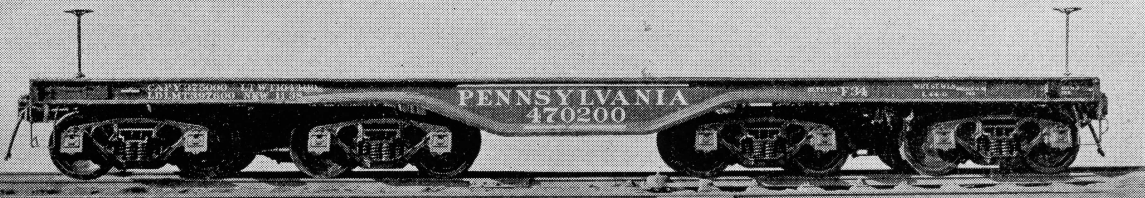
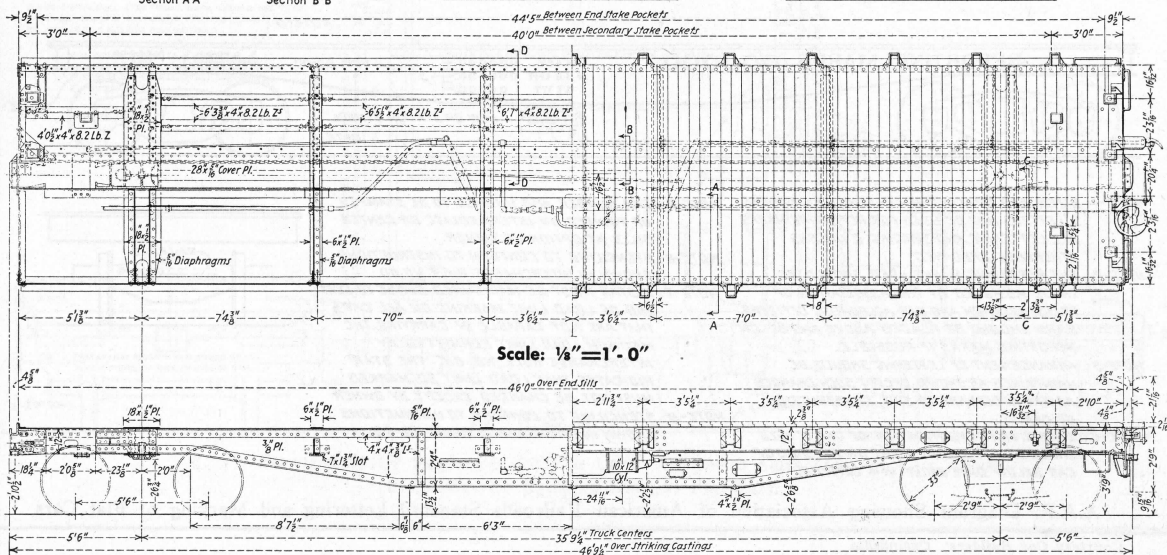
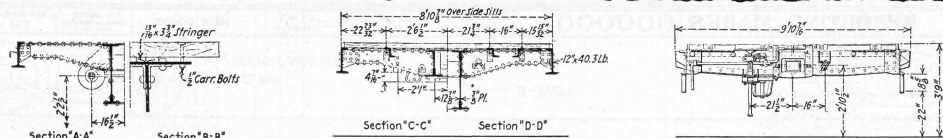


An extra set of trucks makes a big difference in rating. This four-trucked heavy-duty car can carry 188 tons.



Courtesy Pennsylvania Railroad



48051 AND 48053 HEAVY-DUTY FLAT CARS

FROM THE ARCHIVES
BY JOE PIERSEN
AND IRA KULBERSH

In December 1930 the Chicago Shops constructed two heavy-duty flat cars from cast steel underframes. Railroads often constructed their own cars in this manner, especially when the cars were a limited or special order.

