

Bachmann 2-8-0 Compared to ATSF 2507 Class

By John B. Moore

Class 2507

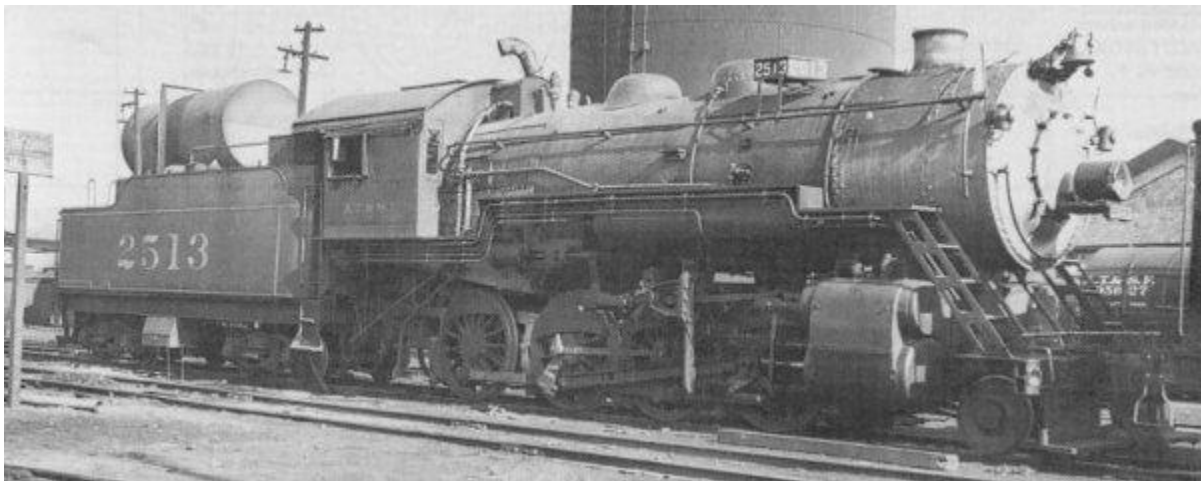
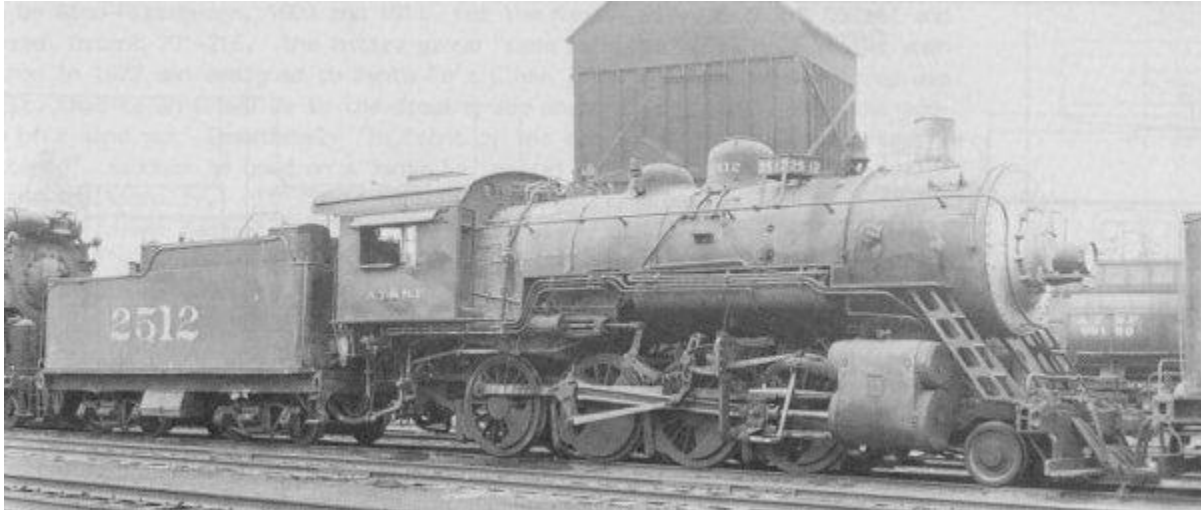
Bachmann created a Spectrum series 2-8-0 in 2001. ATSF fans have asked how similar this loco is to the 2507 class consolidations which ATSF inherited from the KCM&O. With the help of Frank Ellington's *Steam Locomotives of the Santa Fe*, photos of a Hallmark brass model of this loco, the modeling work of Ted York, we will try to answer that question.

