on top of the old wooden or steel carlines and the old purlines and ridge pole and because the surfaces so provided are very apt to be irregular, it was considered best to interlock the roof sheet flanges with the transverse joint cap flanges to insure weather-proof joints as shown in the sectional view. This illustration shows also the shoulder bolt which is riveted to the joint cap. The shoulder of the bolt rests upon the side plate bracket, the eaves re-enforcing piece being placed between the shoulder and the bracket, and when the nut is drawn up on the shoulder bolt the joint cap and re-enforcing piece are secured to the bracket. The other section is taken transverse to the side plate and shows clearly the bracket located on the inside face of the side plate, the fastening of the joint cap and re-enforcing piece and the engagement of the eaves flashing with the return bend of the roofing sheets and joint caps.

Instead of the customary lapped joint a double locked joint with considerable vertical and side clearance is made between the joint caps and the side roof plates. The caps are slid into position after the side plates are in place and the special roof cap consolidates the structure and makes it entirely weatherproof.

## The Locomotive Booster

**O**NE OF THE MOST significant locomotive developments of the year calls for a revision of thought. The old slogan "Be a booster" has appeared in a new dress; it's now, "Adopt the booster"—a two-cylin-



Arrangement of the Sheets and Joint Caps

places has been improved to give a weatherproof joint even in case there is considerable variation in the distance from the upper surface of the purlines to the carlines.

This replacement roof, made of No. 18 or No. 20 gage

der, horizontal engine geared to the axle of any locomotive trailer, adding to that locomotive 28 per cent in starting efficiency. No, you're wrong. It has nothing whatever to do with the old dream-book scheme of lift-

# Railway Age

FIRST HALF OF 1920—NO. 25

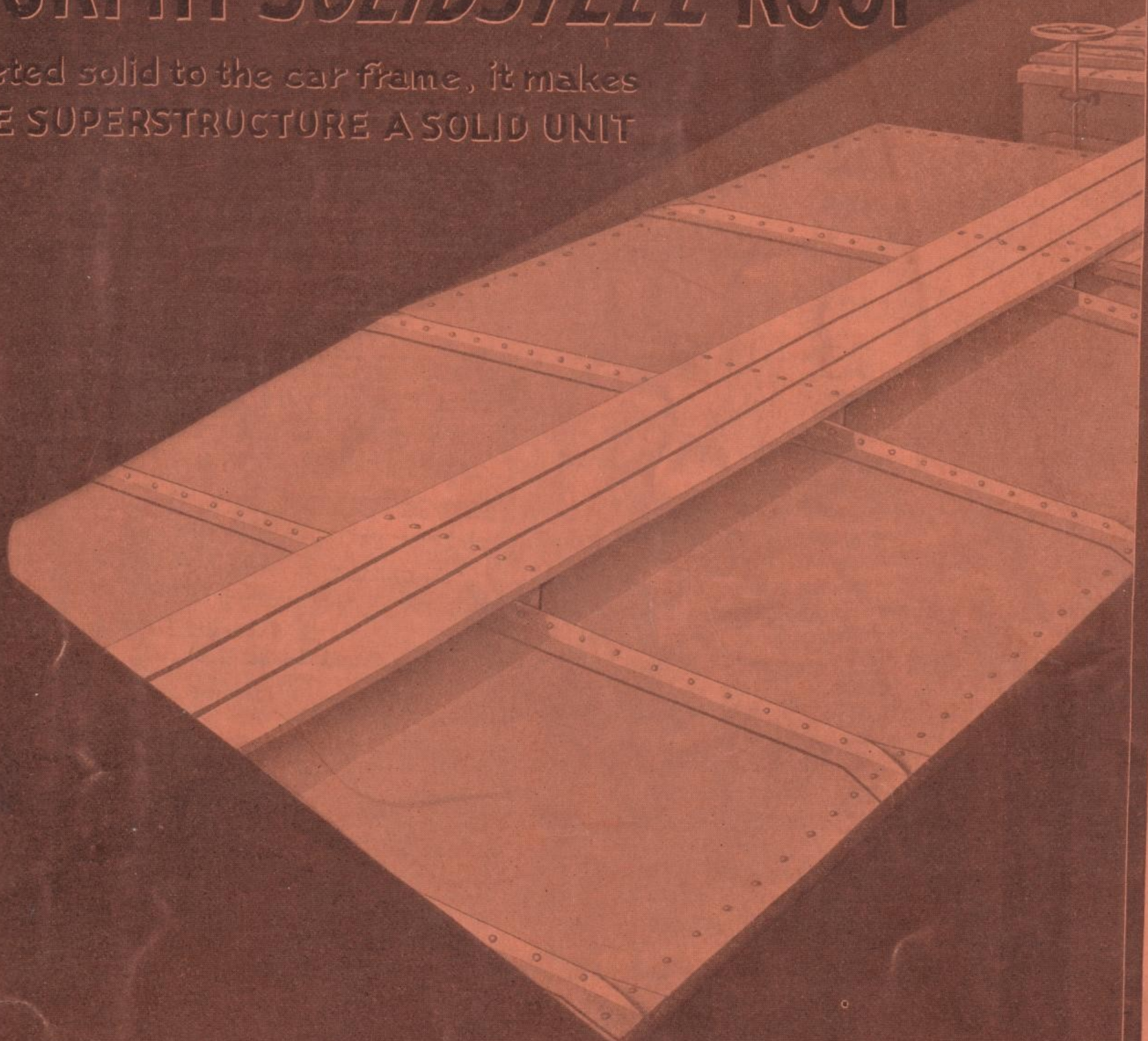
NEW YORK—JUNE 18, 1920—CHICAGO

SIXTY-FIFTH YEAR

Published weekly by Simmons-Boardman Pub. Co., Woolworth Bldg., New York, N. Y. Subscription Price, U. S. and Mexico, \$5.00 a year; Canada, \$6.00; foreign countries (excepting daily editions), \$10.00. Entered as second-class matter, January 30, 1918, at the post office at New York, N. Y., under the act of March 3, 1879.

## MURPHY *SOLIDSTEEL* ROOF

Riveted solid to the car frame, it makes  
THE SUPERSTRUCTURE A SOLID UNIT

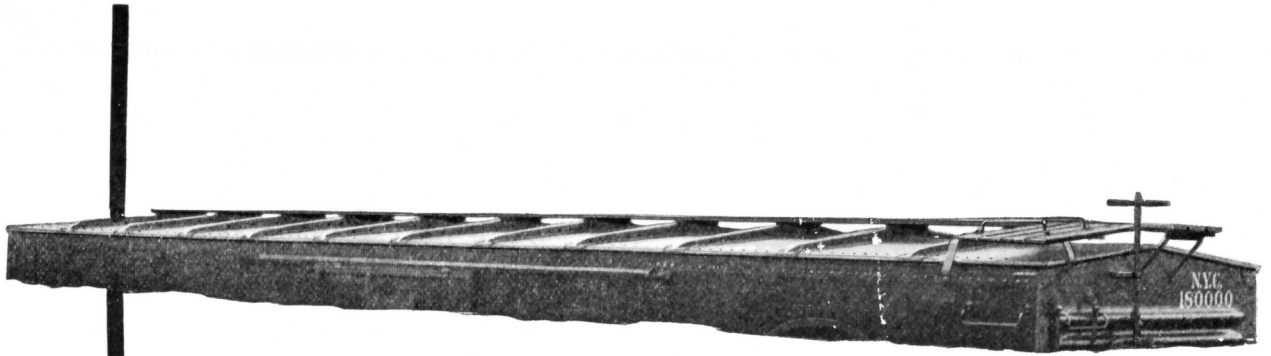


STANDARD RAILWAY EQUIPMENT COMPANY

NEW YORK — CHICAGO — ST. LOUIS — PITTSBURG — PHILADELPHIA — KANSAS CITY

RICHMOND — WASHINGTON — HOUSTON — DENVER — SAN FRANCISCO — MONTREAL

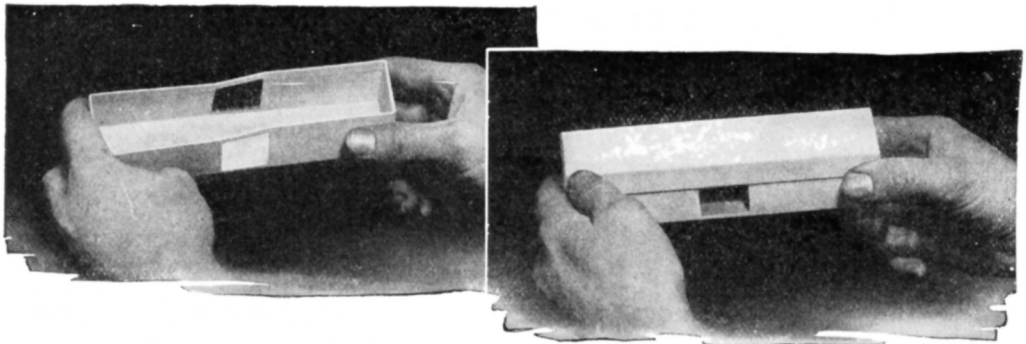
WORKS — NEW KENSINGTON, PA.



## MAINTAINING RIGIDITY

Consider the all steel box car. Covered with a **MURPHY *SOLIDSTEEL*** ROOF it has approximately 80 rivets in each side plate spaced about six inches apart. The ample fastening provided assures complete maintenance of rigidity and the working together of every part as one unit.

## PROVE IT YOURSELF



# STANDARD RAILWAY EQUIPMENT COMPANY

MAKERS OF

## MURPHY *SOLIDSTEEL* ROOFS

NEW YORK — CHICAGO — ST. LOUIS — KANSAS CITY — PITTSBURG — RICHMOND

PHILADELPHIA — HOUSTON — WASHINGTON — SAN FRANCISCO — MONTREAL

WORKS — NEW KENSINGTON, PA.



## Some Figures and a Moral

"Few items of railway operating expenses have increased so much in proportion within recent years as payments for loss and damage of freight." (Railway Age, October 20, 1920.)

"I have here some figures that were published in the Railway Age which should receive the most careful consideration of all you gentlemen. What the figures show—and I have checked up these statistics and as usual the Railway Age is dead right on them"—

R. H. Aishton, President,  
American Railway Association.

Here are the figures:

Year	Amount Paid for Loss and damage	Increase over previous year	Increase over 1914
1914.....	\$32,376,000	....	.....
1917.....	35,080,000	....	8.35%
1918.....	55,634,000	58%	71. %
1919.....	104,244,000	197%	222. %

During the same period, 1914 to 1919, there was an increase in value of commodities of about 100 per cent, and in amount of freight handled, of about 40 per cent, accounting for part of the increases.

Where did the rest of it go?

It is a matter of common knowledge among railway men that during much of this period repairs to car superstructure were neglected and such repairing as could be done was concentrated on substructure.

Defective roofs were responsible for much of the absolute increase in amount of freight damaged or destroyed.

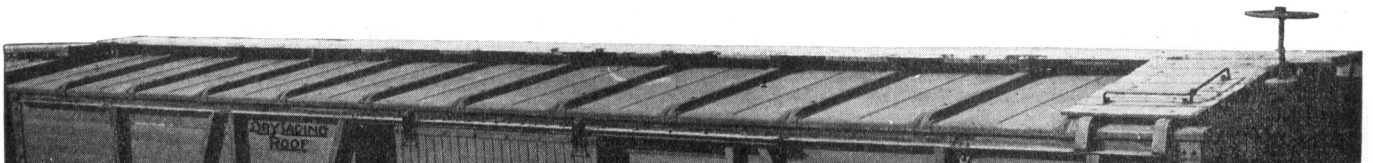
## Hutchins All-Steel Flexible Roofs

Not only protect the lading of the car from loss and damage, but form the back bone of the whole superstructure. Their use will go far to keep claims for loss and damage to freight within reasonable limits. That is why this roof is known as the "Dry Lading" roof.

They are equally good for old or new cars.

Now is the time to put them on.

**HUTCHINS CAR ROOFING COMPANY**  
DETROIT MICHIGAN



# INTERCHANGEABILITY

It means a great deal of time saved to store or assemble the rigid MURPHY **SOLIDSTEEL** ROOF. The roof shown has all intermediate sheets exactly alike, and end sheets which are interchangeable on either end. The seam caps fit any seam, while the saddles fit any of the caps.



**STANDARD RAILWAY EQUIPMENT CO.**  
**MURPHY *SOLIDSTEEL* ROOFS**

NEW YORK  
CHICAGO  
WASHINGTON  
RICHMOND  
PHILADELPHIA

ST. LOUIS  
HOUSTON  
KANSAS CITY  
SAN FRANCISCO  
MONTREAL

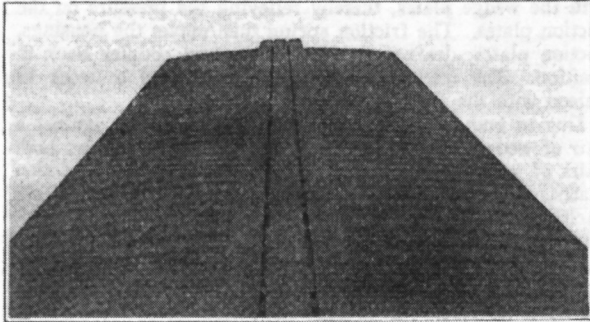
WORKS—NEW KENSINGTON, PA.

parts are omitted except for one carline at each side of the door opening to stiffen the car frame.

The pressed steel sheets are laid with an overlap of one corrugation at each end. They are attached at the sides of the car to a pressed side plate, being riveted with short

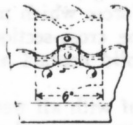
length. Each 40 in. sheet of 14 gage steel when securely fastened at the side plate will carry the following loads concentrated at the center or eaves: for cars 9 ft. wide, 940 lb.; for cars 9 ft. 6 in. wide, 890 lb., and for cars 10 ft. wide, 845 lb. The tensile strength to resist spreading at the sides is 40,000 lb. per sheet. The roof has sufficient play to take care of weaving of the car frame due to uneven track or unbalanced loading. The surface provides a firm foothold in case it is necessary for trainmen to walk at the side of the roof. The overlapping sheets make a watertight construction. No leakage was found even when the roof was tested with a heavy stream from a hose. In case a sheet needs to be replaced, it is only necessary to remove the rivets along each side, cut four rivets in the overlapping sheet and four in the clips.