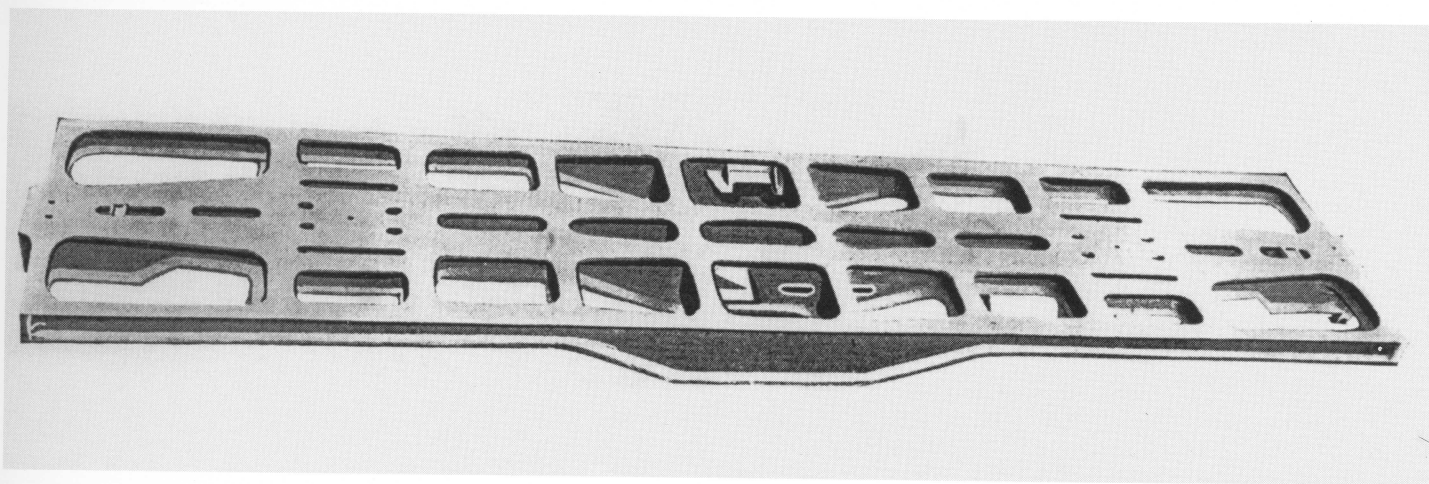
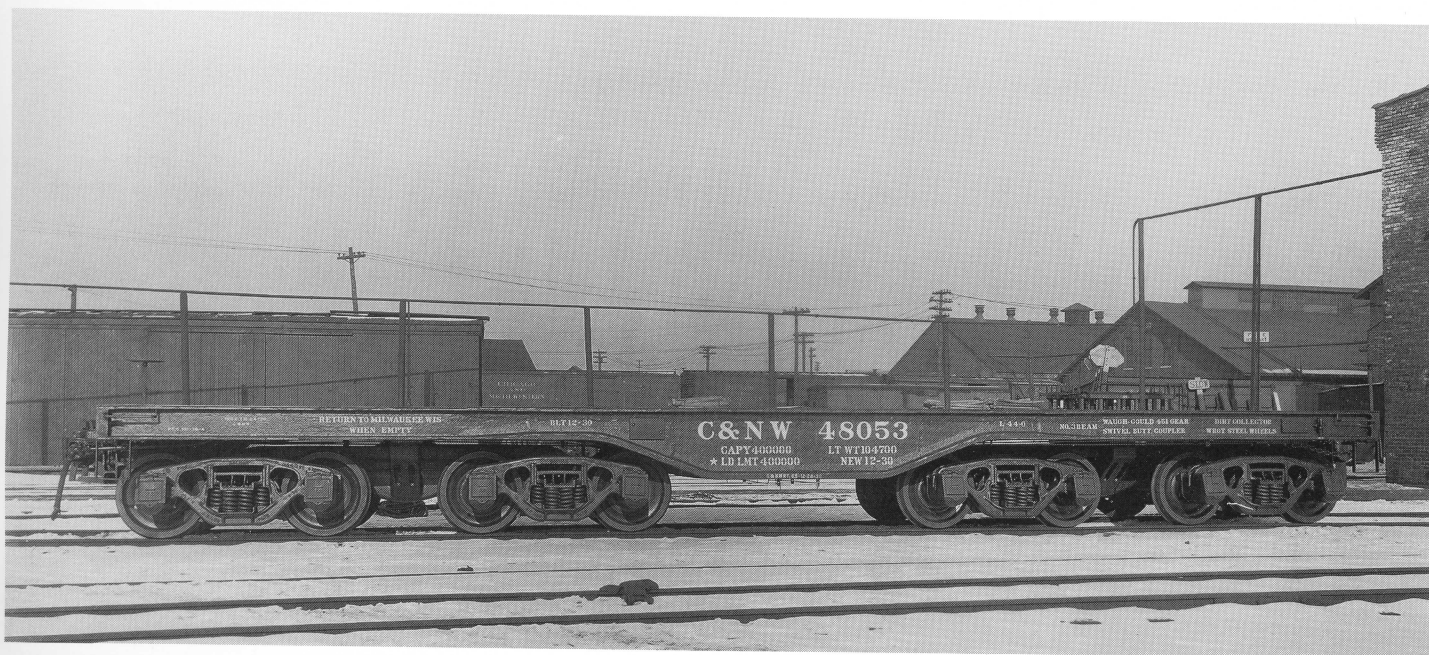
Flat cars 48051 and 48053 had a capacity of 400,000 lbs., accomplished with four Dalman two-level unsnubbed trucks, connected in pairs by span bolsters which could swivel to help the cars around curves. The cars had two "Ureco" high-power drop-shaft brake wheels, one at each end. When the cars were built, they had KD-1012 brakes at each end. The AAR classification was "FG" which indicated heavy-duty service.

The cars were assigned to the AAR national pool of heavy-duty flat cars and not to one particular customer, though at one time they worked

out of Milwaukee where many heavy loads such as transformers originated. They were lettered, "Return to Milwaukee, Wis., when empty."

In 1953 car 48053 had a traumatic failure under load. At Corwith Yard in Chicago on the Santa Fe, it cracked in two as the photos accompanying this article illustrate. It appears that it was loaded incorrectly with a short, concentrated load. In one of the photos you can see men standing in front of the load, and there may have been a sepa-

Below: This photograph shows the 48053 right after construction in December 1930 in Chicago. The date information stenciled on the middle of the car underneath the load limit reads "C&NW RY CS 12/24/30." The car carries a number of other interesting stencilled information. —C&NWH Archives



Above: This drawing shows the basic construction of the Commonwealth cast steel underframe used for the C&NW 200-ton heavy-duty flat cars. —1931 *Car Builder's Encyclopedia*

rate piece of load carried outboard near the brake wheel. As the accompanying diagram sheet indicates (see page 25), a 75 percent load limit can be carried 4-feet-4-inches on each side of the center line (making a total of 8-feet-8-inches). This load was apparently not centered and the failure occurred close to the edge of the load.