Below are excerpts from *Locomotive Quarterly*, Fall 1978, *The KCM&O's Upgraded Roster* by *Orris Bilger*. Provided by John Moore.

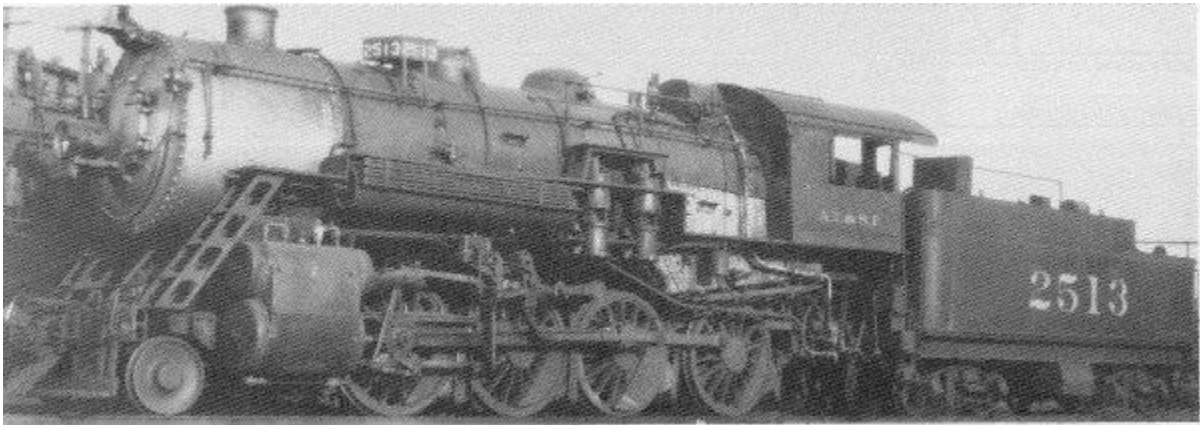
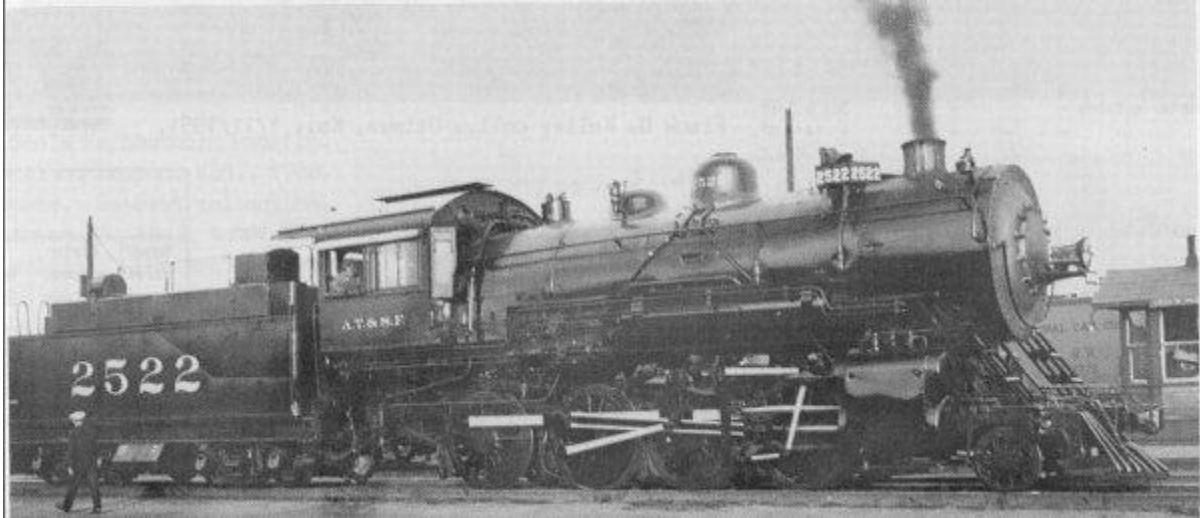
About three years before the Orient was sold, 19 heavy consolidated type locomotives were purchased from the New York Central. They were made by the Schenectady and Brooks Plants of the American Locomotive Company in 1907, 1908 and 1910. These engines were fitted with 23x32 piston valve cylinders, 14-inch valves and inside steam pipes. They had 63-inch drivers. The boilers were fitted with wide fireboxes and carried 200 pounds pressure. These engines were numbered 51-69, later becoming the Santa Fe 2507 class. They weighed 215,500 pounds on drivers.