For new cars this roof can be assembled at the manufacturer's plant and shipped as one piece ready for application to the car frame. When used for repairs the roof is applied in sections and, if desired, can be furnished with sheets of 22 gage steel to be put on over the existing carlines and purlines.



Sharon Pressed Steel Roof as Applied to the Car

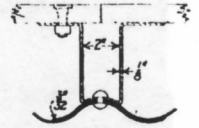
angle clips outside the sheet, as shown in the drawing. The side plate is of 3/16 in. or 1/4 in. material and is made continuous from end to end of the car. The design can be adapted to any type of car construction. A side plate of this type is approximately four times as strong as the 5/16



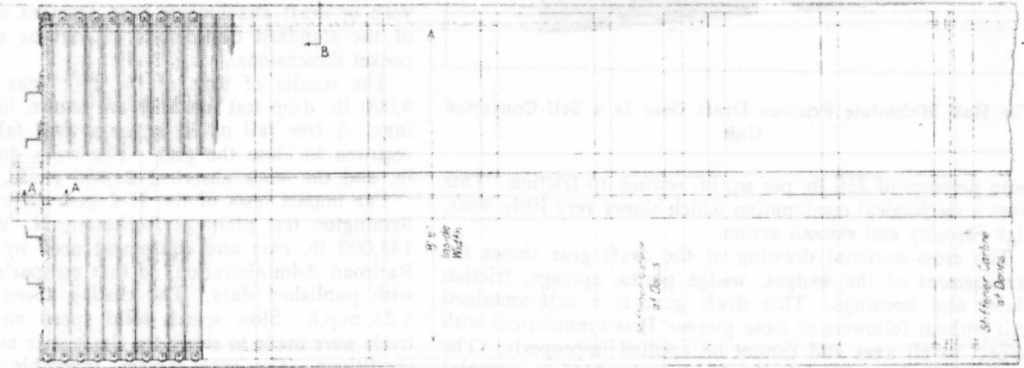
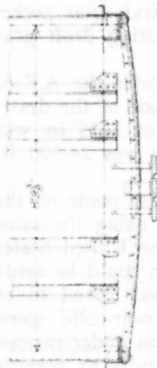
Section Showing Application of Stiffener Carline at Doors



Roof Lap Section



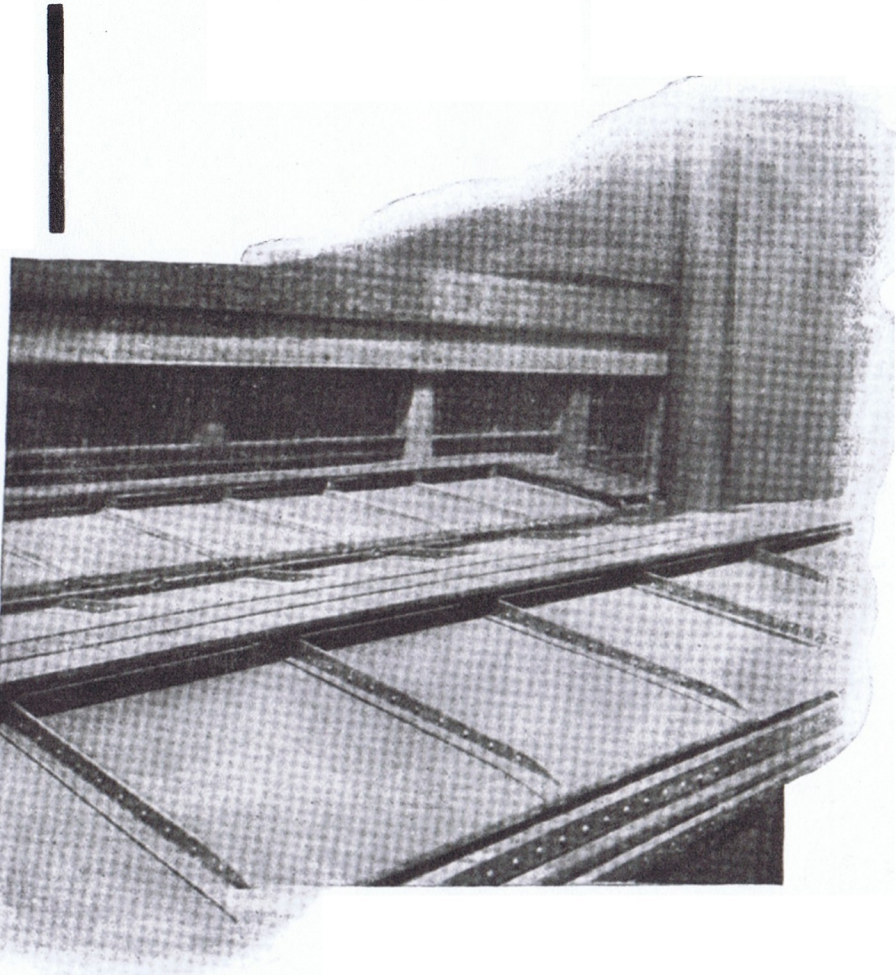
Detail of Running Board Saddle



General Arrangement and Sections of the Sharon Roof

in. by 4 in. by 4 in. angle commonly used for this part, and is also lighter by about 120 lb. per car. The special end fascia used with the roof is of one piece, pressed to engage the end roof sheet, and riveted to the side plates. The running board is supported by light pressed steel saddles.

The roof complete weighs about 70 lb. per foot of car



## PROPER COVERING

Unity of the superstructure becomes an accomplished fact when the MURPHY **SOLIDSTEEL** ROOF is placed on a steel-frame or all-steel box car. It forms in itself a gusset plate over the entire body.

**STANDARD RAILWAY EQUIPMENT CO.**

MURPHY **SOLIDSTEEL** ROOFS

NEW YORK  
CHICAGO  
WASHINGTON  
RICHMOND  
PHILADELPHIA

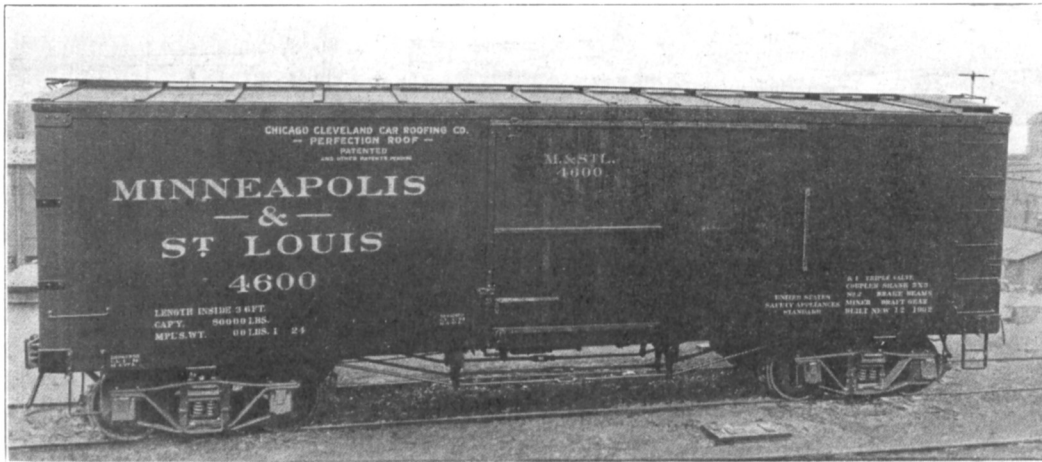
DENVER

ST. LOUIS  
HOUSTON  
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WORKS—NEW KENSINGTON PA.

CHICAGO-CLEVELAND CAR ROOFING CO.

# THE PERFECTION ROOF



The  
Perfection,  
an  
Outside  
Metal  
Roof  
with  
Wood  
Sheathing

Designed and endorsed by the Oldest Concern  
in the Industry.

42 years' experience in the Roofing Business is put into  
the PERFECTION ROOF.

**LESS PARTS  
LOWER APPLICATION COST  
ECONOMICAL MAINTENANCE**

It Goes on Like a Collar

**CHICAGO-CLEVELAND CAR ROOFING CO.**

Washington, D. C.

St. Louis

St. Paul

Montreal

Warren, Ohio

General Offices

25 E. JACKSON BLVD.

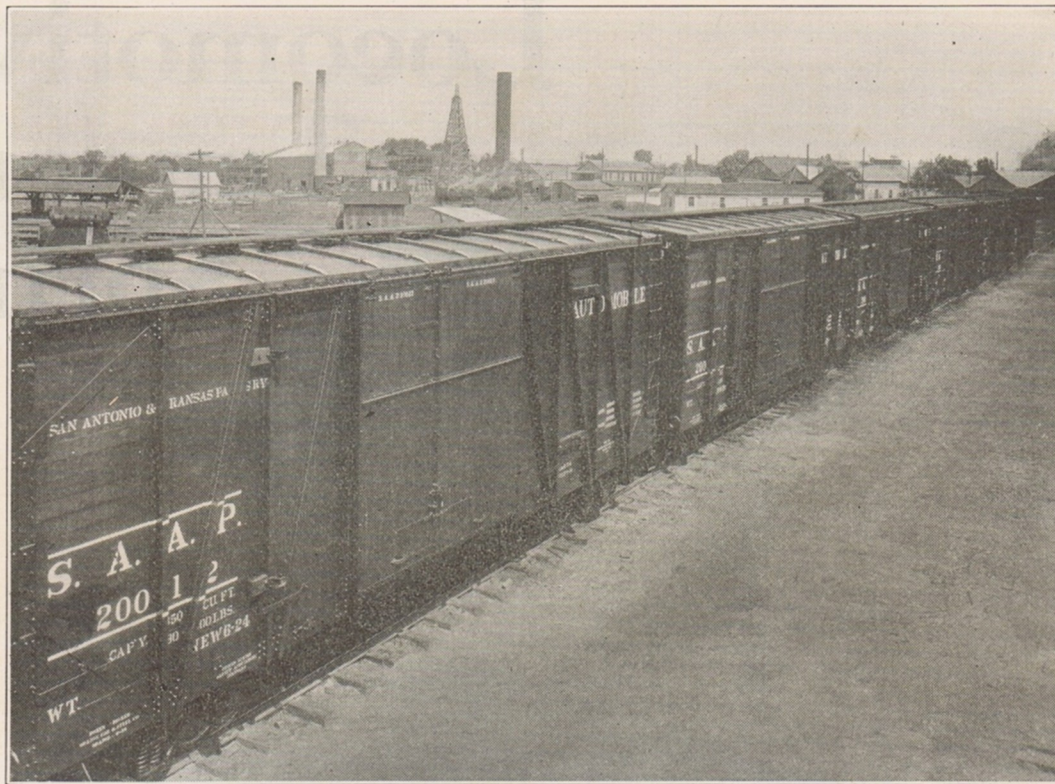
CHICAGO

Inside Roofs  
Outside Roofs  
All Steel Roofs

All Steel Ends  
Composite Ends

Steel Carlines

**CHICAGO-CLEVELAND CAR ROOFING CO.**



**BOX CAR!**



**A Car Built Like a *Box* --- ALL RIGHT**

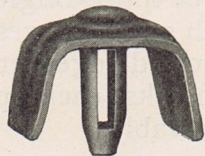
What possible legitimate argument then can there be for having five sides rigid unless the sixth side (the roof) is also rigid.

This has been the goal for years.

But there seemed no way of obtaining this result except by objectionable riveting until the "MAGIC CLAMPS" of the Viking All Steel Roofs were invented.

Now we have the sixth side of the box car

*The Magic Clamp*



*RIGID WITHOUT RIVETS*  
**VIKING**  
**ALL-STEEL ROOF**

—the result of 43 years' experience in roof designing

**CHICAGO-CLEVELAND CAR ROOFING CO.**

**BRANCHES:**

- Washington, D. C.
- St. Louis
- St. Paul
- Montreal
- Warren, Ohio

*General Offices*

**25 E. JACKSON BLVD.  
CHICAGO**

**OUR PRODUCTS:**

- Inside Roofs
- Outside Roofs
- All Steel Roofs
- All Steel Ends
- Composite Ends
- Steel Carlines

**T**WO of the most durable water proof coverings. One designed by nature which out-wears the life of the animal.

The other, **THE DRY LADING ALL-STEEL ROOF**, out-wears the life of the car.

Nature demonstrates a covering to be water proof and durable must be Flexible.



**HUTCHINS CAR ROOFING COMPANY**  
DETROIT, MICH.

# ILLINOIS CENTRAL MAGAZINE

March, 1925

Vol. XIII, No. 9

Published monthly by the Illinois Central System in the interest of the system, its officers and employes, and the territory served by its lines.

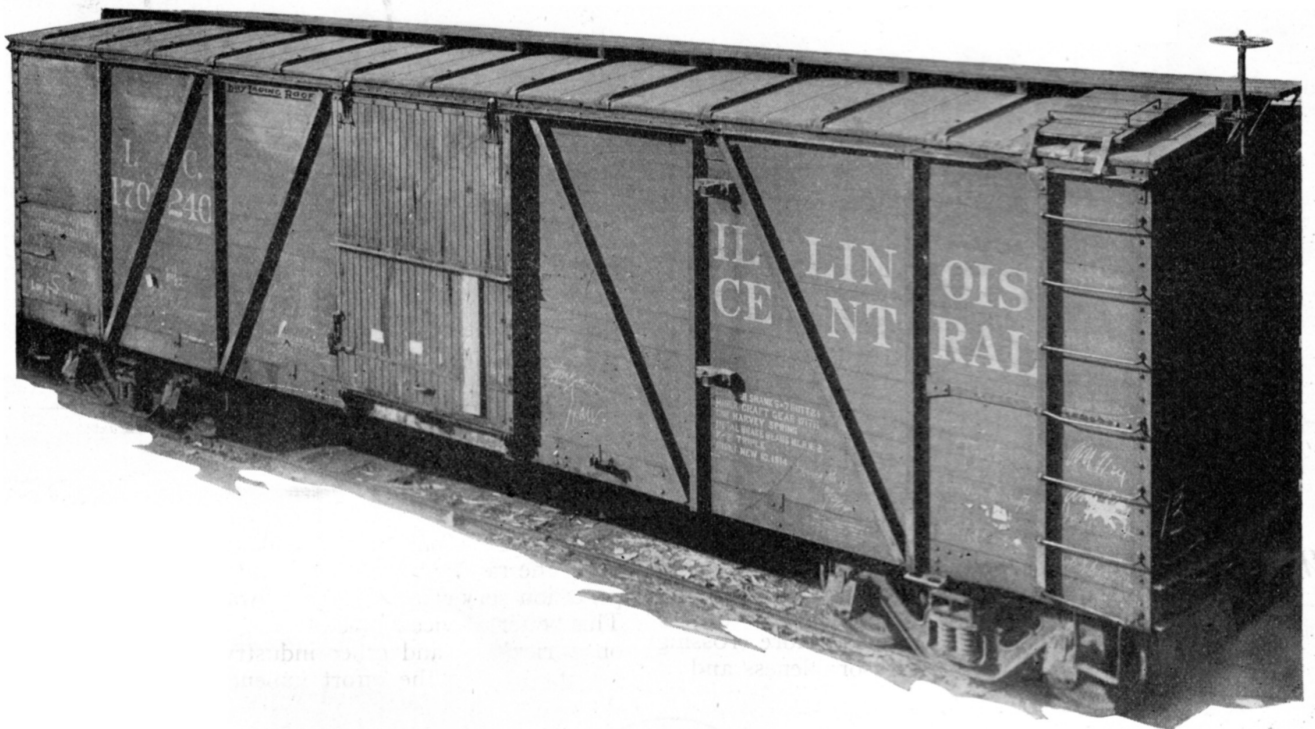
Address all communications to: The Editor, Illinois Central Magazine, Room 818, Central Station, Chicago. Manuscripts, photographs, etc., will not be returned, except upon request. All contributions should be typewritten—double-spaced—and signed.