Failures were not uncommon on flat cars in those days. Many of the cars were cast in grade A steel, which was very weldable for fastening loads to the deck and also for ease in repairing cracks and tears in the crossmembers. In the 1940s and 1950s GSC started using a nickel steel

alloy, which greatly enhanced the strength of the material.

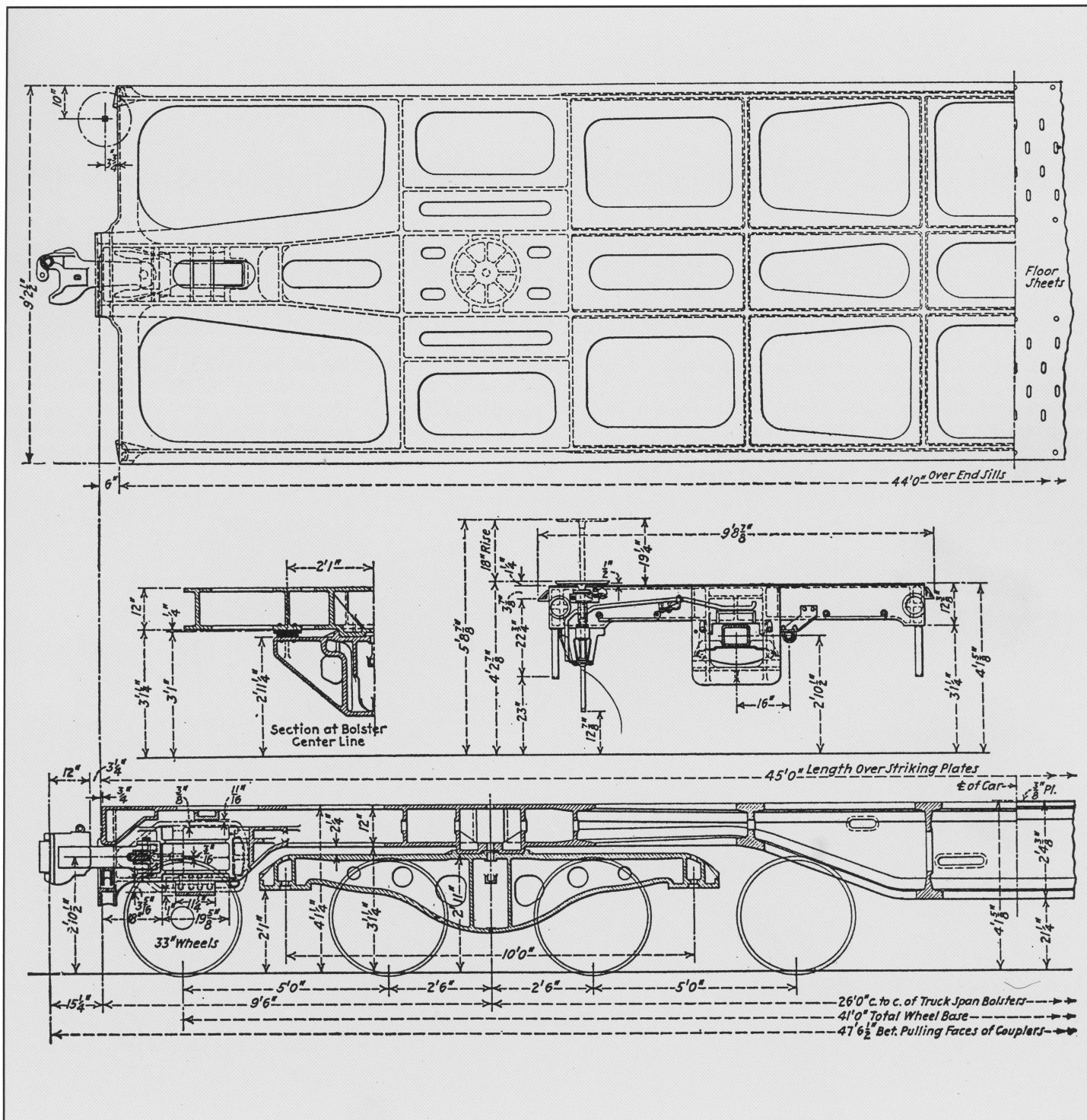
There were numerous times over the life spans of these two cars that they went "belly down on the rail" and had to be re-cambered. This was generally accomplished by turning the cast steel underframe upside down, with ties placed under the deck and cribbing at the center and the body bolsters. Sometimes it was necessary to "tweek" the end of the carbody outboard of the bolsters if there was too much of a rise at the ends.

The 48053 was apparently sent to Proviso after it was cracked. It was repaired, and the ac-

companying photos show where it was reinforced. It was also repainted, and then returned to service in March 1954.

