

# STEAM POWER

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**94. The Locomobile Type.** In the effort to improve the economy of small steam plants the Germans developed a form of plant now known as the **Locomobile Type**. The

name came from the fact that these plants, as originally made, were mounted on wheels and intended for portable use by agriculturists and contractors. Their economy in the use of fuel proved so great that they have since been built for stationary use in sizes running well toward 1000 horse-power per unit.

A locomobile of American construction known as the Buckeye-mobile is illustrated in Fig. 140, which shows a longitudinal section of the plant. The tandem compound

engine is mounted on top of an internally fired boiler with the engine cylinders located in the flues which lead the products of combustion away from the boiler.

The steam generated in the boiler is passed through a superheater suspended in the smoke box. The flow of steam is from the rear toward the front of this superheater (counter flow) so that the hottest steam comes in contact with the hottest gas. The steam then passes through a pipe contained within the flue to the high-pressure cylinder, which is jacketed by the hot flue gases and in which the loss of heat to metal is thus minimized. From the high-pressure cylinder the steam passes to a receiver contained in the smoke box, the receiver serving as a reheater to evaporate any condensate exhausted from the first cylinder and to superheat the steam admitted to the low-pressure cylinder. From the low-pressure cylinder, the steam passes through a feed-water heater in which it raises the temperature of the boiler feed and then it passes to atmosphere or to a condenser. Boiler-feed pump and condenser pump, if used, are also integral parts of the plant, being driven directly from the main engine.

It will be observed that every precaution is taken to guard against initial condensation, and to minimize loss of heat in flue gases and in exhaust steam leaving the plant. The high economies achieved are due to such facts alone.

Small plants of this type have given an indicated horse-power hour on a little over one pound of coal when operated condensing, whereas the best large compound reciprocating engine plants seldom do better than about 1.75 lbs. of coal per I.h.p. and often use 2 or more pounds when operated condensing,

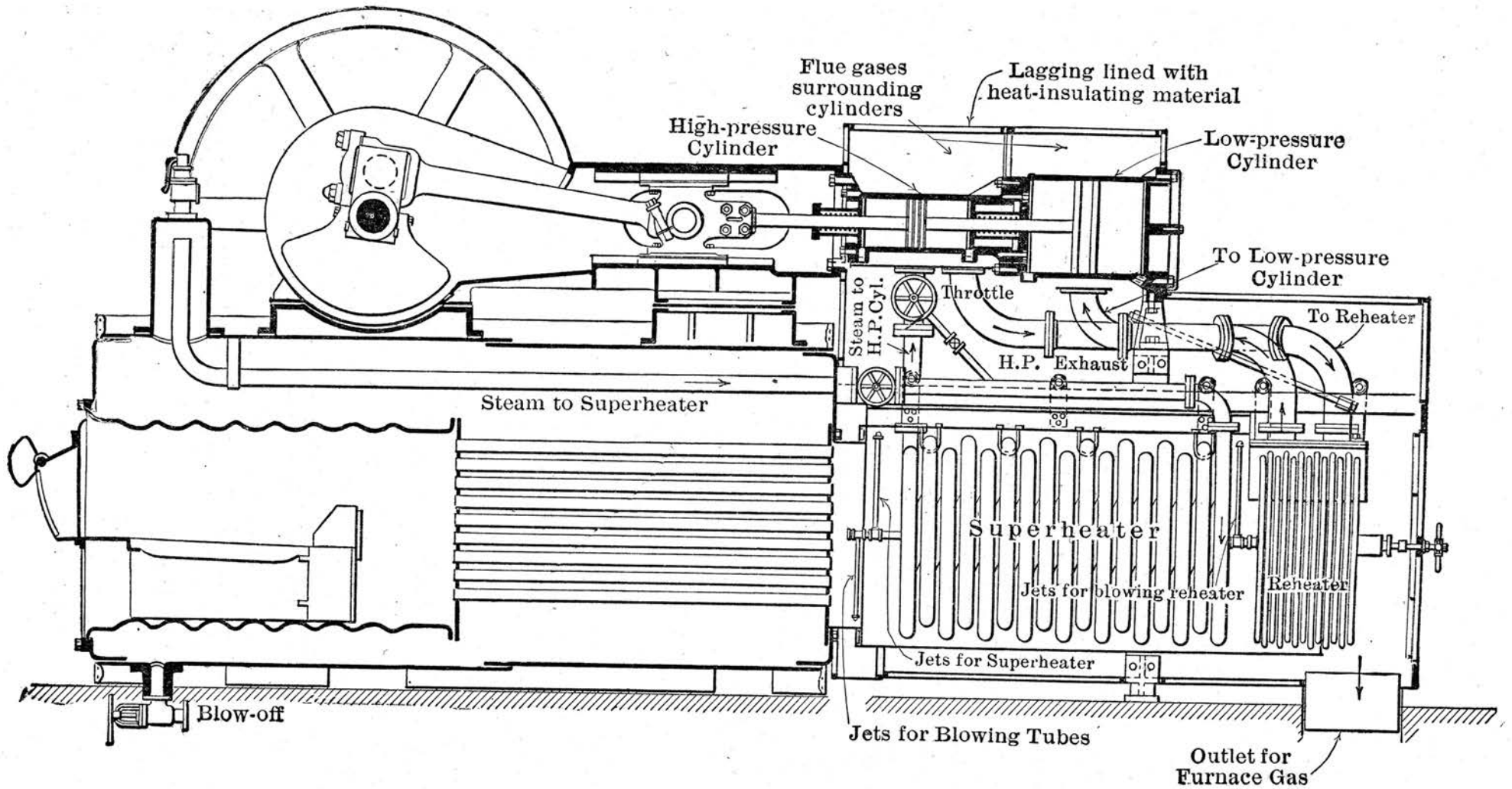


FIG. 140.

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