Delaware, Lackawanna & Western Anthracite-Burning Eight-Wheeler.

The eight-wheel, wide firebox engine shown was recently built by the Dickson Locomotive Works for the Eastern division of the Delaware, Lackawanna & Western Railroad, to be used on passenger service. This company hauls an immense suburban passenger train service out of Hoboken. About seven miles out a grade of about 78 feet to the mile has to be climbed for about three miles. Helping engines are employed to assist most of the trains up the hill. The engine shown was designed to pull a train of eight cars up that grade without assistance. The weight of the engine is 124,000 pounds of which 85,700 pounds are on the drivers. The cylinders are 20 x 26 inches and the driving wheels 65 inches diameter. The boiler carries a steam pressure of 180 pounds per square inch. Figuring on these particulars we find that the tractive power of the engine is over 24,000 pounds, the ratio of adhesion to tractive power being 3.5. The engines ought to haul the trains required with ease.

Annexed are the leading particulars of the engine:

Weight on driving wheels—85,700 pounds.
Weight on truck wheels—38,300 pounds.
Total weight of engine—124,000 pounds.
Driving wheel base—8 feet 6 inches.
Total wheel base—22 feet 11 inches.
Wheel base, engine and tender—48 feet 7½ inches.

Cylinders:
Diameter—20 inches.
Piston stroke—26 inches.
Main rod length, center to center—87½ inches.
Valve—Allen-Richardson balanced.

Boiler:
Type—Straight top, wide firebox.
Diameter of barrel, inside, smallest ring—60 inches.
Steam pressure—180 pounds.
Firebox length—10 feet.
Firebox width—96 inches.
Number of tubes—254.
Length of tubes—12 feet 6 inches.
Diameter of tubes—2 inches.
Heating surface, firebox—161.6.
Heating surface, tubes—1662.4.
Heating surface, total—1824.0.
Grate area—80 feet.
Material in barrel of boiler—Central steel.
Thickness of material in barrel—9-16 and 5/8.
Thickness of material in crown—3/8.
Thickness of material in sides and back—3/8.
Thickness of material in tube sheet—½.
Crown stayed with radial stays.
Boiler covering—Asbestos.

Driving Wheels and Journals:
Driving wheels, number—4.
Driving wheels, diameter—65⅜ inches.
Driving wheels, diameter centers—57⅜ inches.
Driving wheels, material, centers—Cast iron.
Driving wheels, journals—8½ inches diameter, 10½ inches long.
Truck wheel, engine, diameter—30 inches.
Truck wheel, engine, kind—Boies No. 2.
Truck wheel, journals—6 inches diameter by 16⅜ inches long.

Engineer Punished for Boiler Explosion

A jury in Detroit, Mich., last month, after listening to the evidence in a trial lasting over six weeks, which was conducted on both sides by skillful attorneys aided by experts, found that the engineer who was in charge of the boilers in the "Journal" building when they exploded on November 6, 1895—over three years ago—was criminally negligent for leaving his boilers for nearly half an hour, and permitting them to explode from over pressure. Thirty-eight persons were killed and a large number wounded.

This verdict is somewhat unusual, as it generally turns out that there are some extenuating or mysterious circumstances, which will clear the responsible parties of any direct blame. This verdict means that the crime of manslaughter is proved; and sentence has been passed against the engineer of a term of years in prison.

The lesson of this verdict will be that boilers must receive proper care continuously; looking around once in a while to see that the water level and steam pressure are correct and safe will not suffice.