Effective January 1, 1976 these cars were prohibited from interchange under AAR Rule 50, because they were over 40 years of age. According to a C&NW memo at the time there was a

Below: This general plan for the C&NW 200-ton heavy-duty flat car shows the cast steel underframe and the span bolster for the dual trucks under the 48051 and 48053. —1940 *Car Builder's Encyclopedia*



CAST STEEL UNDERFRAME, STEEL FLOOR AND DROP BRAKE SHAFT AT EACH END
400,000 LBS. CAPACITY 2 CARS

FLAT

CAR NOS. 48051 AND 48053
DATE BUILT 1930
BUILDER C. & N. W. RY.
BUILDER'S LOT NO. AFF. A-24969
WHERE BUILT CHICAGO, ILL.
LIGHT WEIGHT 106,600 LBS.
WT. OF TRUCK SEE SPECIAL DATA
LOAD LIMIT 400,000 LBS.

125,500#/TRUCK @ RAIL 6 1/2" X 12"
4 TRUCKS
502,000# MAX CAPY. @ RAIL
106,600# LT. WT. OF CAR
395,400 (SAY 400,000# L.D. LMT.)

LENGTH			WIDTH			HEIGHT FROM RAIL TO		
OVER END SILLS	OVER STRIKING PLATES	BETWEEN PULLING FACES OF COUPLERS	OVER SIDE SILLS	OVER WIDEST PORTION GRAB IRON	TOP OF FLOOR SHEETS	TOP OF BRAKE SHAFT RAISED	SPAN BOLSTER CENTER PLATE	TRUCK BOLSTER CENTER PLATE
44'-0"	45'-0"	47'-6 1/2"	9'-2 1/2"	9'-8 7/8"	4'-1 5/8"	5'-8 7/8"	2'-11"	2'-1"

AIR BRAKE—KD-1012
COUPLER—SYMINGTON SWIVEL BUTT, TYPE "D" TOP OPERATING
COUPLER YOKE—CAST STEEL, C. & N. W. PATT. NO. 5-19221
COUPLER RELEASE RIGGING—NATIONAL
DRAFT GEAR—WAUGH-GOULD TYPE 451
HAND BRAKE—"URECO" HIGH-POWER DROP BRAKE SHAFT

TRUCK NO. AND TYPE—NO. 43, DALMAN
TRUCK SIDE FRAME—CAST STEEL, C. & N. W. PATT. NO. 5-19191
TRUCK BOLSTER—CAST STEEL, C. & N. W. PATT. NO. 5-19189
SPAN BOLSTER—CAST STEEL, C. & N. W. PATT. NO. 5-19190
JOURNAL BOX—A. A. R. 6 1/2" X 12" CAST INTEGRAL WITH SIDE FRAM.
BRAKE BEAM—"AJAX" A. A. R. NO. 3
SIDE BEARING—FRICTION TYPE
SPRINGS—A. A. R. 1915
SPAN BOLSTER DISTANCE—26'-0"
TOTAL WHEEL BASE—41'-0"
TRUCK WHEEL BASE—5'-0"
WHEELS—33" DIA., MULTIPLE WEAR WROT STEEL, 800 LBS.

SPECIAL DATA:-

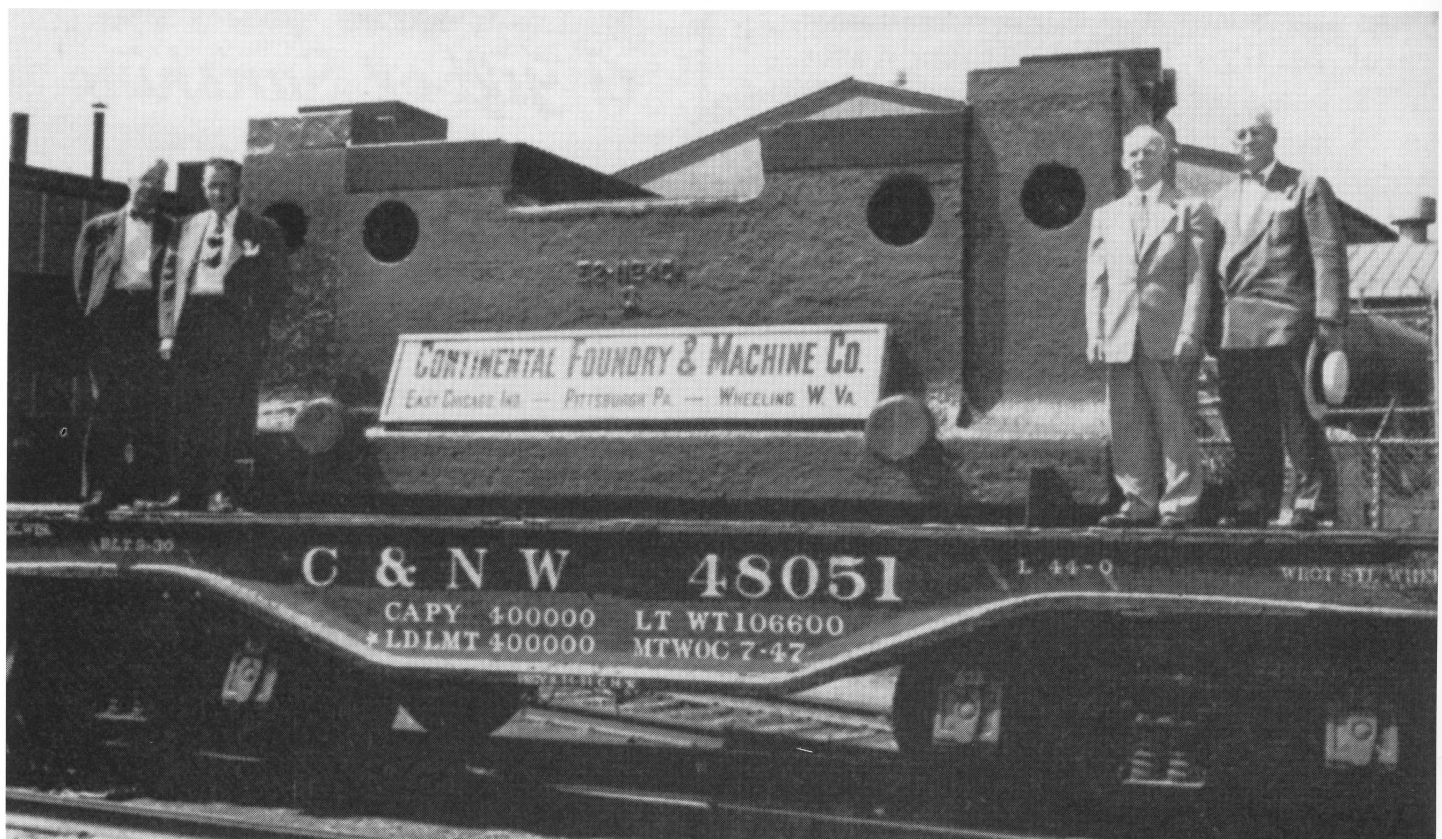
WEIGHT OF EACH TRUCK WITHOUT SPAN BOLSTER IS 99,65 LBS.
WEIGHT OF TWO TRUCKS WITH SPAN BOLSTER IS 25,395 LBS.