GEORGE M. CROWSON, *Editor.*

CHARLES E. KANE, *Assistant Editor.*

## Freight Claims Reduced \$1,000,000 in 1924

*Illinois Central Contributed 24 Per Cent of  
Total Decrease Made by 200 Class I Railroads*



All new cars built by the Illinois Central since 1913 have been equipped with  
**DRY LADING ALL STEEL ROOFS**

**NOTE.**—In the issue of July 25, this date was incorrectly printed as 1923. The period covered by the service of Dry Lading roofs on the Illinois Central is 11 years—not *one* year.

**HUTCHINS CAR ROOFING COMPANY**  
DETROIT MICHIGAN

Established 1880



# STANDARDS AND STANDARDS

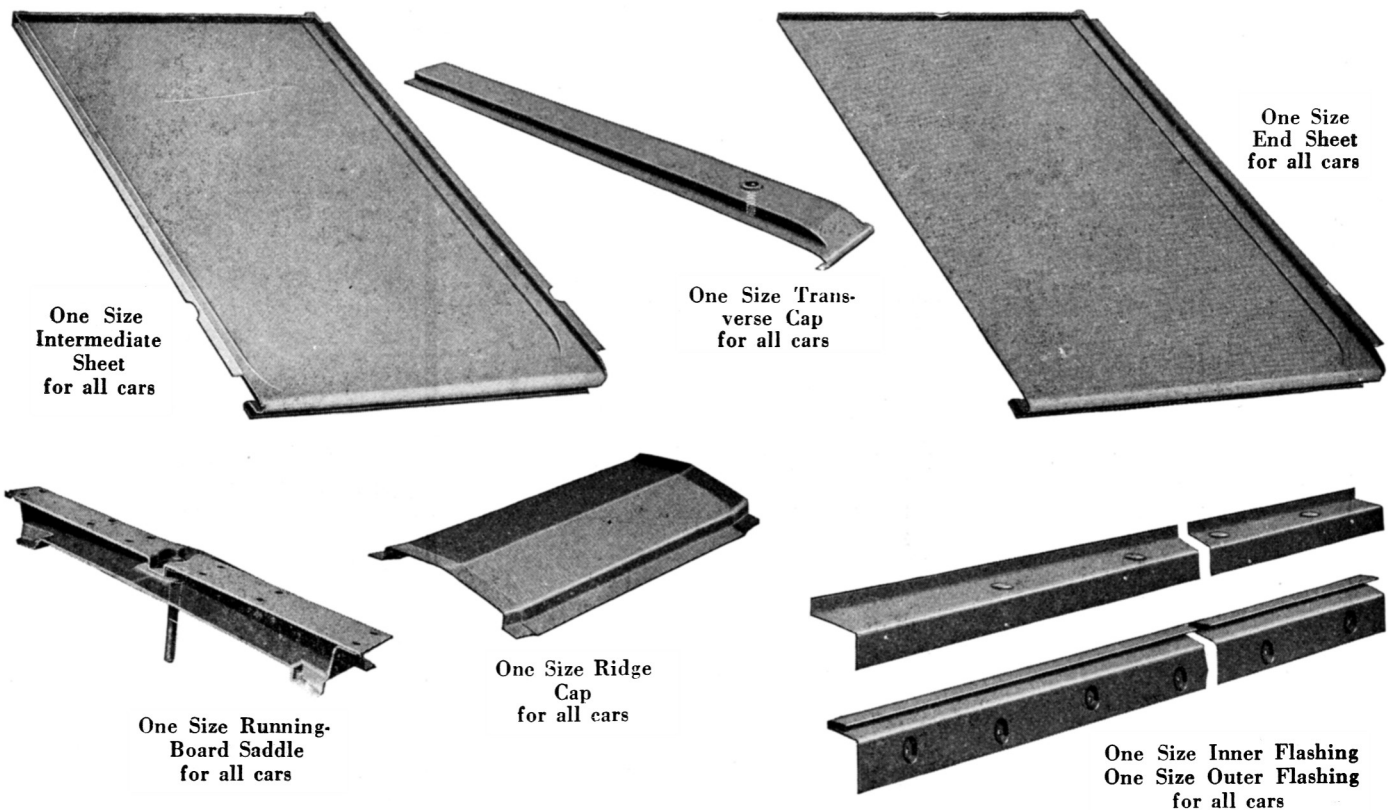
Probably the Dry Lading All-Steel or some other type of roof is "standard" on your road.

Another type of roof is "standard" on roads with which you interchange traffic.

But both your road and the other roads have various "standard" sizes of cars. Both of you have to carry in stock a variety of sizes of roof parts to fit cars of different size and design.

One set of Universal roof parts—end sheets, intermediate sheets, transverse caps and ridge caps, running-board saddles and flashings—will make up a roof to fit any car of any series—yours or the other roads'. How much will this save you on roofing material otherwise necessary to carry in stock?

The Universal Standard Unit Dry Lading All-Steel Roof saves this.

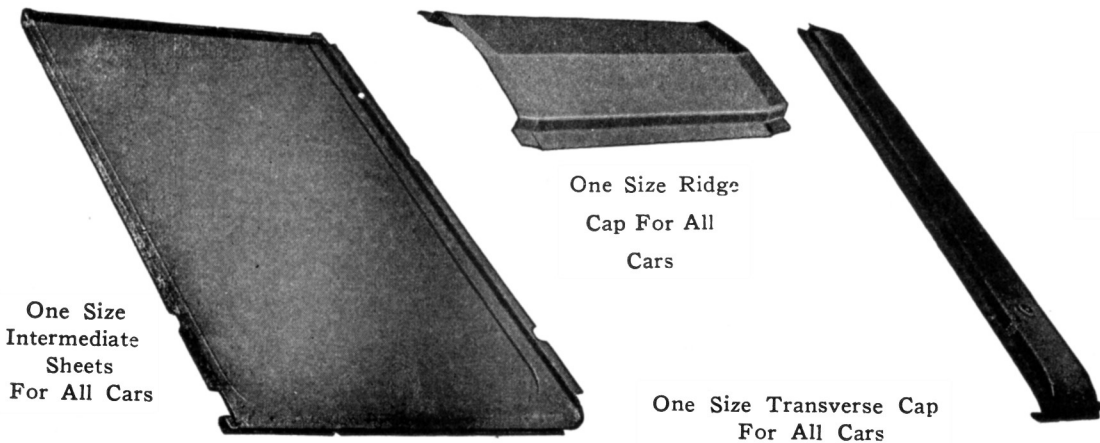


A certain number of these standard size parts of the **UNIVERSAL DRY LADING ALL-STEEL ROOF** will fit cars of any length or width, irrespective of wood or steel superstructure, whether double-sheathed or single-sheathed wood or steel or all steel, and irrespective of whether car has wood or steel carlines of any design, or wood side plates or steel side plates of any description.

**HUTCHINS CAR ROOFING COMPANY**  
DETROIT MICHIGAN

Established 1880

# The Universal Dry Lading All-Steel Roof



Is always good for ten years service, many of them run for fifteen without maintenance, and they have been known to be good for twenty years. If you have had experience with roofs you hoped would shed rain and otherwise be good for ten years, but which as a matter of fact, began to leak in two years and became useless in three or four, you should try this up-to-date roof.

## One size of parts will fit any size or design of car.

**HUTCHINS CAR ROOFING COMPANY**  
DETROIT MICHIGAN

Established 1880

# The Universal Dry Lading All-Steel Roof

*It  
Fits*

1. Standard A. R. A. cars
2. All wood cars
3. All steel cars
4. Steel superstructure cars
5. All existing cars
6. Single- or double-sheathed cars
7. Cars with wood side plates

8. Cars with angle side plates
9. Cars with Z side plates
10. Cars with wood carlines
11. Cars with steel carlines
12. Cars from 30 ft. to 50 ft.  
or any intermediate length
13. Cars of any width

## Only One Size

Roofing sheets - Weather proofing caps - Flashings - Steel saddles

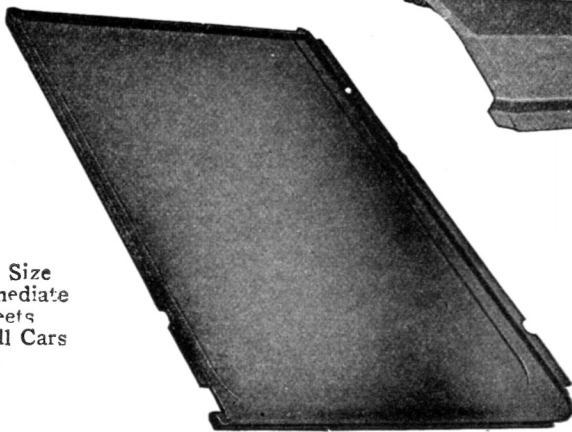
Each part of the Universal Dry Lading Roof is standard as to the design and dimensions and is applicable to any new car or any existing car.

Simply a greater number of its different roof parts required for longer cars than on shorter cars.

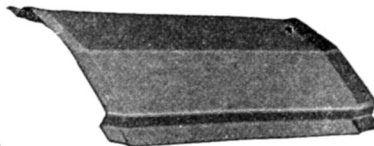
Any one of these Universal roofs is applicable to any car on your railroad or any car on any other railroad.

For new cars the Universal roof is furnished with carlines and for existing (repair) cars it is furnished with or without carlines.

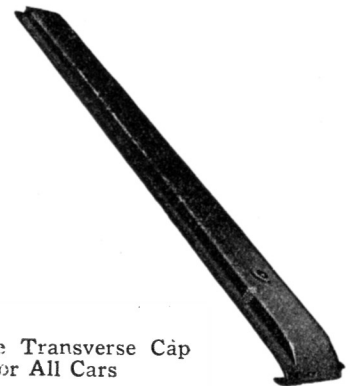
One Size  
Intermediate  
Sheets  
for All Cars



One Size Ridge  
Cap For All  
Cars



One Size Transverse Cap  
For All Cars



## One size of parts will fit any size or design of car.

**HUTCHINS CAR ROOFING COMPANY**  
DETROIT MICHIGAN  
Established 1880

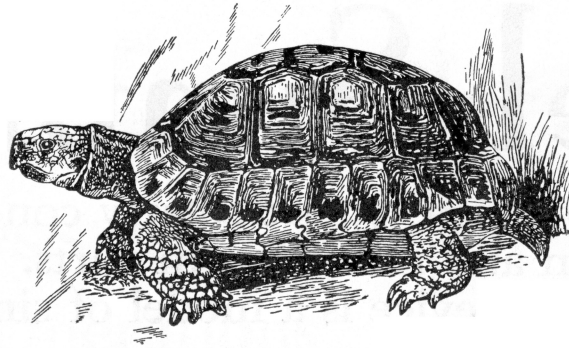
# The Universal Dry Lading All-Steel Roof

When you have stocked roof parts for fifty 36 ft. by 9 ft. 0 in. cars, and out of the first fifty cars that come along needing new roofs, twenty-five are 40 ft. by 10 ft. 2 in. cars, if you are using the Universal roof you don't have to worry or to pay for another lot of roof parts. You just keep right on using the same size roof parts for all sizes and designs of cars. The 40-ft. car requires a few more pieces—that's all.

## One size of parts will fit any size or design of car.

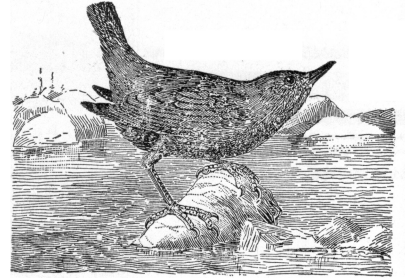
**HUTCHINS CAR ROOFING COMPANY**  
DETROIT MICHIGAN  
Established 1880





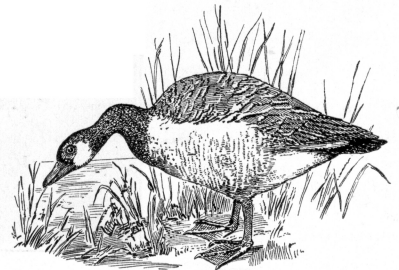
## “Ain’t Nature Wonderful!”