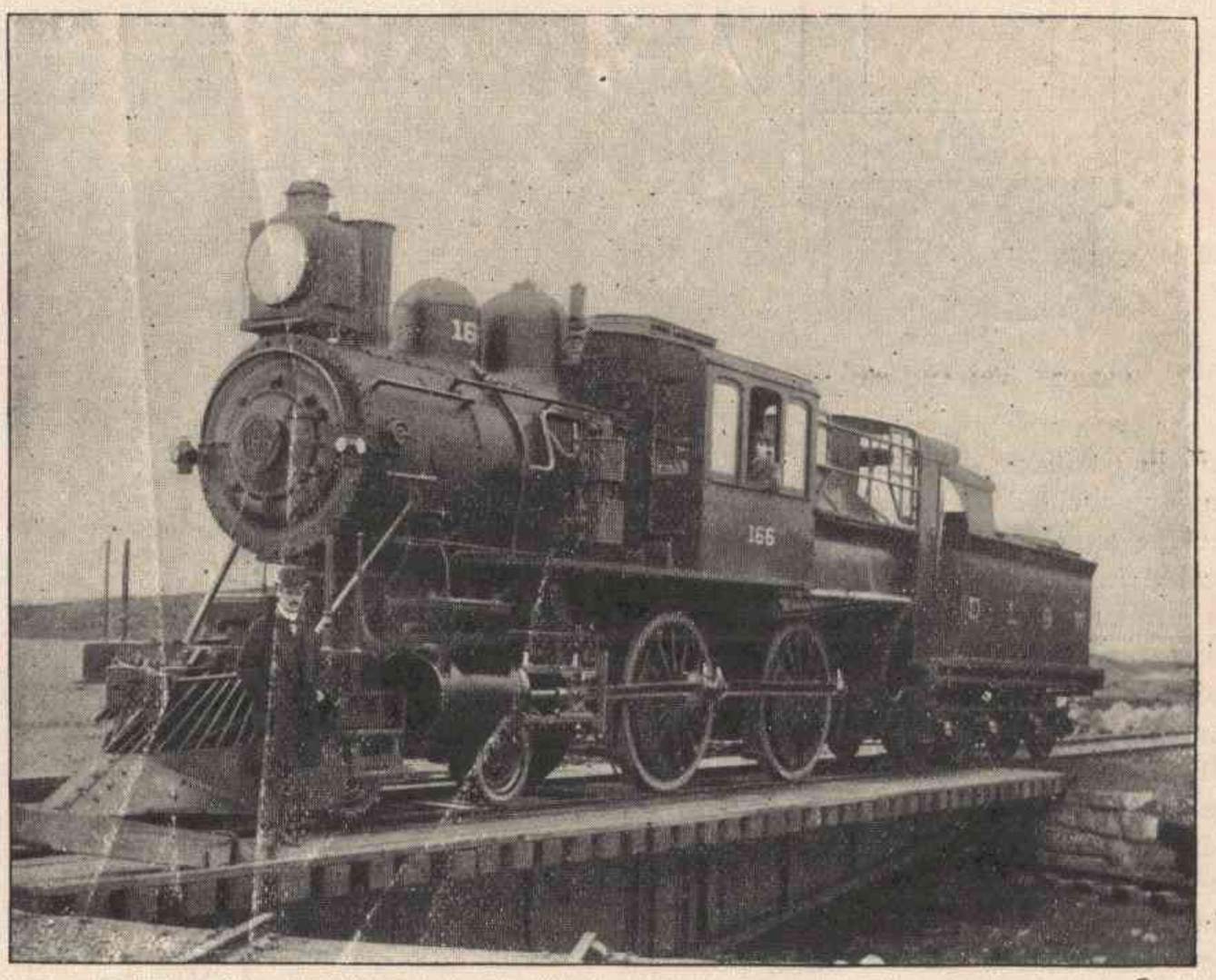
These boilers were fired with fuel oil.

Anent the above; in the case of a recent boiler explosion at the hospital connected with the Reformatory at Ionia, Mich., an expert testified that he could tell the exact hight of the water in the boiler at the moment of the explosion, stating from his examination of the boiler some days after the explosion, that there was about 8½ inches above the crown sheet and flues at the time it blew up. When asked by what process he arrived at this conclusion, he said that it was a professional secret.

Now the question comes up, Is such a statement credible? Its effect on the jury at that case was to discredit the evidence of the expert. That was quite proper, too, for the would-be expert was a humbug and a liar.

Does Pooling Locomotives Pay?

In the General Correspondence Department of this issue there is a letter on "The Pool System and Railroad Economy," written by a general foreman of one of our trunk lines. He has extended experience as a mechanical official on railroads that practice the pool system and others that provide engines for each set of enginemen. With that experience he takes very decided grounds against the pooling system as being financially injurious to railroad companies. Instead of saving money for the owners of the reduced number of locomotives doing the work, the system is wasteful and expensive. The subject has never been impartially discussed by those who understand its merits and shortcomings. Railroad companies are certainly interested in seeing this done, and we will gladly give the use of our columns for the discussion of the subject. We shall gladly publish the views of both sides.



DELAWARE, LACKAWANNA & WESTERN CULM BURNER.