205

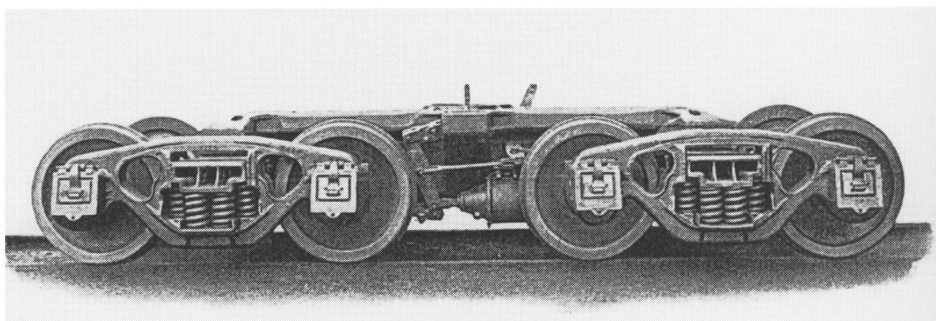
"...considerable fine for interchanging these cars" and it was "...imperative that all cars be located and reported to the car desk." Since that was the end of revenue service for 48053, it was converted to shop flat X-261399 on May 24, 1977.

Above: This presents pertinent information from the 1951 diagram book for the two heavy-duty flat cars. —C&NWS Archives

Below: Heavy-duty flat car 48051 has a heavy load for the Continental Foundry & Machine Co. in September 1951. The load moved from East Chicago through Pittsburgh to Wheeling, W. Va. —C&NWS Archives



Below: This equipment card identifies the various components of the two heavy-duty flat cars. Note that it was last worked on at Clinton on April 23, 1962. —*C&NWHs Archives*



