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Russian Decapod Locomotives

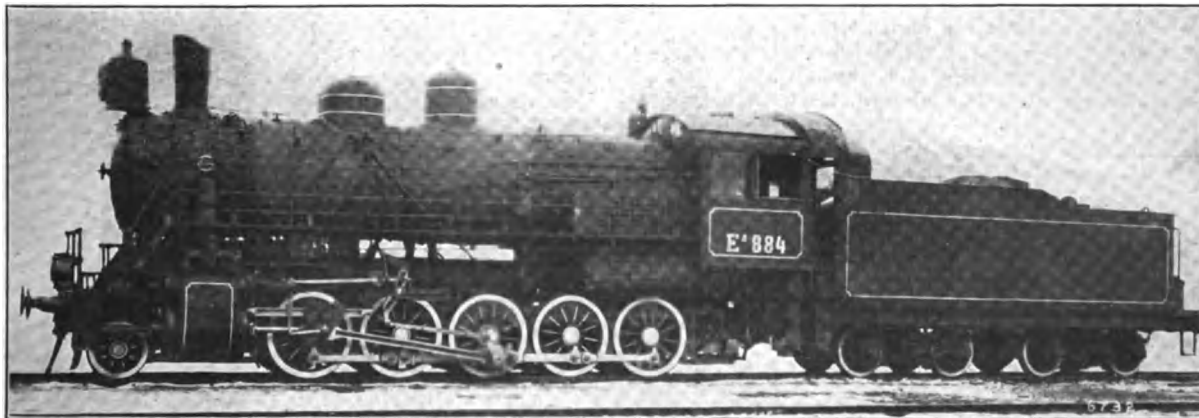
Details of Their Construction and Material

Some time ago an order was placed for 200 locomotives of the decapod 2-10-0 type for the Russian railways. These were built in accordance with the specifications and designs of A. I. Lipetz, chief of the locomotive division of the Russian Mission on Ways and Communication. The engines were built by the Baldwin Locomotive Works and the American Locomotive Co., but owing to the disturbances in Russia they have not been delivered, but have been distributed among a number of railroads in this country. In general design they follow Ameri-

which 286 were placed in the sides. This gave two rows across the top and down the sides with a cluster in the upper corners. There was a complete installation in the throat sheet and 84 in the back head. In addition to this there were four rows of expansion stays to carry the front and one to carry the back end of the crown sheet. The boiler was of the straight top type with a wide firebox set above the rear drivers and having a grate area of nearly 65 sq. ft., which is very large for Russian practice. The dome is 30 in. in diameter and of the built-up type.

tween. The steam is thus obliged to make two turns of 180° each in rising to the throttle chamber. The contained moisture is, therefore, precipitated and falls back into the boiler.

The throttle valve is of the slide valve type working against a vertical face, and is provided with a small pilot valve which, by a preliminary opening, relieves the pressure on the back of the main valve and permits it to be easily moved. The exhaust nozzle is variable and the variation in its diameter is accomplished by means of a hollow frustum of a cone that can



DECAPOD 2-10-0 TYPE LOCOMOTIVE FOR THE RUSSIAN GOVERNMENT RAILWAYS.

Baldwin Locomotive Works, Builders.

can practice, but are equipped with many details that were worked out in accordance with Russian standards.

One of the novelties, in so far as Russian practice is concerned, is the use of a considerable number of Tate flexible stay-bolts in the side, crown and throat sheets, as well as the substitution of steel for copper in the fire boxes. The use of flexible bolts has been confined to the so-called breaking zone, and is far from being a complete installation. There were 462 flexible bolts used in all, of

As will be seen from the photograph it is much higher than the present American practice will permit. With this height it is possible to use a set of baffle plates for drying the steam that have proven very efficient; and, by delivering dry steam to the throttle has greatly increased the efficiency of the superheater. The baffle plates consist of a tube above the top of which is a plate with a downwardly projecting flange that comes down on the outside of the tube, which is 21½ ins. in diameter, with a space of 12½ ins. be-

be raised or lowered thus reducing or increasing the area of the exhaust.

There is a bypass valve on the cylinders which is of very simple and effective construction. It consists of a 4-in. connection between the two parts of the cylinder in which there is placed a cylinder, set at right angles to the connection, which carries a piston and guide which are held down by a spring. When the throttle is opened steam is admitted beneath the piston and forces it up to close the opening in the by-pass connection.