Since the Orient was sold, 14 engines of this class have been equipped with 23 1/2 x 32 cast steel cylinders, designed by Ores Bilge and outside steam pipes. On account of the excessively hot climate in the Southwest, the Orient removed the two steam fountains inside the cab and placed one outside in front. The long single bar valve stem crosshead guide was replaced by self-centered back steam chest head. Also the New York No. 5 air brake was replaced by the Westinghouse No. 6-ET brake.

Class 2507: Prototype Photos



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All photos from Frank Ellington, *Steam Locomotives of the Santa Fe.*

Class 2507: Side views

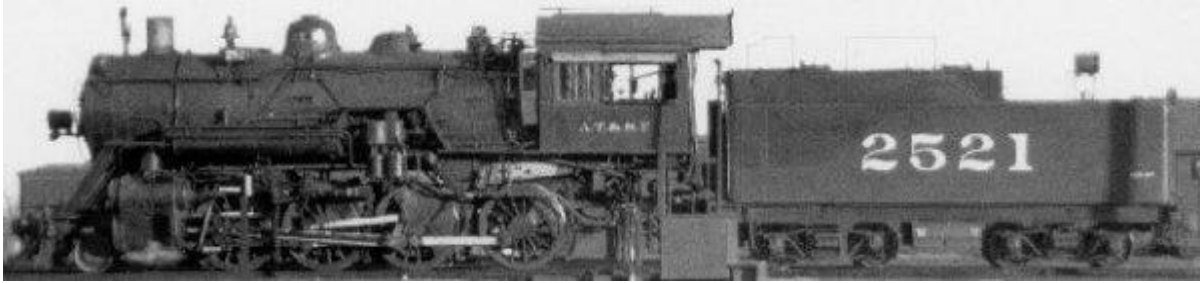


From the Bachmann Website



N Gauge Bachmann modelled by Bob Russell, unfinished

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Provided by James Babcock



Hallmark model

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Class 2507: 3/4 Shot



Bachmann modified by Ted York



Hallmark model

"I Santa Fe-ized a Bachman consolidation some time ago. While the locomotive was far from a perfect prototype I wanted to support Bachman for its entry into the plastic steam market - a move long overdue. I kept the project pretty simple. I changed the railing around the boiler, added number boards, scraped off the three hatches and replaced it with one, added a better whistle and bell and lines to them, modified the size of the cab window, added an oil bunker to the tender along with various hatches and a light, and that was about it. Because the holes in the boiler were as large as the domes I didn't bother modifying them. While my loco is not an exact duplicate of 2522, I did have I fellow at first glance ask me if it was a Hallmark."