NO. C-21130 IF SETS OF AIR BRAKES PER CAR IF 1012 RETAINING VALVE 10 200 P. 10 86139 ESTINGHOUSE F-7 AB Brakes Provision 2-12-52 B-57L				100 TON CAP'Y. TRUCK-List of Drawings (RG. NO. B-21005)			
CAST STEEL, CAST INTEGRAL WITH UNDERFRAME				SWING OR RIGID			
CENTER PLATE CAST STEEL, CAST INTEGRAL WITH UNDERFRAME				SIDE FRAME PALMAN, CAST STEEL. FURNISHED BY THE BUCKEYE STL. CO. THEIR PAT. NO. F-108. C. & N.W. PAT. NO. S-19191			
DRAFT GEAR WAUGH-GOULD TYPE A51. TWO AT EACH END OF CAR, PLACED ONE ABOVE THE OTHER IN A CAST STEEL YOKE				BOLSTER PALMAN, CAST STEEL. FURNISHED BY THE BUCKEYE STL. CO. THEIR PAT. NO. B-108. C. & N.W. PAT. NO. S-19183			
COUPLER TYPE "D" TOP OPERATING				CENTER PLATE CAST STEEL, CAST INTEGRAL WITH BOLSTER			
COUPLER SHANK ARRANGED FOR SWIVEL BUTT.				SPRING PLANK 3/8" THICK PRESSED PLATE			
COUPLER BUTT SYMINGTON SWIVEL				SIZE OF JOURNAL A.R.A. 6 1/2" x 12"			
COUPLER YOKE CAST STEEL C. & N.W. PAT. NO. S-19221. FURNISHED BY A.M. STL.				JOURNAL BOX A.R.A. 6 1/2" x 12"; CAST INTEGRAL WITH TRUCK SIDE FRAME			
COUPLER RELEASE RIGGING NATIONAL				BRAKE BEAM A.R.A. NO. 3. "AJAX"			
COUPLER CENTERING DEVICE UNION METAL PRODUCTS CO. SWING TYPE				SIDE BEARING FRICTION TYPE, HAVING STEEL WEAR PLATES			
UNDERFRAME CAST STEEL, FISH BELLY TYPE, MANUFACTURED BY GENERAL STEEL CASTINGS CORP.				WHEELS 33" DIA. MULTIPLE WEAR WROT STEEL WITH 1923 TREAD			
BRAKE DIAGRAM PLATE C. & N.W. NO. 212				BRAKES SINGLE SHOE, INSIDE HUNG			
BRAKE ROD JAWS C. & N.W. STANDARD, FORGED				BOTTOM CONNECTION SCHAEFER EQUIPT. CO. DROP FORGED-OFFSET			
HAND BRAKE "BUCKEY" DROP BRAKE SHAFT. ONE BRAKE AT EACH END OF CAR OPERATING ON THE TWO TRUCKS AT THAT END OF CAR				SPRINGS A.R.A. CLASS "H" CLUSTER OF DOUBLE COIL SPRINGS WITH TWO DOUBLE COIL SPRINGS OF THE A.R.A. CLASS "H" SPRING			
ANGLE COCK HOLDER 1/2 PLATE, DRG. NO. C-20923; CLAMP FORG. NO. C-2331				BRAKE BEAM SUSPENSION DAVIS BRAKE BEAM CO. 4 POINT SUPPORT			
2-PER CAR 110 1/2" x 3/8" x 6' 10 1/2" PLT. (END)				JOURNAL BOX LIDS BY STL. SPRING CO. NON-HOOD FOR CLOTH BOX A.R.A. BOX WITH PIN RETAINER AND THE MOHOD			
FLOOR SHEETS 2-PER CAR 110 1/2" x 3/8" x 8' 5 1/2" PLT. (INTERMEDIATE)				BARBER LATERAL MOTION DEVICE NOT USED			
1-PER CAR 110 1/2" x 3/8" x 13' 1 1/2" PLT. (CENTER)				SPAN BOLSTER CAST STEEL, FURNISHED BY THE BUCKEYE STL. CO. THEIR PAT. NO. B-201. C. & N.W. PAT. NO. S-19150			
CHANGED OR REPAIRED AT				BRAKE BEAM HANGER SCHAEFER EQUIPT. CO. LOOP TYPE; DROP FORGED			
DATE				DUST GUARDS 6 1/2" x 12" DUST GUARDS, INC.			
COST				TRUCKS THE BUCKEYE STEEL CASTINGS CO.'S CAST STEEL TRUCK, HAVING 5'-0" WHEEL BASE, WITH FOUR TRUCKS PER CAR, TWO AT EACH END CONNECTED BY A SPAN BOLSTER			
REMARKS				WEIGHT OF TWO TRUCKS COMPLETE WITH SPAN BOLSTER 25,325 POUNDS			
CHANGED OR REPAIRED AT				DATE			
DATE				COST			
COST				REMARKS			
REMARKS				REMARKS			

Right: The 48053 suffered a drastic failure in late 1953 while being loaded in Chicago. As can be seen in this photograph, the frame failed right at the end of large center section of the car. It was rebuilt in early 1954 at Chicago. —C&NWHSA Archives





Above: A rescue crew begins the difficult task of recovering broken flat car 48053. The ropes and pry bars are the first assault on the car — a crane is undoubtedly already on the way out to help pick up the broken pieces. Note that by this time the car has been updated to have AB brakes. —C&NWHs Archives

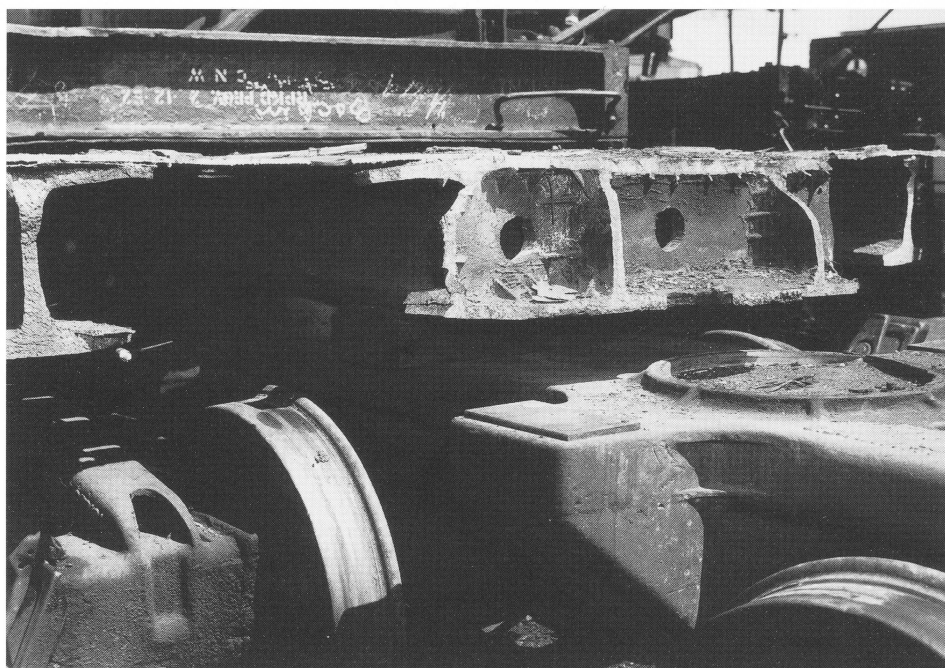
(the number may indicate February — it is not clear), under AFE 85348.