All this animal life is protected from every kind of weather by a flexible covering which lasts for a lifetime and sometimes longer. That is Nature’s way. On this principle



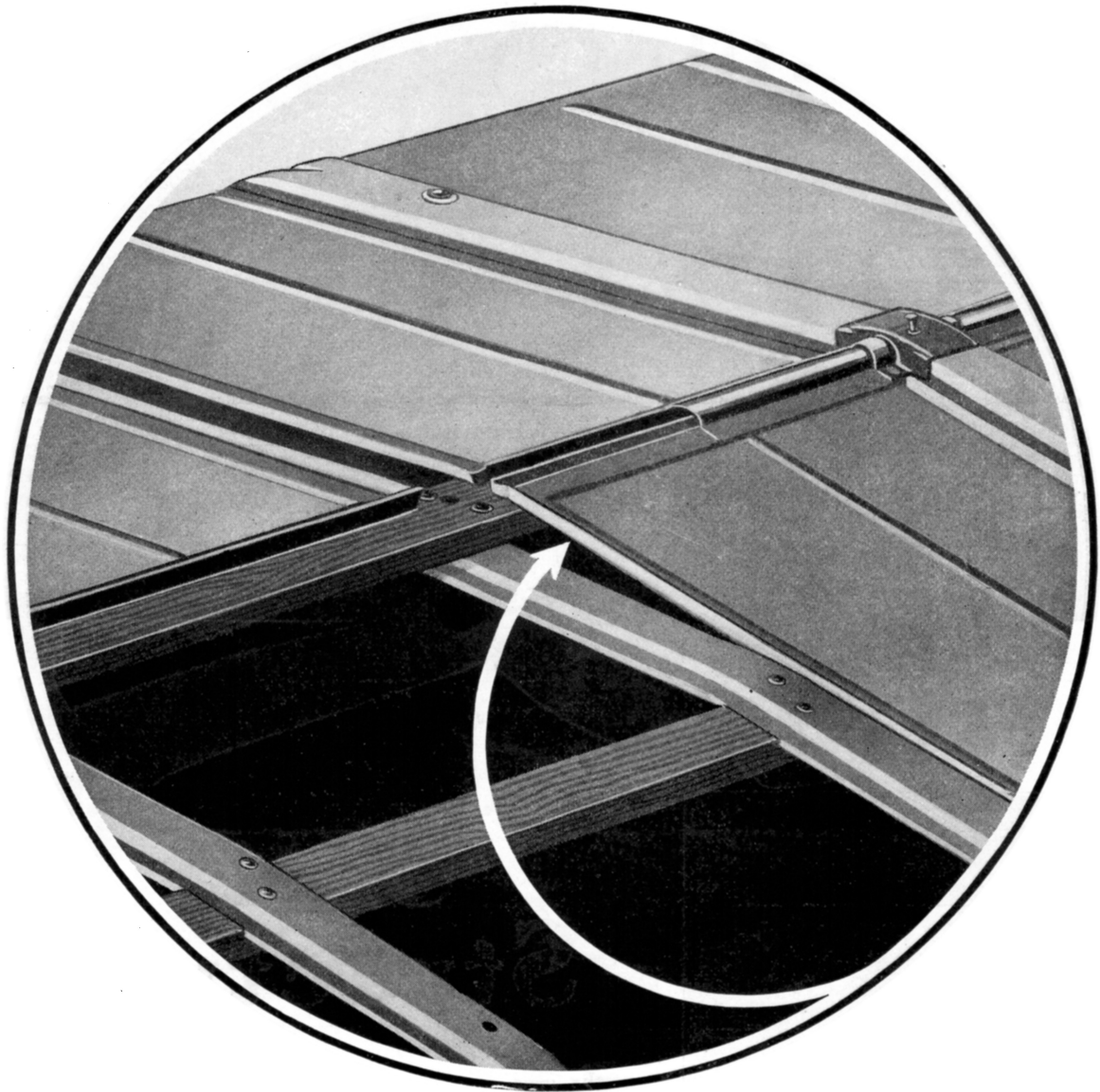
### Universal Dry Lading All-Steel Roofs

are constructed. They are weather-proof because they yield under strain, but do not bulge or break. They ordinarily last longer than the car to which they are applied because they furnish a safe yielding section in an otherwise rigid structure.



**HUTCHINS CAR ROOFING COMPANY**  
DETROIT MICHIGAN  
Established 1880





## ROOF STRAINS—STEEL vs. WOOD CARS

It goes without saying that more of the shocks and strains on a car body, due to unevenness or curvature of track and switching, are carried as high as the roof on an all-steel car than on a wood car.

In a wood frame car, some of these strains are taken up in the superstructure on account of the greater elasticity of wood and the necessarily less rigid construction. In the all-steel car they are carried to the roof.

Which, then, has the greater need of flexibility in the roof to prevent its distortion and the impairment of its weatherproofing qualities?

**UNIVERSAL DRY LADING ALL-STEEL ROOFS** provide for the absorption of these strains by the flexibility of their connection with the side plates and of the roof plates with each other.

**HUTCHINS CAR ROOFING COMPANY**  
DETROIT MICHIGAN  
Established 1880

1880

1930

## A Way to Economize!

*Impracticable for the Public  
—Practical for Railroads*

Imagine the economy to the public if it were possible to have one adjustable hat to cover any head, one adjustable shoe to fit any foot, one adjustable glove to cover any hand, or one adjustable garment to cover any body.

Men's bodies can't be satisfactorily covered in this simple and inexpensive way; cars can.

## Universal Dry Lading Roof

affords just this economy to the railroads. It is one adjustable cover for any new or old car of any width, any length, any type, or any design.

It's false economy to consider first cost of a riveted roof, as such a roof fits only the car for which it was made. It's real honest economy to use a Universal roof as it is so adjustable that it fits every size, type, or design of new or old car.

The use of one is the kind of extravagance men can't avoid in clothing themselves. The other represents vast economy in covering cars.

Any Universal Dry Lading Roof is so adjustable that it does what it takes thousands of other roofs to do. Any other roof is capable of application only to size or design of car for which such roof was made.

***The Universal Roof makes it possible for any car to receive proper roof repairs instantly in any car shop from the Gulf to Hudson Bay or from the Atlantic to the Pacific.***

*(For illustrations see following page)*

**HUTCHINS CAR ROOFING COMPANY**  
DETROIT MICHIGAN  
ESTABLISHED 1880

1880

1930

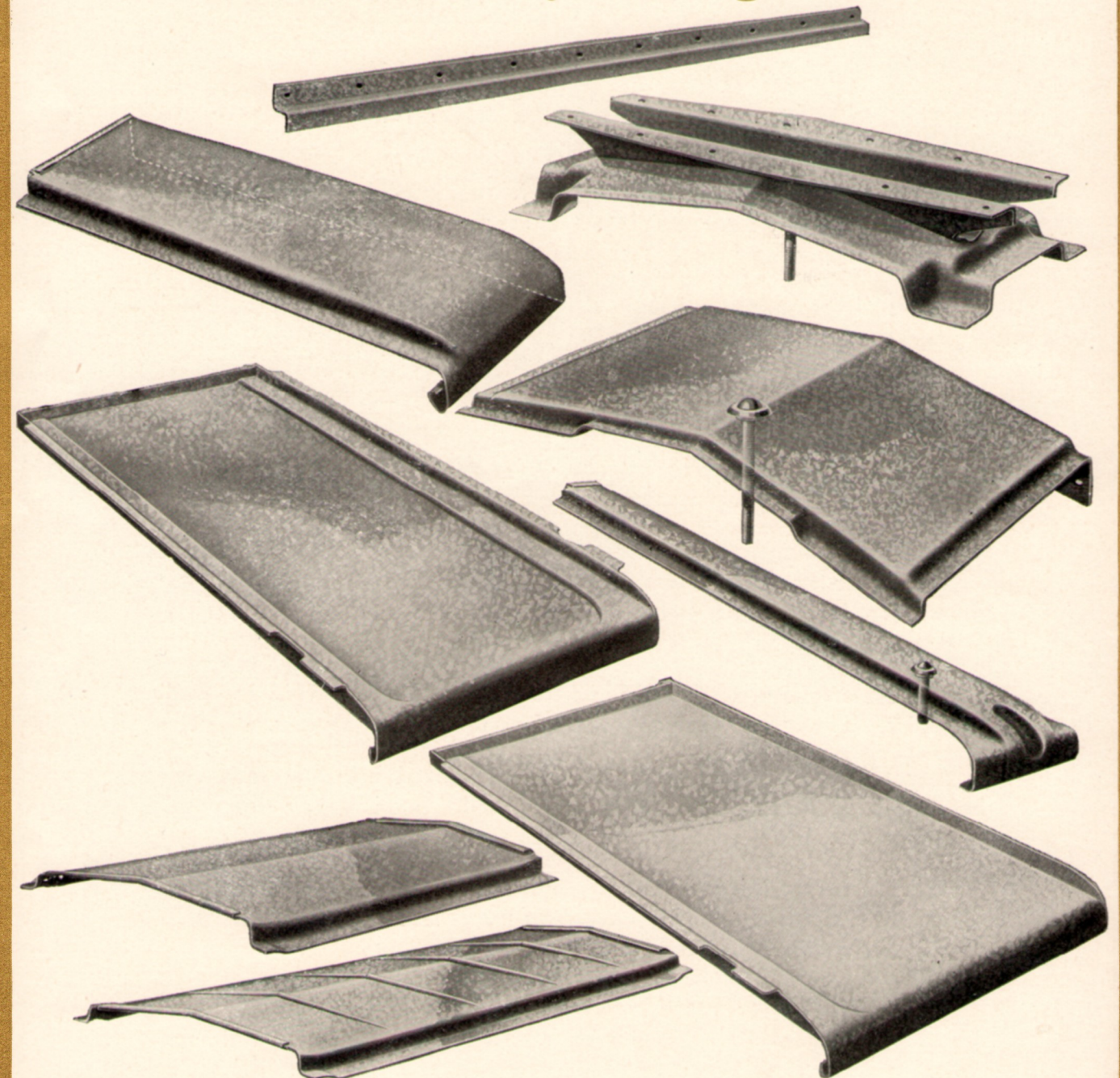
1880

Our 50th Anniversary  
CONTRIBUTION

1930

To the Pioneers of Progress—The Railroads

## Universal Dry Lading Roof



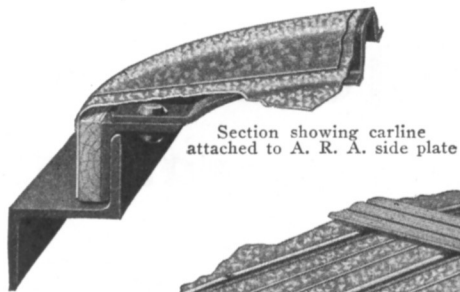
With the necessary number of these one size and one design parts (9 only) any width or length or any design or type of new or old house car is weatherproofed permanently.

## A Standard That IS "Standard"

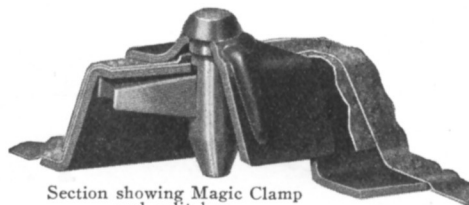
Not standard as the word is generally abused—that is, standard only to each size of car, or to each design of car—but standard because the above roof parts are adjustable so as to fit any size or design new or old car.

*(See preceding page)*

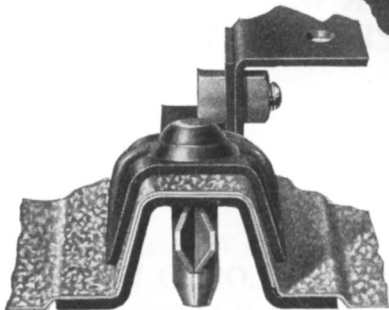
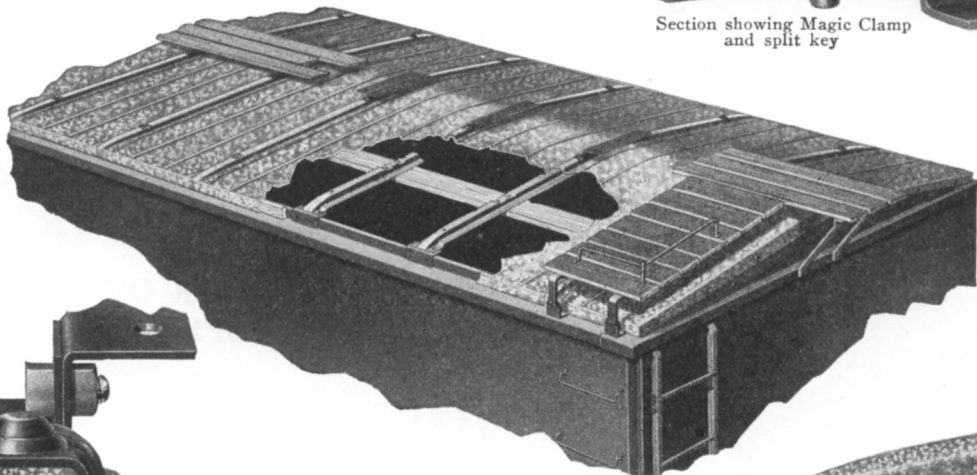
# CHICAGO-CLEVELAND CAR ROOFING CO.



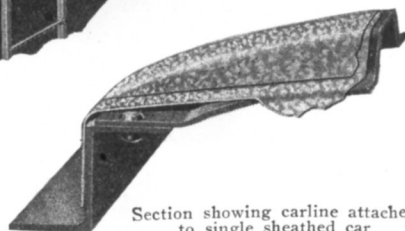
Section showing carline attached to A. R. A. side plate



Section showing Magic Clamp and split key



Section showing contour of carline and roof sheets



Section showing carline attached to single sheathed car

## VIKING All Steel Roof

The Viking Roof is a rigid roof without rivets, made possible by the use of magic clamps which firmly secure roof sheets to each carline. The magic clamps distribute their pressure over a large area, thereby preventing the sheets from tearing at their attachment points.

Roof sheets are made of heavy gauge galvanized steel extending clear across the car without break at ridge.

Carlines furnished with the Viking roof are of the inverted "U" type and are strong enough not only to support the roof but also to hold the side plates in perfect alignment.