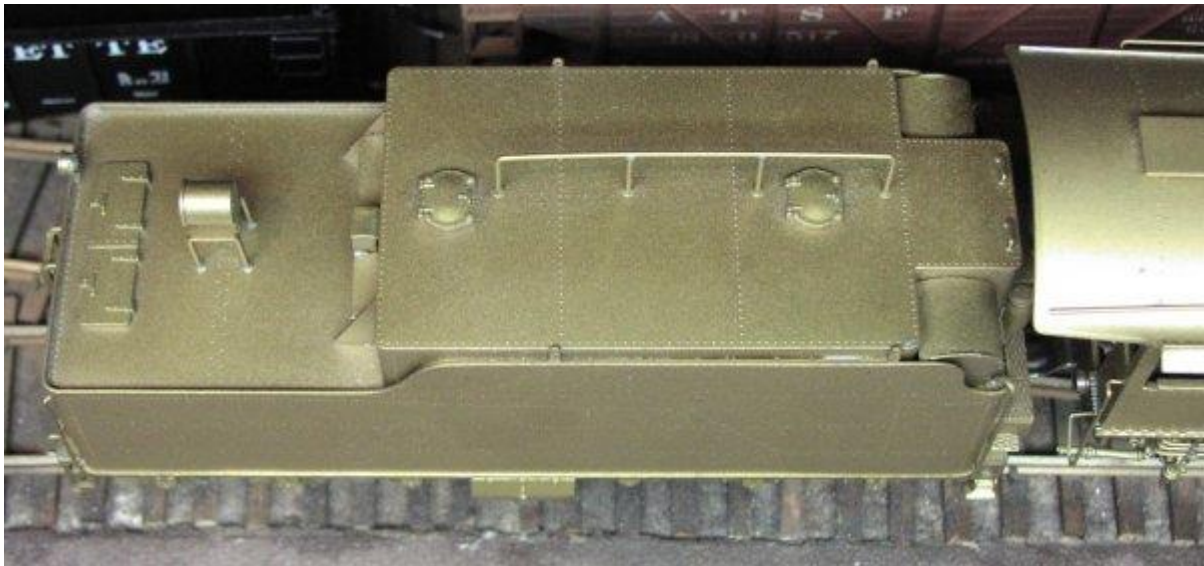
Ted York

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Class 2507: Tender views



Bachmann modified by Ted York



Hallmark model

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Bob Russell's N Scale version.

As the prototype photos show, several different tenders would have appeared on these locomotives.

Many of these locos received 9K and 10K tenders in later years. In HO scale, the roundhouse Oil Tender #00401 is a reasonable ATSF 12K G. W. tender and can be used to kitbash a smaller unit. However, it will require 6-wheel trucks such as those available from Precision Scale.

Which tenders belong on these engines?

John Moore provided the following information:

In 1929 when these locomotives entered the Santa Fe roster, they were equipped with 7500-gallon NYC square shaped tender body. By 1934 most had been replaced with a standard 8000-gallon Orient tender or a 7750-gallon NYC tender. Each of these tenders rode on 4-wheel arch bar trucks.

Most of the 2507 class did have tender changes which increased the water capacity. Records indicate that except as noted above most of the following had 8000-gallon standard Orient tenders when the tender changing began.

2507 had 10000-gallon, 6 whl tender (badge 3525) 3129-gallon oil tank serial 564 applied 12-1939 and kept it until sold in 1954.

2508 had 10000-gallon, 6 whl tender (badge 3516) 3430-gallon oil tank serial 810 applied 3-1941 and kept it until sold in 1955.

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2509 had 9000-gallon, 4 whl tender (badge 1853) 3170-gallon oil tank serial 545 applied 10-1940 and kept it until sold 1954.

2510 had 10000-gallon, 6 whl tender (badge 3531) 3129-gallon oil tank serial 564 applied 2-1938 and kept it until sold 1954.

2511 had 10000-gallon, 6 whl tender (badge 3520) 3129-gallon oil tank serial 564 applied 4-1939 and kept it until sold 1955.

2512 had 9000-gallon, 6 whl tender (badge 1367) 3129-gallon oil tank serial 564 applied 9-1941 until 3-1942 when 9000 gallon 4 whl tender (badge 1335) 3129-gallon oil tank serial 564 applied and kept it until sold 1954.

2513 kept its standard 8000-gallon Orient tender 3430-gallon oil tank serial 810 until 1953 when it was sold.

2514 had 10000-gallon, 6 whl tender (badge 3523) 3129-gallon oil tank serial 564 applied 12-1938 and kept it until sold 1954.

2515 had 10000-gallon, 6 whl tender (badge 3534) 3430-gallon oil tank serial 810 applied 3-1945 and kept it until dismantled Clovis 1952.

2516 had-9000 gallon, 4 whl tender (badge 1475) 3430-gallon oil tank serial 810 applied 1-1942 until 1-1950 when 10000 gallon 6 whl tender (badge 3502) 3398-gallon oil tank serial 543 applied and kept it until sold 1955.