As a shop flat it was used in the Chicago area for transporting a side-boom Caterpillar that was used for re-railing equipment. It was frequently seen in Proviso, North Avenue, and 40th St. yards. It had special loading ramps that hinged on the end sills and enabled the D8 “Cats” to climb up to the deck. It is not known when this company service car was retired, but lasted at least into 1989.

The 48051 was taken out of service on January 26, 1977 at Fairbank, Iowa, and sold for scrap at Beloit, Wis., on February 14, 1977 under AFE 95265.

Thanks to Jeff Koeller for helping with the photos and the content.

Author's note: I purchased an HO-scale Atchearn model of one of these cars around 1960. There were pre-painted paper inserts for the sides with the proper lettering. The owner could choose inserts for number 48051 or 48053.



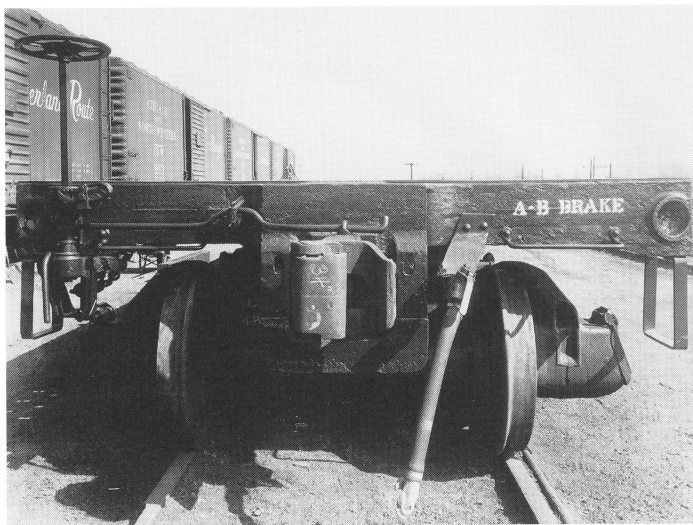
Right: The hefty I-beams of the 48053 are a testimony to the structural failure experienced by the 48053. Though the frame of the flat was badly damaged, it doesn't appear that the trucks were hurt. —C&NWHs Archives

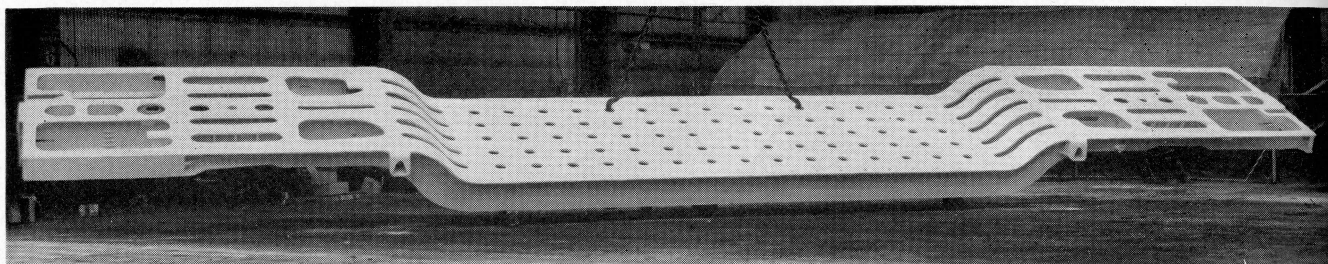


Above: This new "builder's photo" of the 48053 was taken in March 1954 after the C&NW rebuilt the car. The boxcars with their slogans behind the flat are almost as interesting as the flat — the 40-ft. flat car era was still at hand in 1954. —C&NWH Archives

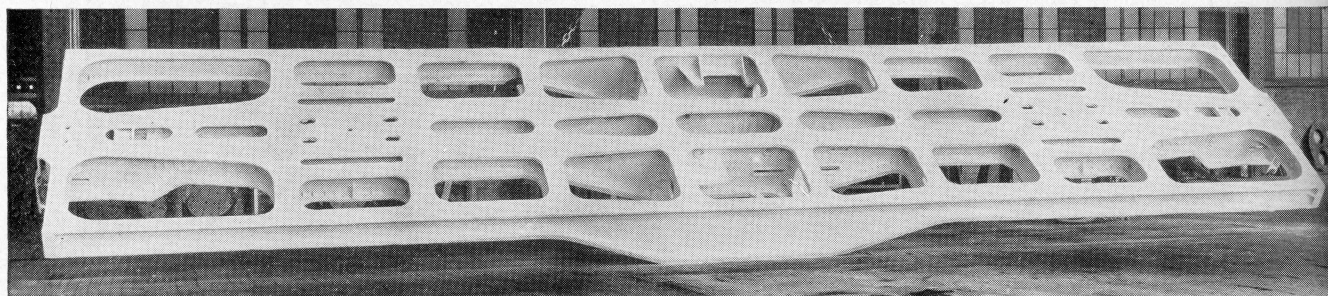


Right and below: These three views document the rebuilt 48053 in March 1954. Note in the view at right the rebuilt frame with the large bracket-like protrusion above the third axle from the end of the car. The photograph on the top of page 22 shows the original as-built look. The rebuilding afforded us a detailed set of photographs taken by a C&NW photographer of the car that would otherwise be missing. —C&NWH Archives