BOOTHS 274 & 329

# CHICAGO-CLEVELAND CAR ROOFING CO.

Inside Roofs  
Outside Roofs  
All Steel Roofs

*General Offices*  
8 SO. MICHIGAN AVE.  
CHICAGO

Steel Ends  
Steel Carlines  
Uncoupling Devices



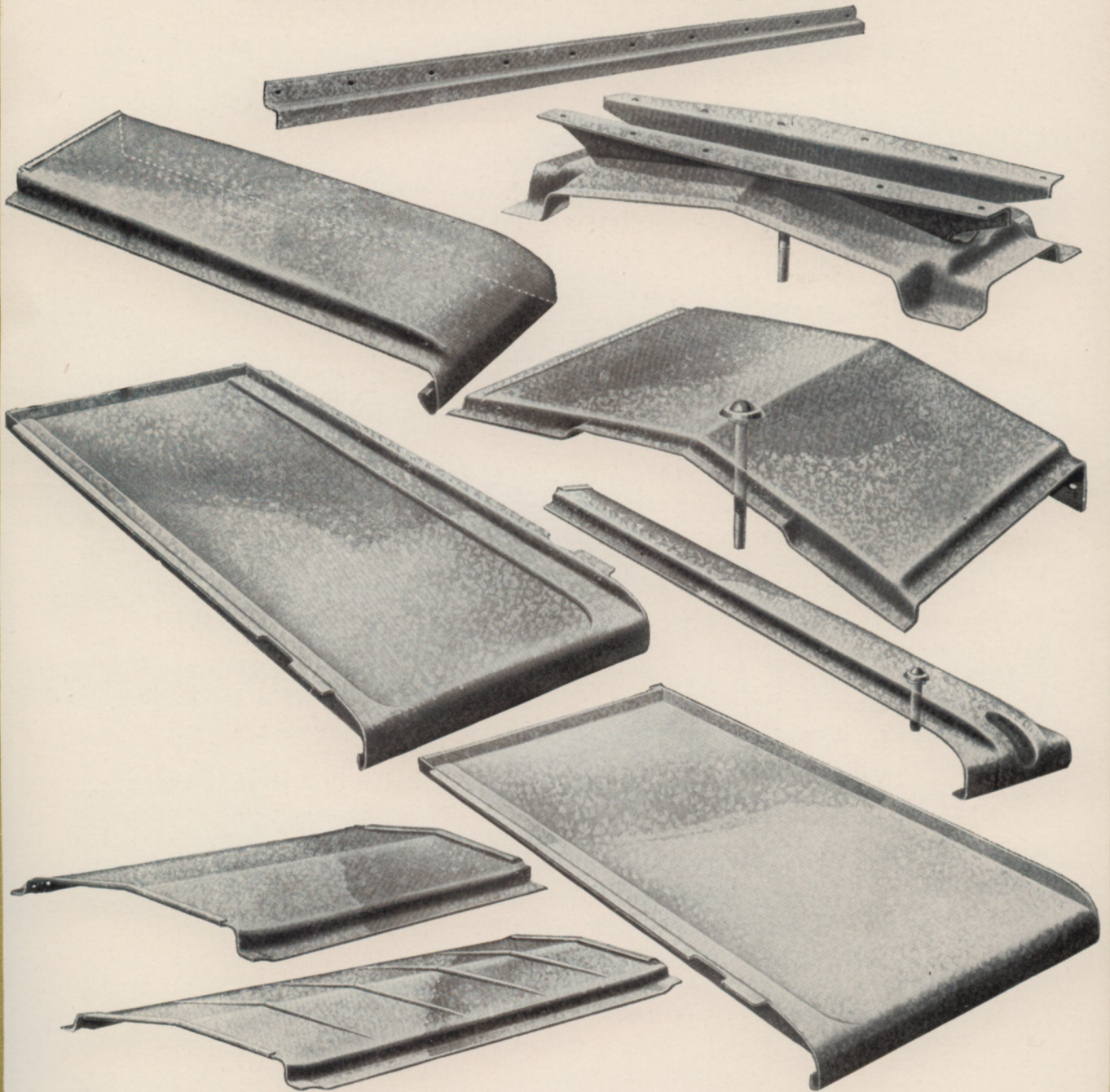
1880

Our 50th Anniversary  
CONTRIBUTION

1930

To the Pioneers of Progress—The Railroads

## Universal Dry Lading Roof



With the necessary number of these one size and one design parts (9 only) any width or length or any design or type of new or old house car is weatherproofed permanently.

### A Standard That IS "Standard"

Not standard as the word is generally abused—that is, standard only to each size of car, or to each design of car—but standard because the above roof parts are adjustable so as to fit any size or design new or old car.

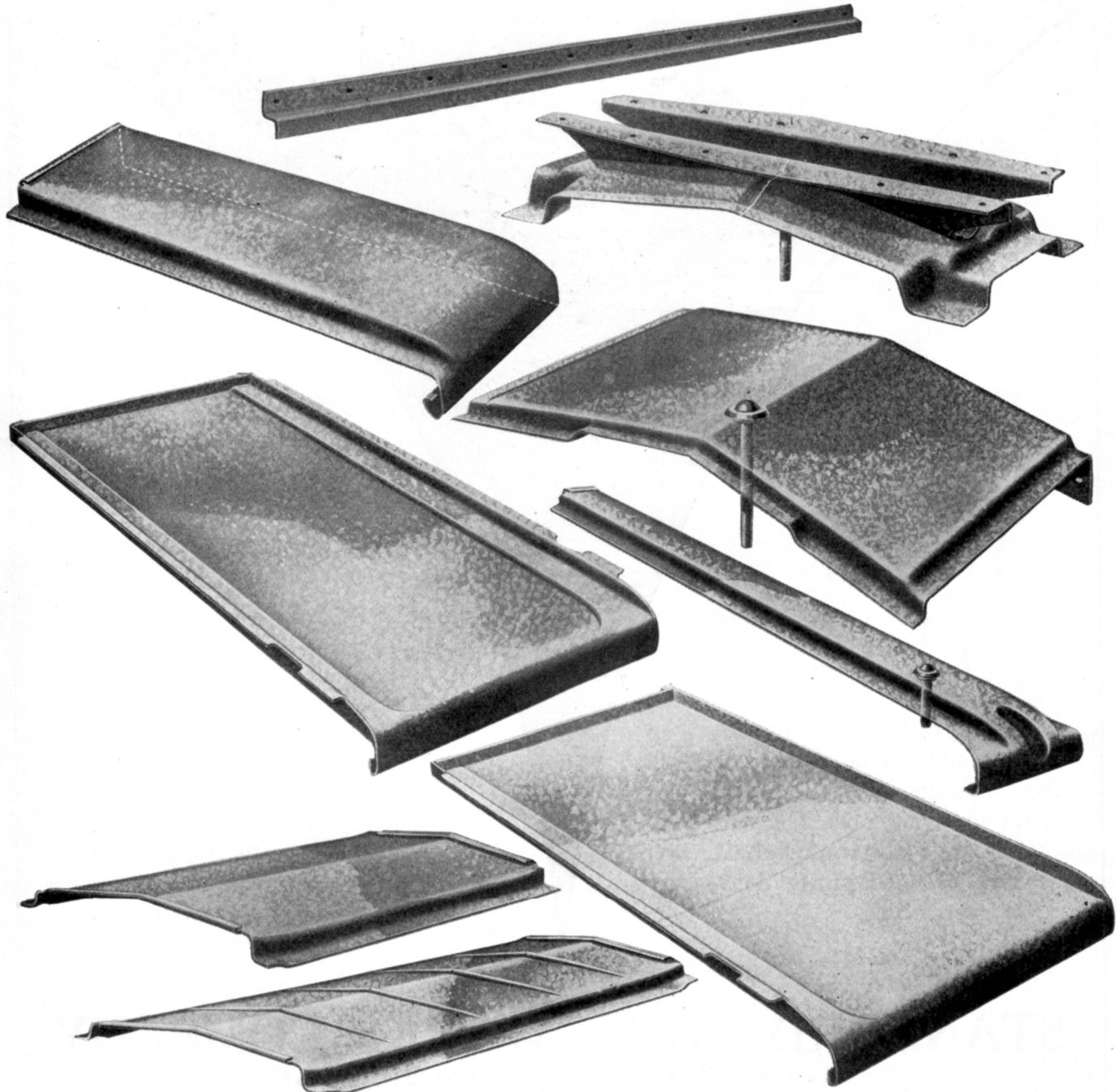
*(See preceding page)*

# STUMBLING BLOCKS TO TRAFFIC

In a recent comprehensive address before the Car Department Officers' Association, Mr. T. C. Powell, president, Chicago & Eastern Illinois, mentioned

## LEAKY ROOFS

as one of the stumbling blocks to the traffic department in trying to rescue traffic not only from another railroad, but also from one of the competitors of all the railroads.



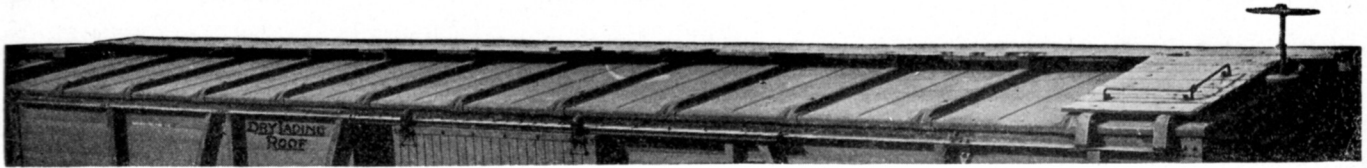
The simplest ways to avoid leaky roofs are: (1) On new cars, equip them with a roof that is and will remain waterproof; (2) Provide for repairs a supply of roofs that will fit any size or design of car that comes in with a leaky roof. This means the use of the

## UNIVERSAL DRY LADING ROOF

on new cars and for replacement.

**HUTCHINS CAR ROOFING COMPANY**  
DETROIT MICHIGAN

Established 1880



## Getting Down to Brass Tacks *About The ROOF Question*

The cost of keeping cars adequately roofed is a maintenance item which looms large on many roads. Little leaks in roofs mean big leaks—spoiled lading, revenue earning cars tied up, high repair bills—in the railroad treasury. What you have to do to keep a roof weatherproof may be lavish expenditure or it may be rigid economy, depending upon the roof you select.

### *Rigid Economy Demands*

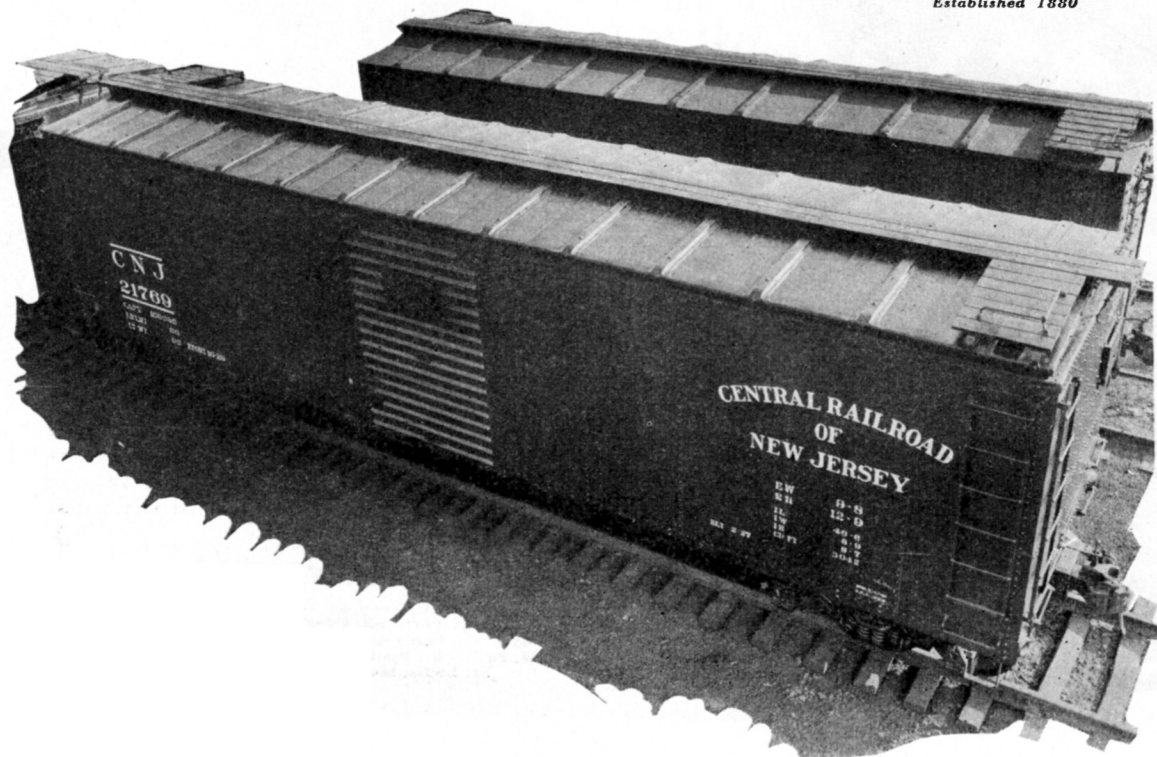
## UNIVERSAL DRY LADING ROOFS

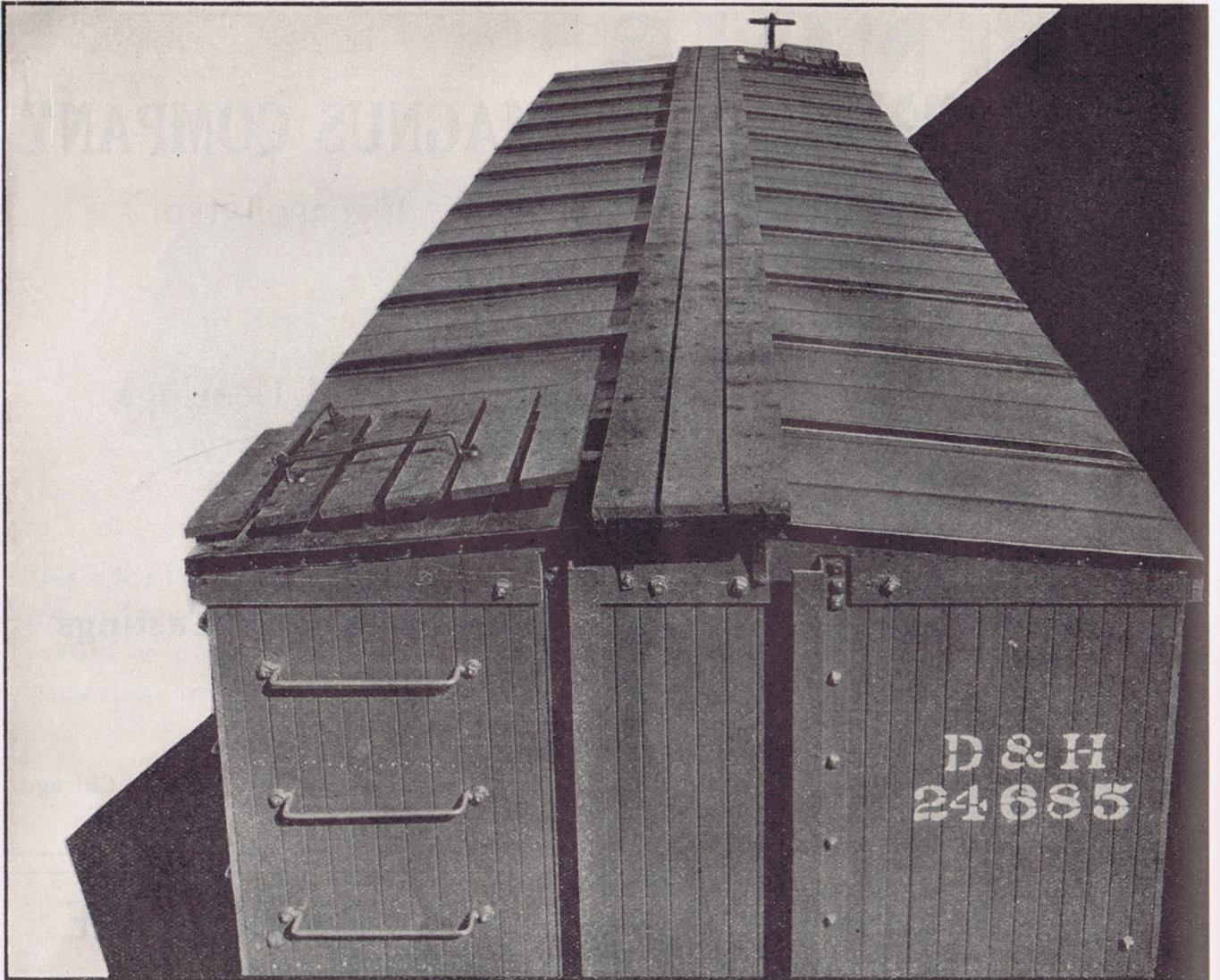
Think what it means to be able to stock only one size of roof parts, so adjustable that singly or in combination they can be applied to any car, and the job can be done in the nearest repair yard—no dead-heading home if on a foreign line, or hauling to a main shop if on the home line. These units are not

part of the car superstructure, subject to body stresses. Universal Dry Lading Roofs allow free ventilation so that sweating is reduced to a minimum in cars loaded with commodities that give off moisture.

