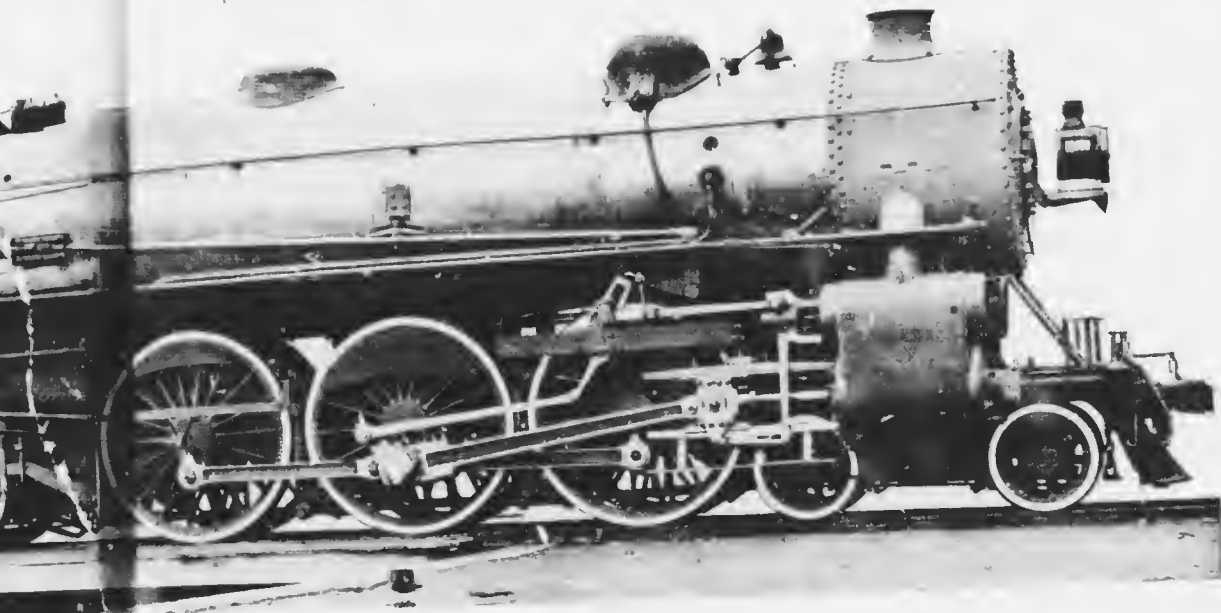


details the best use of accepted fuel-saving devices, all these factors were combined in this machine in order to secure the utmost possible economy in operation.

In order to accomplish the primary purpose of the design, the largest boiler capacity within the predetermined wheel loads was the essential feature. Every pound of weight that was not necessary to

The driving wheel base is 14 feet, that of the engine 35 feet 7 inches, and of the engine and tender 68 feet 2½ inches. The weight of the engine is distributed as follows: Leading wheels, 24½ tons; driving wheels, 86½ tons; and 23½ tons on the trailing wheel. The total weight of the engine, therefore, works out at 134½ (American) tons. The tender, of the



"PACIFIC" TYPE OF LOCOMOTIVE.
The total heating surface 4,048 square feet, and of superheating surface 897 square feet.

secure strength or durability in the component parts was eliminated. The weight thus saved was utilized for the provision of a larger boiler, and the increase of the capacity of this boiler by the provision of fuel-saving devices, in order to obtain the greatest possible economy in boiler and cylinder performance.

The boiler has a diameter of 76½ inches, and steam is used at a pressure of 185 pounds per square inch. The fire-box measures 114½ inches in length by 75½ inches wide. The tubes, 234 in number by 22 feet in length, comprise 207 of 2½ inches and 36 of 3½ inches diameter respectively.

8-wheeled type, has capacity for 8,000 gallons of water and 14 tons of soft coal. In running order it weighs 80½ tons, bringing the aggregate weight of the machine, engine and tender, ready for the road, to 215½ tons. The maximum tractive effort is 40,600 pounds.

The total heating surface of the locomotive is 4,048 square feet, the superheating surface 897 square feet, and the grate area 59.75 square feet. This is far in excess of any other superheated Pacific locomotive of equal weight. In superheating surface alone the area exceeds that provided in any other American passenger engine built up to the time of its appearance.