2517 kept its 7750-gallon NYC tender 3430-gallon oil tank serial 810 until 1940 when it was scrapped.

2518 had 9000-gallon, 4 whl tender (badge 1336) 3430-gallon oil tank serial 810 applied 12-1942 until 2-1949 when 9000 gallon 4 whl tender (badge 1347) 3129-gallon oil serial 564 applied - until 2-1950 when 10000 gallon 6 whl tender (badge 3507) 3891-gallon oil serial 803 applied and kept it until sold 1954.

2519 had 9000-gallon, 4 whl tender (badge 1324) 3604-gallon oil tank serial 699 applied 5-1939 until 10-1950 when 10000 gallon 6 whl tender (badge 3507) 3891-gallon oil serial 803 applied and kept until sold 1954.

2520 kept its 7500-gallon NYC tender 3430-gallon oil tank serial 810 from 1929 to 1952 when it was sold.

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2521 had 9000-gallon, 4 whl tender (badge 1845) 3129-gallon oil tank serial 564 applied 1-1940 until 1-1951 when 10000 gallon 6 whl tender (badge 3511) 3129-gallon oil tank serial 564 applied and kept until sold 1954.

2522 had 10000-gallon, 6 whl tender (badge 043) 3430-gallon oil tank serial 810 applied 5-1941 and kept it when donated to Fairview OK in 1954.

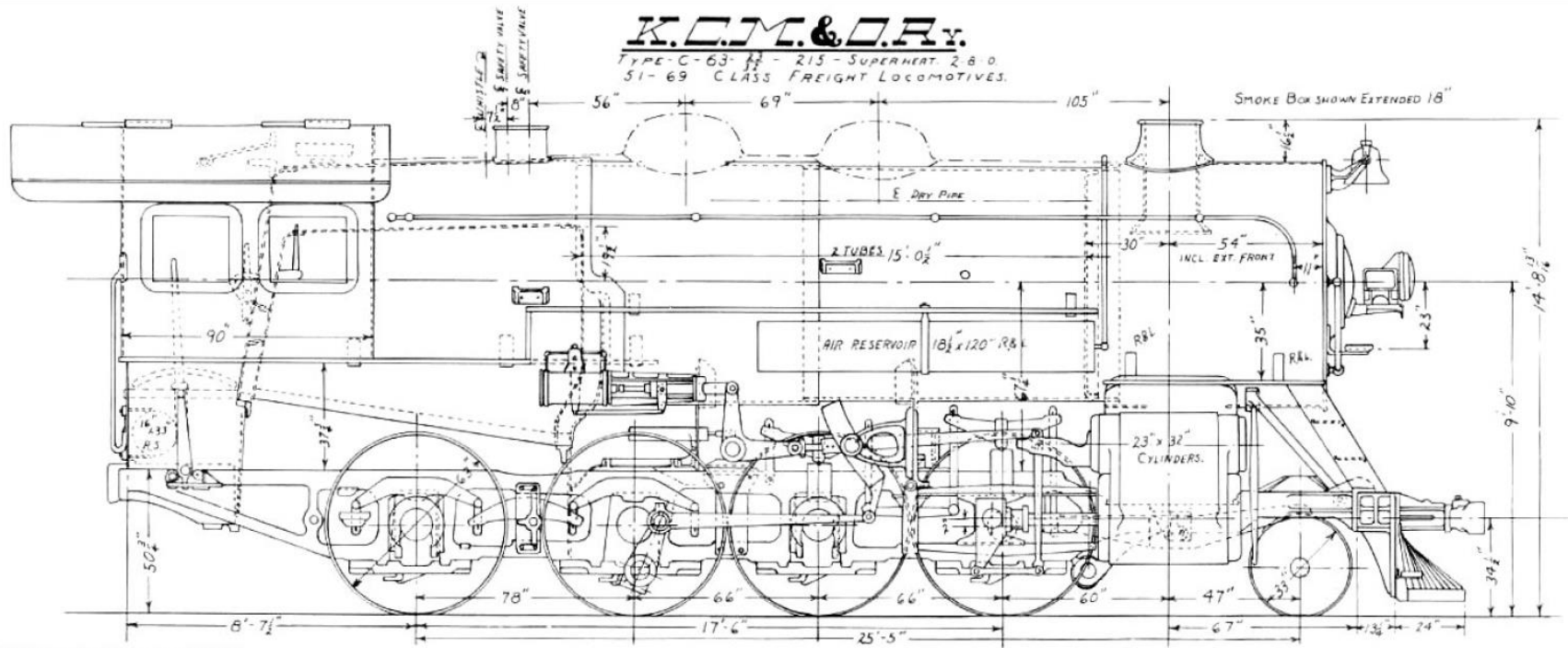
2523 had 10000-gallon, 6 whl tender (badge 3522) 3129-gallon oil tank serial 564 applied 4-1939 and kept it until sold in 1954.