Can you afford to pass up this opportunity to pare operating costs?

**HUTCHINS CAR ROOFING COMPANY**  
DETROIT MICHIGAN  
Established 1880





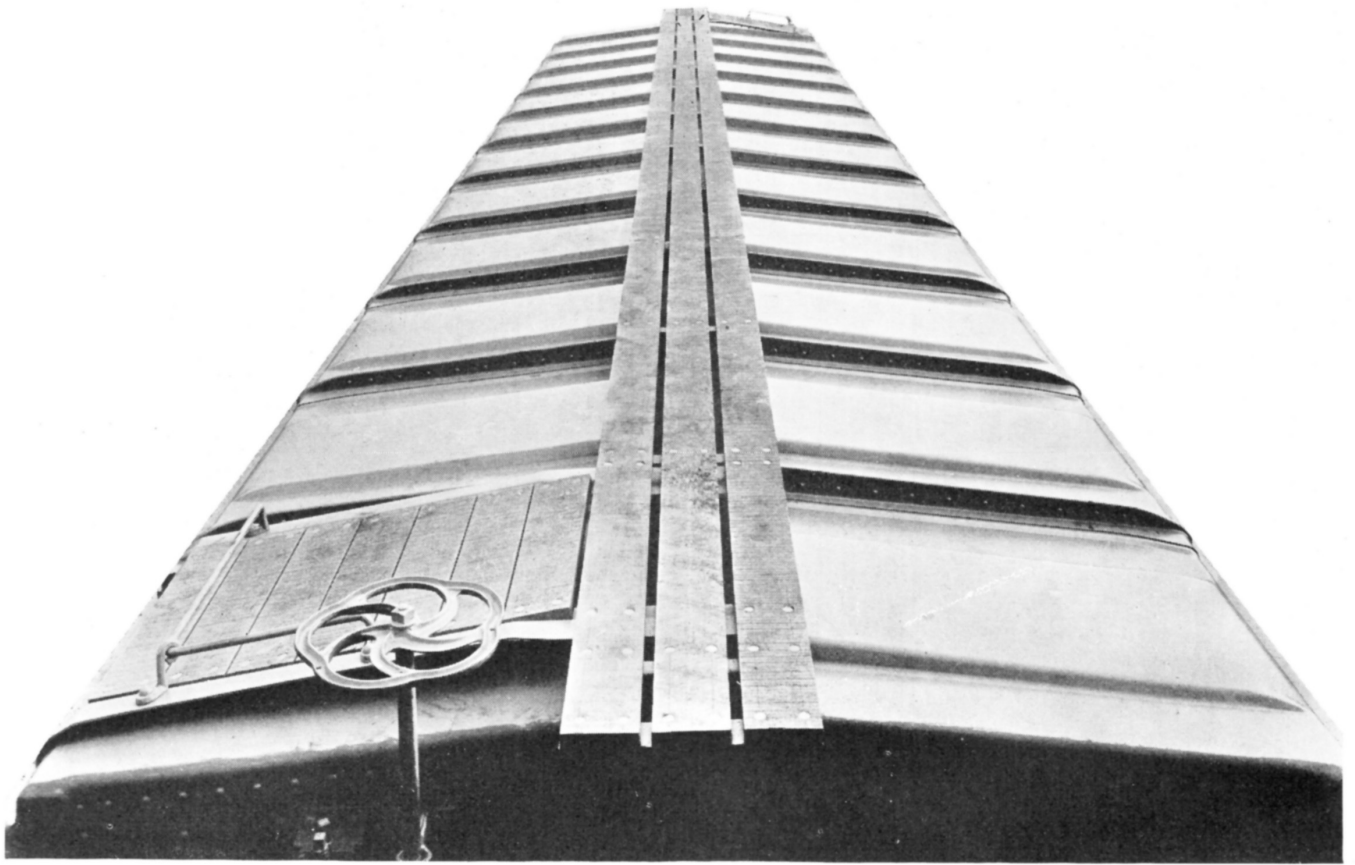
# UNIVERSAL DRY LADING ROOF

**APPLIED OVER 20 YEARS AGO  
AND STILL IN A-1 CONDITION**

Here is a Universal Dry Lading Roof  
Applied July, 1912, over 20 years ago  
And still in A-1 condition.

If this roof without maintenance  
Gives 20 years of continuous service  
On a double sheathed **wood** car  
Which car was repaired several times—  
How much longer service will it  
Give on an **all steel** car?  
Probably beyond the wildest dreams.

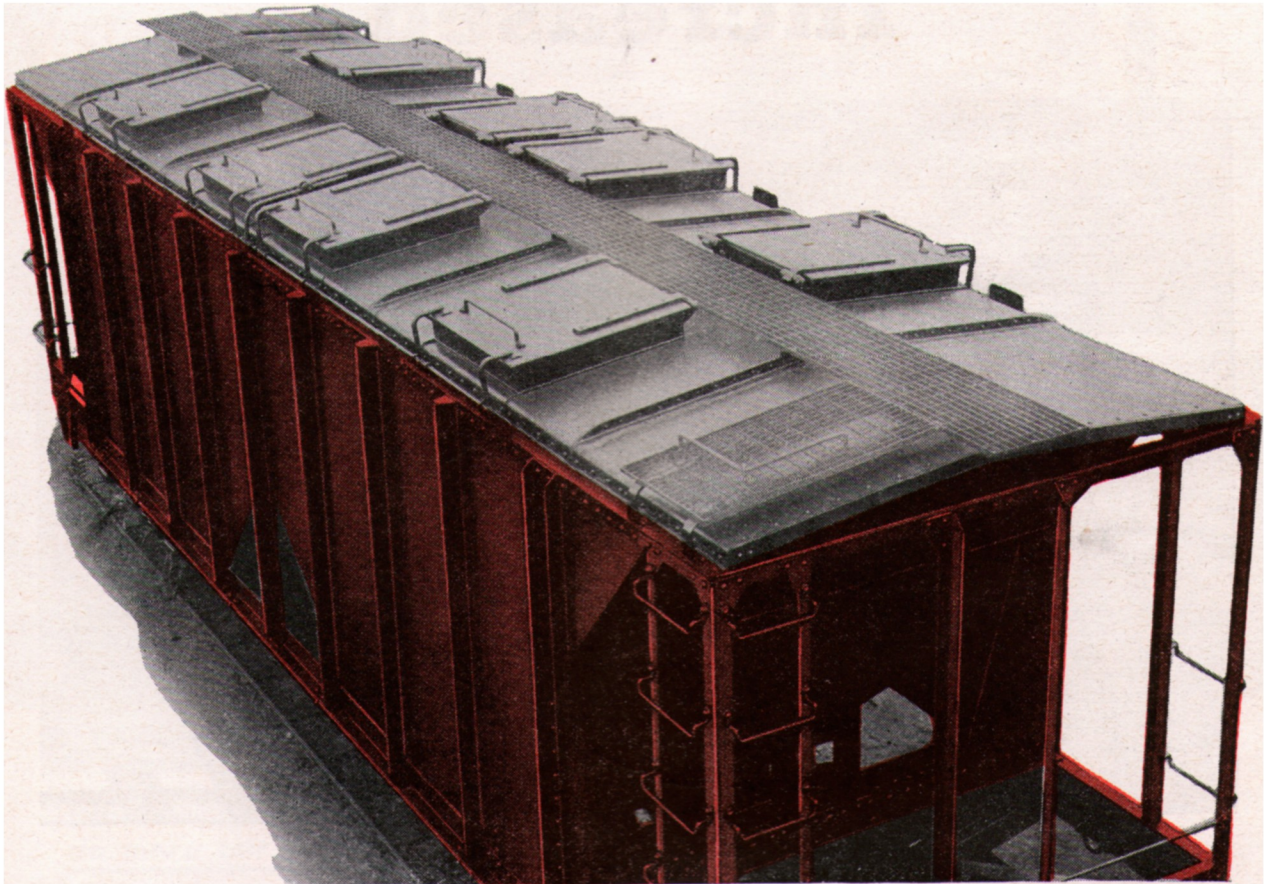
FIGURE IT OUT FOR YOURSELF.



**The IMPROVED SOLID STEEL ROOF  
adds strength and saves weight  
in  
MODERN FREIGHT CAR DESIGN**

**Standard Railway Equipment Co.**  
310 South Michigan Avenue, Chicago

# **COVERED HOPPER CARS ARE DOING MORE JOBS EVERY DAY**



**OUR SPECIALLY DESIGNED ROOF FOR THIS  
TYPE OF CAR WILL PROVIDE THE SAME  
WEATHERPROOFING PROTECTION THAT  
HOUSE CARS OBTAIN WITH IMPROVED  
SOLID STEEL ROOFS.**


**STANDARD RAILWAY EQUIPMENT MFG. COMPANY**

**HAMMOND, INDIANA**

**WORKS: HAMMOND, INDIANA**

**NEW KENSINGTON, PA.**

**CHICAGO OFFICE — 310 S. MICHIGAN AVE.**



*The Diagonal Panel Roof  
is the best roof you can buy!  
Riveted or Welded...*

*Standard*

**RAILWAY EQUIPMENT MANUFACTURING COMPANY**

*"The World's Largest Fabricator of Railway Car Specialties"*

310 S. MICHIGAN AVENUE CHICAGO 4 • 247 PARK AVENUE NEW YORK 17



*Congratulations*

**"I.C."**

## a pioneering 100-year-old railroad!

100 years ago the Illinois Central Railroad Company undertook a formidable task — the building of a pioneer railroad across the wild and undeveloped regions between Chicago and Cairo, Illinois.

40 years later in 1890 the "IC" pioneered in using metal car roofs made by the firm that is now Standard Railway Equipment Manufacturing Company.

We hope to pioneer with "IC" in the next 100 years.

*Standard*

**RAILWAY EQUIPMENT MANUFACTURING COMPANY**

310 S. Michigan Avenue, Chicago 4 • 247 Park Avenue, New York 17

*The World's Largest Fabricator of Railway Car Specialties*





# NEW PLASTIC HATCH COVER and PLUG

- reduces weight 50%-60%
- twice as easy to lift
- won't rust or corrode
- better insulation

A new development from Standard . . . the reinforced Plastic Combination Hatch Cover and Plug. This product's inherent savings in maintenance time and money result from Standard's feeling of "responsibility" to produce new and better products for the railroads...a "responsibility" that pays-off for you.

Made of glass reinforced polyester resin, this new hatch cover and plug design cuts weight down to 65 lbs. including hardware and gasket . . . 70 lbs. less than the conventional plug. There's a big plus in

the new ease of handling at the icing stations, too!

The Plastic Hatch Cover and Plug is suitable for either Standard's welded design or new integral design Hatch Frame and will not rust or corrode. Salt and brine have no effect. And the Plastic Plug's core of insulation gives greater resistance to heat transfer. Your own choice of hardware can be used.

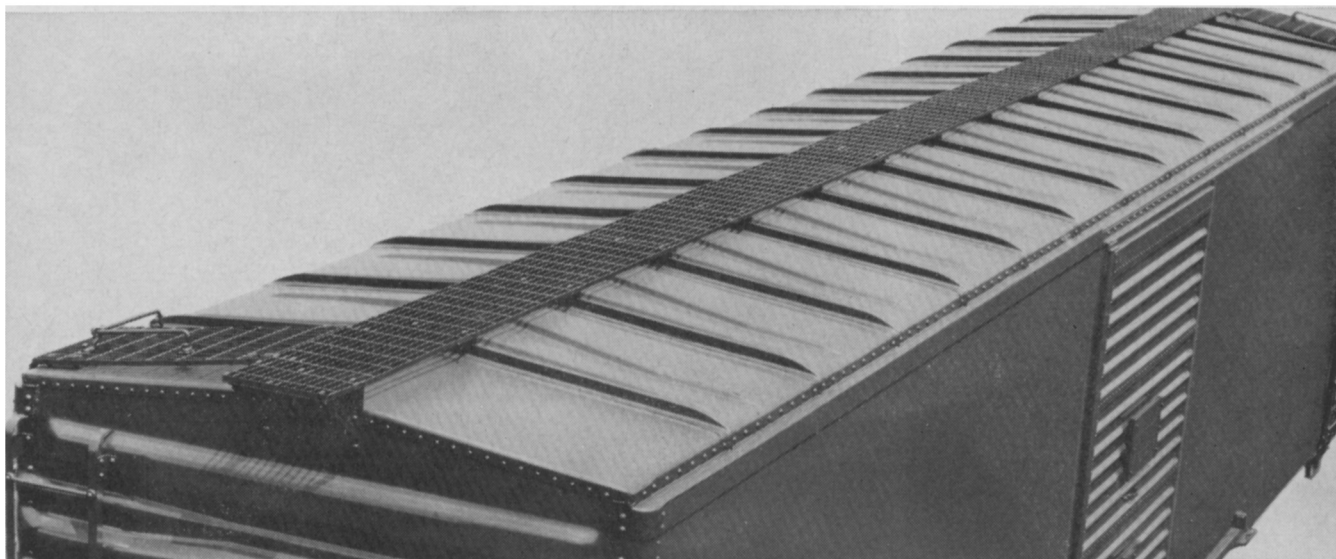
Ask your Standard representative for information on how the new Plastic Hatch Cover and Plug can go to work for you.