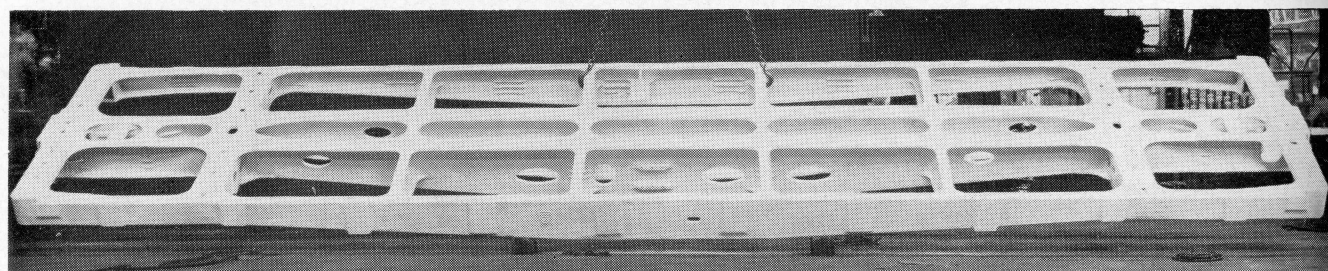




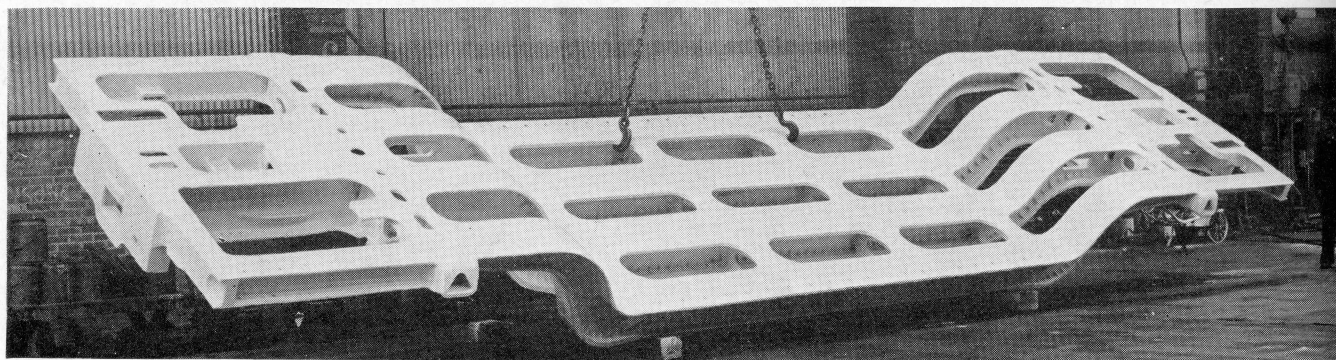
General Steel one-piece cast steel underframe 125-ton capacity depressed center car, 26-ft. depressed section.



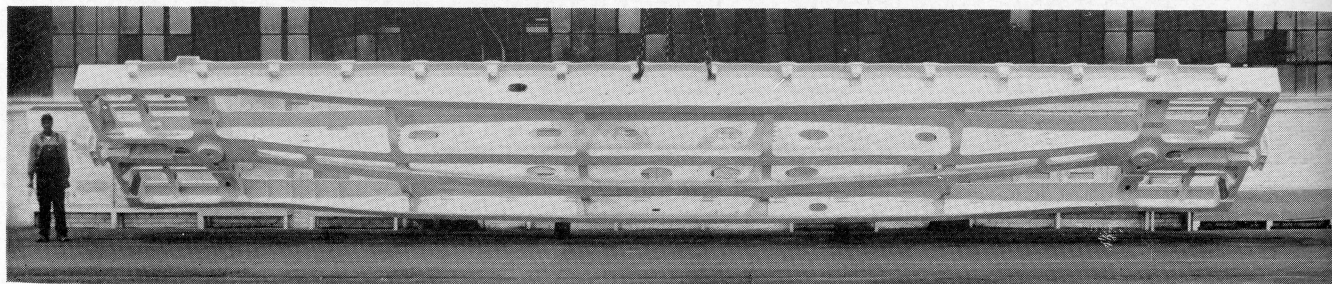
General Steel one-piece cast steel underframe for C. & N. W. 200-ton flat car.



General Steel one-piece cast steel underframe for Santa Fe 70-ton sulphur carrying gondola car. Length 42 ft. 4½ in. over end sills.



General Steel one-piece cast steel underframe for Central of Georgia 70-ton depressed center flat car.



One-piece cast steel underframe 50-ton capacity 53'-6" flat or bulkhead car.

General Steel Industries, Inc.