2524 had 10000-gallon, 6 whl tender (badge 3529) 3129-gallon oil tank serial 564 applied 8-1939 and kept it until sold 1954.

2525 had 10000-gallon, 6 whl tender (badge 3521) 3129-gallon oil tank serial 564 applied 10-1939 and kept it until sold 1954.

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ROBERT E. POUNDS COLLECTION;
Selectively traced by FRANK M. ELLINGTON, Dec. 3, 1988

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Cylinders - - - - - 23" x 32".
 Dia. of drivers - - - - - 63".
 Dia. engine wheel tks. - - - - 33".
 WHEELBASE
 Driving - - - - - 17' 6".
 Engine - - - - - 26' 5".
 WEIGHT
 On drivers - - - - - 215,500 lbs.
 On Engine trucks - - - - 26,000 lbs.
 Total - - - - - 241,500 lbs.
 BEARINGS
 Main - - - - - 10½" x 12".
 Others - - - - - 9½" x 12".
 Engine trucks - - - - - 6" x 12".
 Tender trucks - - - - - 5½" x 10".
 Cylinder vol. Cu. Ft. - - - - 15.39.
 Ratio = $\frac{\text{Heating Surface}}{\text{Cylinder Volume}}$ 222.8.
 Boiler Capacity Rating - - - - 102%.
 TENDER
 Wheel base - - - - - 20' 10".
 Dia. of truck wheels - - - - 33".

CAPACITIES

Water - - - - - 7,500 gals.
 Coal - - - - - 12 tons.

GENERAL

Valve gear - - - - - Walschaert.
 Diameter of valve - - - - - 14".
 Steam lap - - - - - 1".
 Exhaust - - - - - Line and Line.
 Lead - - - - - ¼".
 Air pumps - Westinghouse (2) 11".
 Air brakes - - - - - E.T.

Max. cyl. H.P. - - - - - 1,904.
 Tractive effort - - - - - 45,680.
 Factor of adhesion - - - - - 4.72.

BOILER

Pressure - - - - - 200 lbs.
 Dia. smokebox 83 5/8" I.S.;
 84 5/8" O.D.
 Dia. first course 83 5/8" I.S.;
 81 5/8" O.D.
 Dia. second course 81 5/8" I.S.;
 83¼" O.D.

Thickness of smoke sheet - - - ½".
 Thickness of 1st course - 13/16".
 Thickness of 2nd course - 13/16".
 Thickness of wrapper sheet 9/16".

FIREBOX

Length inside - - - - - 109".
 Width inside - - - - - 76".
 Grate area (sq. ft.) - - - - 57.5.
 Thickness of crown sheet - 3/8".
 " side and door sheet - 3/8".
 " tube sheet - - - - - ½".

WATER SPACE

Front - - - - - 4½".
 Back and sides - - - - - 4½".

TUBES

Number - - - - - 260.
 Diameter outside - - - - - 2".
 Length - - - - - 15' 0½".
 Spacing - - - - - 3/4".
 Gauge - - - - - #11 B.W.G.

FLUES

Number - - - - - 24.
 Diameter, outside - - - - 5 3/8".
 Length - - - - - 15' 0½".
 Spacing - - - - - 3/4".
 Gauge - - - - - #11 B.W.G.

HEATING SURFACE (sq. ft.)

Tubes - - - - - 2,037.
 Flues - - - - - 713.
 Arch tubes and firebox - - - 212.
 Total - - - - - 2,962.
 Superheat - - - - - 566.