**STANDARD**

RAILWAY EQUIPMENT MANUFACTURING COMPANY, CHICAGO  
 General Office: 4527 Columbia Ave., Hammond, Ind. • New York • Chicago • St. Paul • San Francisco

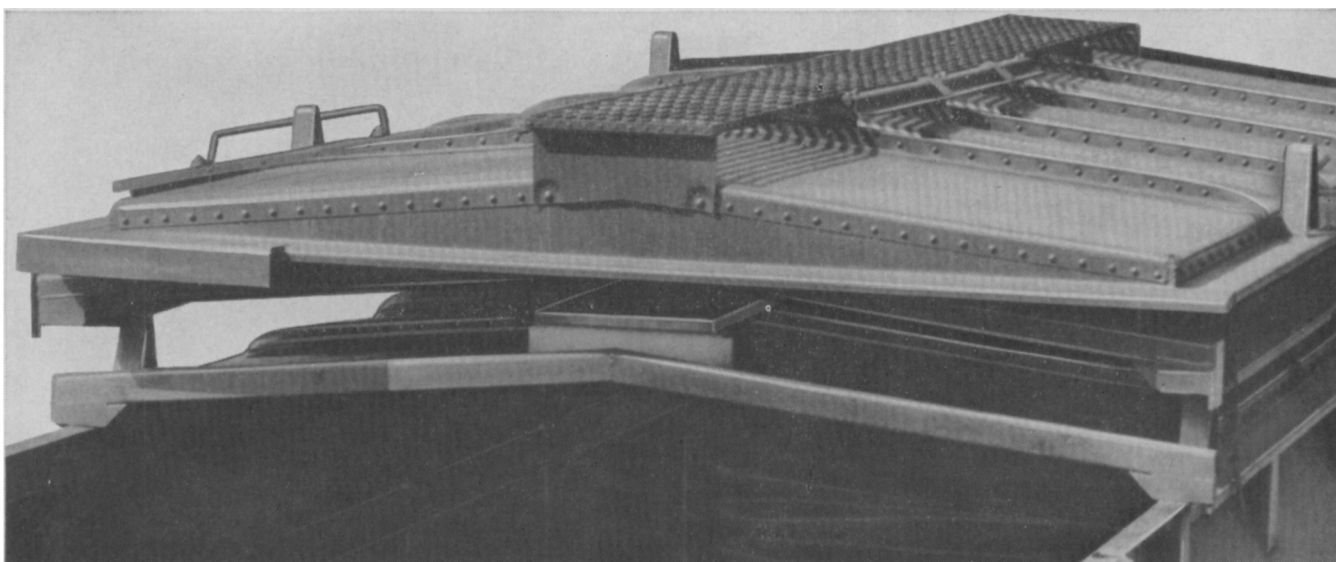


**... a Half Century of Design Progress**



## **STRENGTH WHERE STRESS IS GREATEST**

**STANDARD DIAGONAL PANEL ROOF** Today's house cars need the advantages of the diagonal panel roof—it's the strongest possible design for its depth. Built to absorb strains, the Diagonal Panel Roof lasts the life of the car, is weather-proof, keeps the carframe square.



## **GONDOLA LOADS GET BOXCAR PROTECTION**

**WITH THIS STANDARD REMOVABLE GONDOLA ROOF** Protection of valuable loads is complete with this removable gondola roof. Valuable lading of all types is given complete weather protection in transit. Three rigid sections can be readily removed and stored at one end of the car or on the dock while loading or unloading.



**STANDARD RAILWAY EQUIPMENT**  
division of **STANRAY CORPORATION**

HAMMOND, INDIANA

CHICAGO, ILLINOIS • NEW YORK, NEW YORK • SAN FRANCISCO, CALIFORNIA





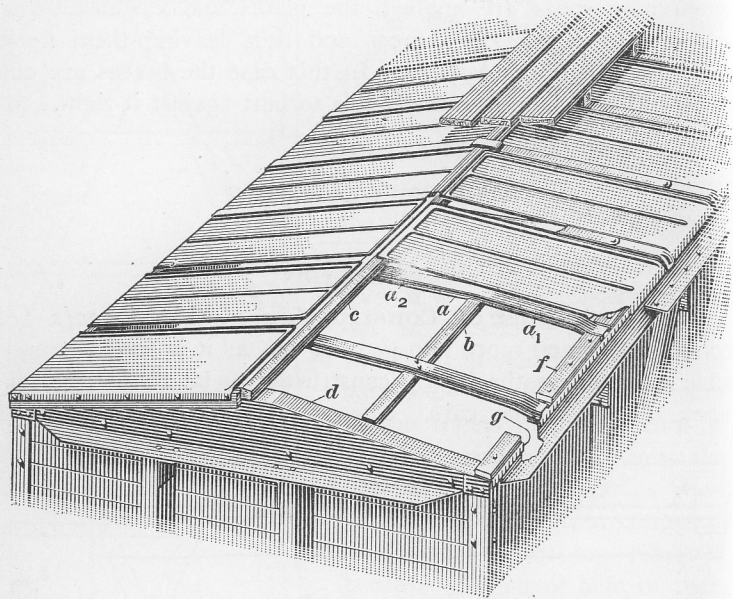


FIG. 23

**54.** In Fig. 23 is shown the *Hutchins all-steel carline roof*, as applied to wooden cars with steel frames. The roof has a carline *a* of special shape, the lower portion *a*<sub>1</sub> being made to conform to the roof pitch, while the upper portion *a*<sub>2</sub> is horizontal. The purlins *b* have recesses on top equal to the depth of the carline flange and are bolted to the under side of the carlines, while the ridge pole *c* is bolted to the upper side. The end plate *d* is flat at the center to receive the ridge pole and has two brackets attached to it, but not shown in the illustration, that serve as supports for the purlins.

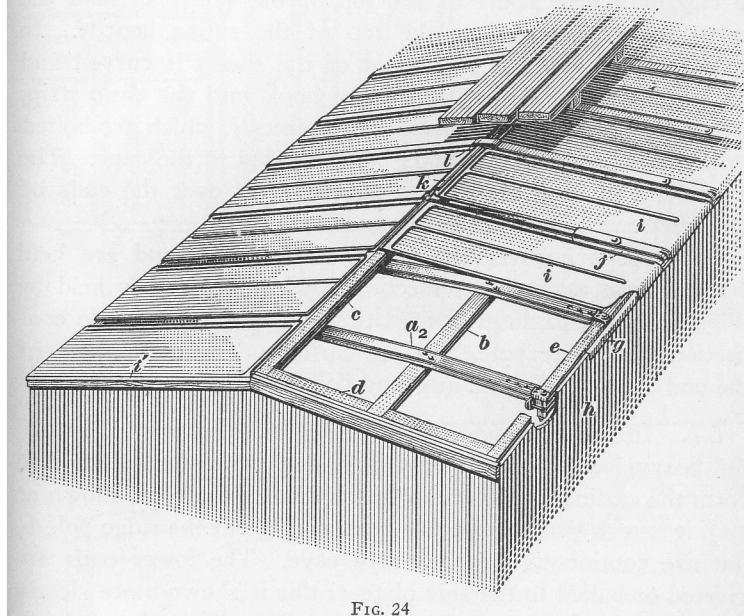


FIG. 24

**55.** In the *Hutchins all-steel carline roof*, Fig. 24, intended for wooden cars, the purlins *b* and the ridge pole *c* are set in recesses cut in the end plate *d* so as to make its top side flush with that of the plate. In the roofs, Figs. 23 and 24, the top of the purlins and the bottom of the ridge pole are on the same level as the portion *a*<sub>2</sub> of the carline. In both roofs the lower end of the carlines is bent to fit the level top of the side plate *e*, but in the construction, Fig. 23, the side plates are made flush with the ends of the carlines by spiking fillers *f* to the top of the side plate between the carlines.

Numbers Refer to List of Names of Parts on Page 258.

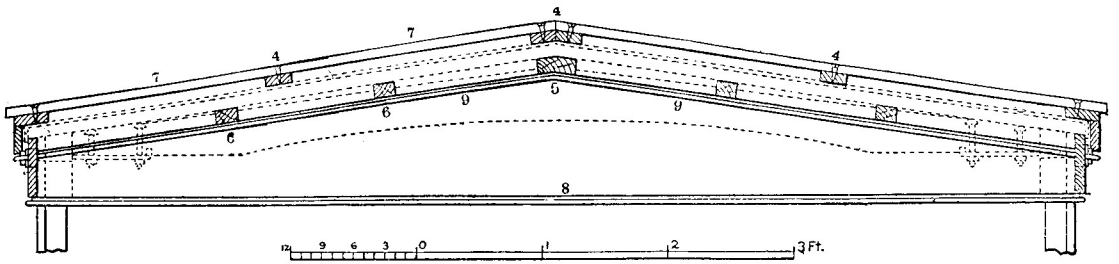


Fig. 1959. Transverse Section.

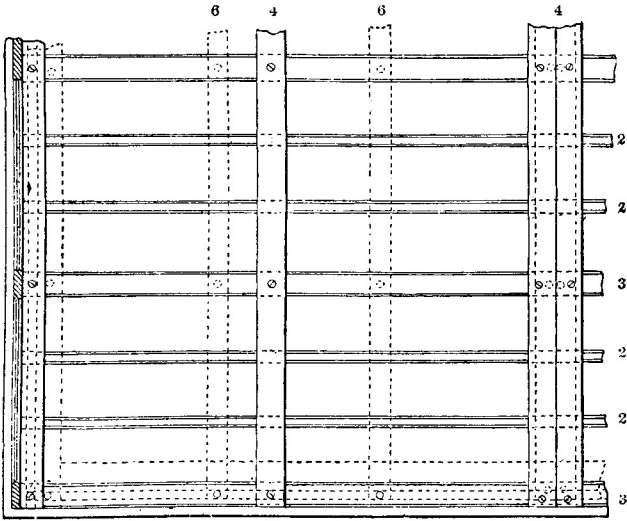


Fig. 1960. Plan.

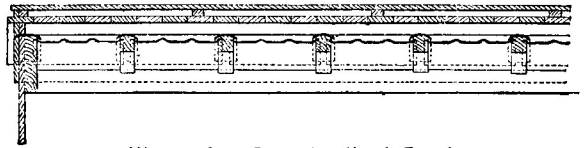


Fig. 1961. Longitudinal Section.

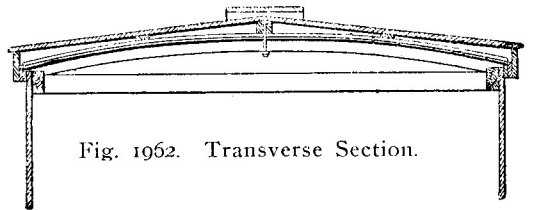


Fig. 1962. Transverse Section.

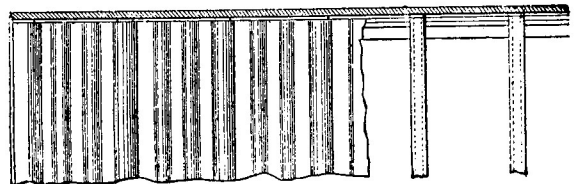


Fig. 1963. Plan. The Winslow Car Roof. (With Curved Roof Sheets.)

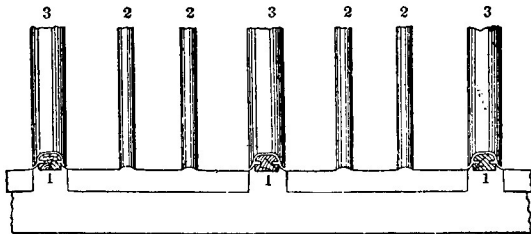


Fig. 1964. Longitudinal Section. The Winslow Car Roof.

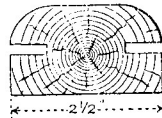


Fig. 1965. Section of Joint Strip.

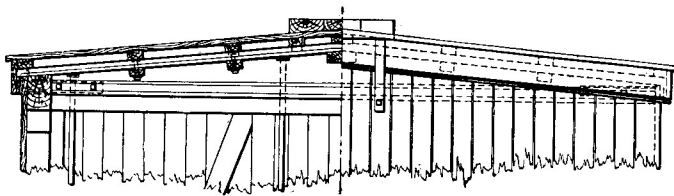


Fig. 1966. Half Cross-Section and Half Elevation.

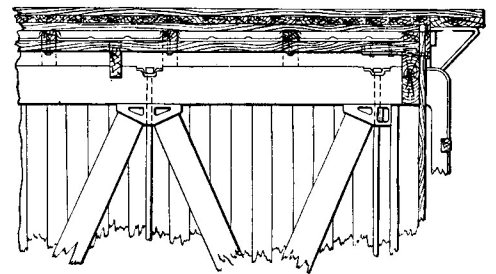


Fig. 1969. Part Longitudinal Section.

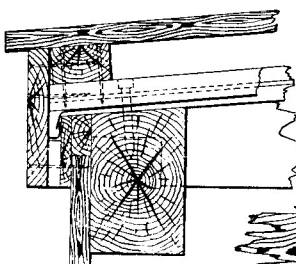


Fig. 1970. Cross-Section of Plate and Eaves.

Figs. 1967-1968. Strap Bolts for Ridge Pole.

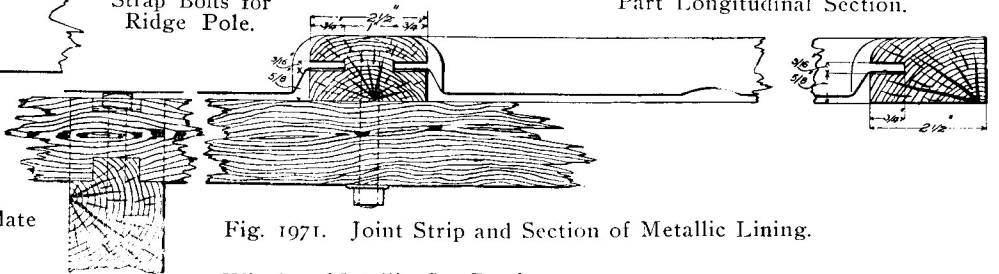
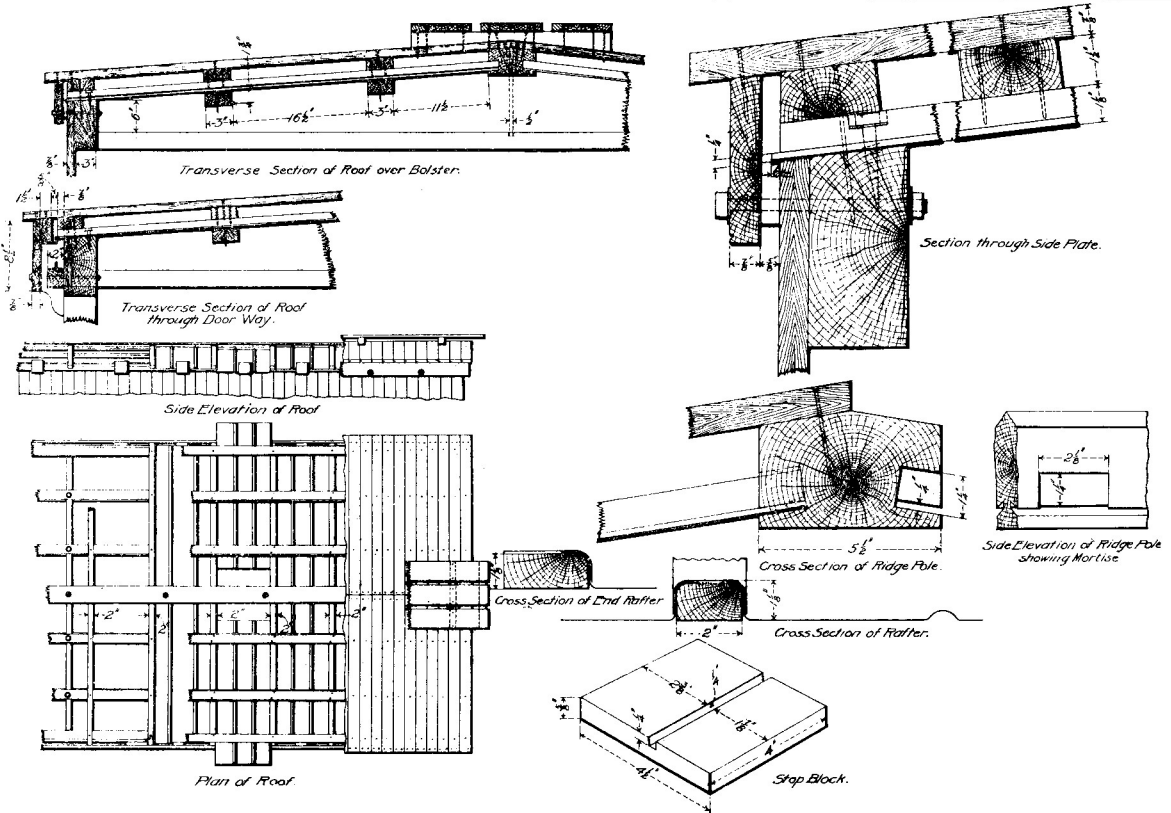
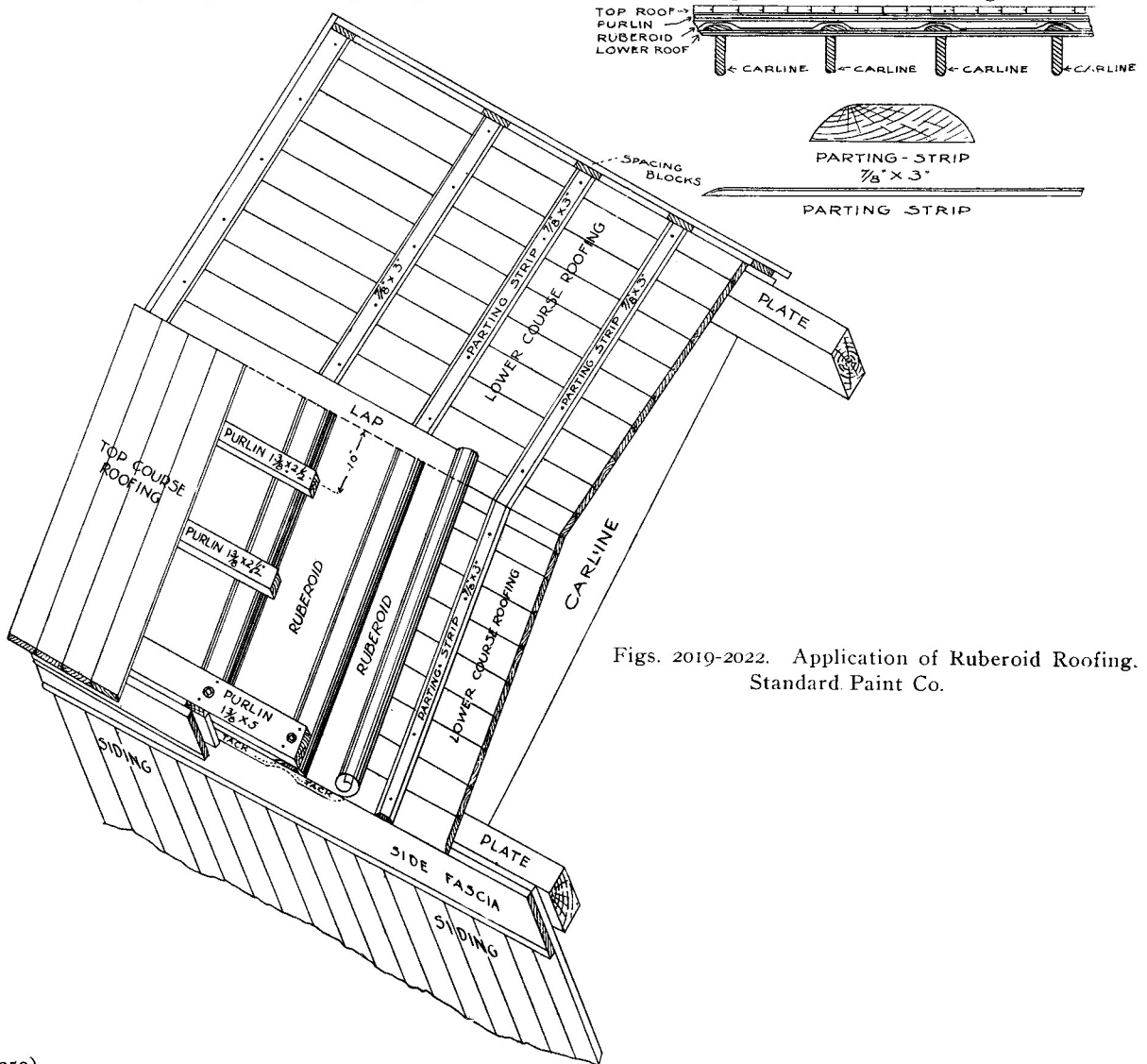


Fig. 1971. Joint Strip and Section of Metallic Lining.

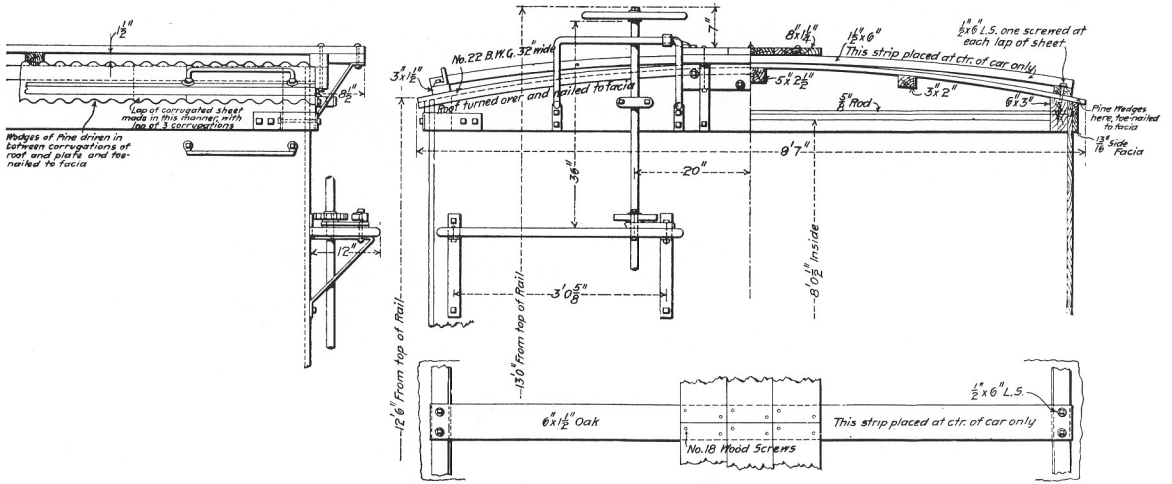
Winslow Metallic Car Roof.



Figs. 2009-2018. Chicago Improved Winslow Roof. Chicago-Cleveland Car Roofing Co.



Figs. 2019-2022. Application of Ruberoid Roofing. Standard Paint Co.



Figs. 2043-2045. Application of Corrugated Iron Roof to Mexican Central Box Car.

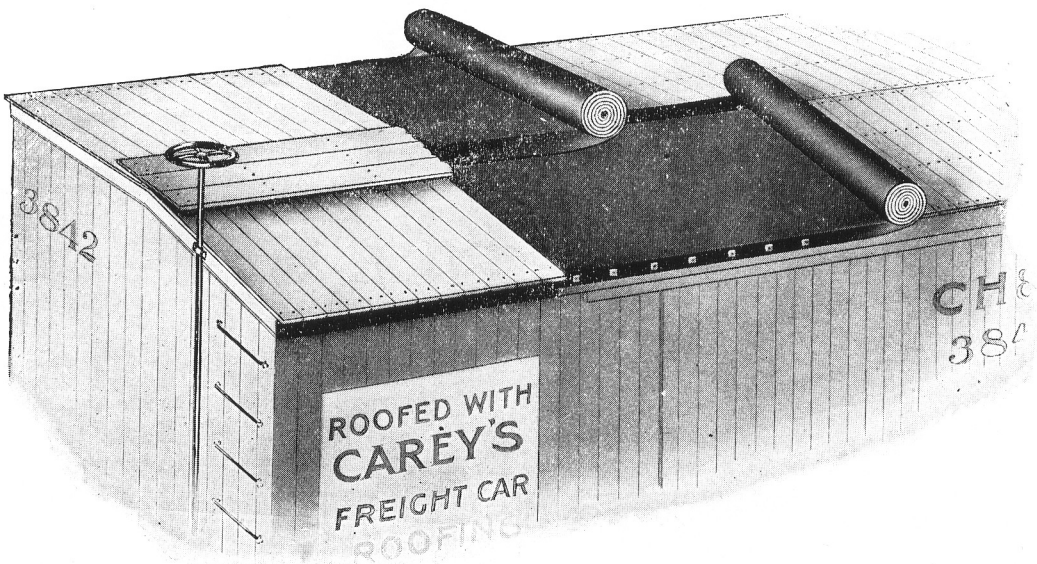


Fig. 2046. Application of Carey's 3-Ply, Burlap Center Freight Car Roofing. Philip Carey Mfg. Co.

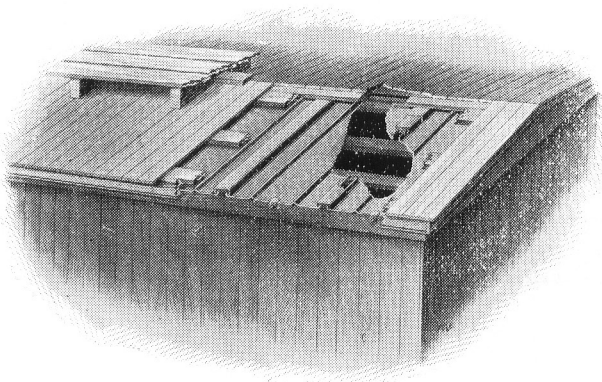


Fig. 2047. Murphy's Improved Winslow Car Roof.

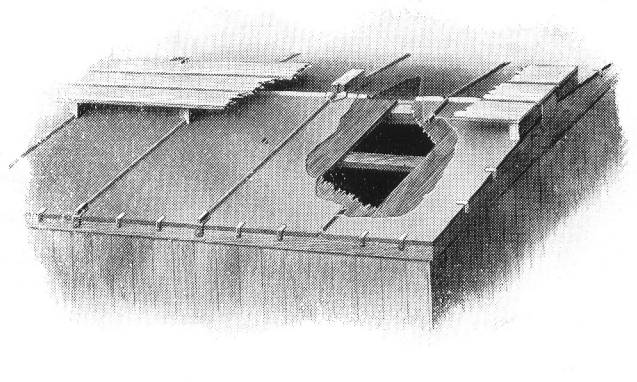
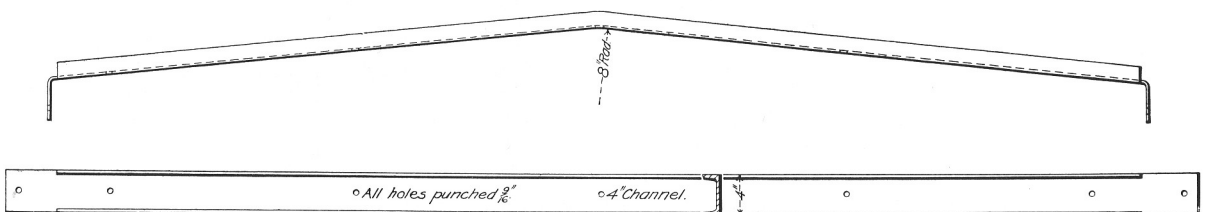


Fig. 2048. Murphy's American Car Roof. Outside Metallic Roof. Standard Railway Equipment Co.



Figs. 2049-2050. Steel Channel Roof Carline. Standard Railway Equipment Co.