

Pulpo

A friendly and comfortable looking slab serif based on the Clarendon model. Massive body well legible for longer text passages on print as well as on screen.

BOLD

Tesla Boundary Layer Turbine

LIGHT

Steam locomotive

ITALIC

Built by George Stephenson and his son Robert

BLACK

Railway Company

REGULAR

Maximum working pressure

LIGHT ITALIC

First public inter-city railway line in the world

BOLD ITALIC

Fünfzylinderwerk

70 pt
BOLD

Driven by Steam

30 pt
LIGHT
ITALIC

The first commercially successful steam locomotive was created by John Blenkinsop

11 pt
MEDIUM

A Steam Locomotive is a type of railway locomotive that produces its pulling power through a steam engine. These locomotives are fueled by burning combustible material, usually coal, wood, or oil, to produce steam in a boiler. The steam moves reciprocating pistons which are mechanically connected to the locomotive's main wheels. Both fuel and water supplies are carried with the locomotive, either on the locomotive itself or in wagons pulled behind.

Steam locomotives were first developed in Great Britain during the early 19th century and used for railway transport until the middle of the 20th century. The first steam locomotive, made by *Richard Trevithick*, first operated on 21 February 1804, three years after the road locomotive he made in 1801. The first commercially successful steam locomotive was created in 1812–13 by *John Blenkinsop*. Built by *George Stephenson* and his son Robert's company *Robert Stephenson and Company*, the *Locomotion No. 1* is the first steam locomotive to carry passengers on a public rail line, the *Stockton and Darlington Railway* in 1825. George also built the first public inter-city railway line

11 pt
LIGHT

in the world to use locomotives, the Liverpool and Manchester Railway, which opened in 1830. Stephenson established his company as the pre-eminent builder of steam locomotives for railways in the United Kingdom, the United States, and much of Europe.

In the 20th century, Chief Mechanical Engineer of the London and North Eastern Railway (LNER) *Nigel Gresley* designed some of the most famous locomotives, including the *Flying Scotsman*, the first steam locomotive officially recorded over 100 mph in passenger service, and a LNER Class A4, *4468 Mallard*, which still holds the record for being the fastest steam locomotive in the world (126 mph).

From the early 1900s steam locomotives were gradually superseded by electric and diesel locomotives, with railways fully converting to electric and diesel power beginning in the late 1930s. The majority of steam locomotives were retired from regular service by the 1980s, though several continue to run on tourist and heritage lines. The steam generated in the boiler fills the space above the water in the partially filled boi-



LIGHT

Kraftwagen

REGULAR

Zylinderzahl

MEDIUM

Treibachsen

BOLD

Kurbelwelle

BLACK

Druckluft

LIGHT

Einströmrrohr

REGULAR

Laufradsatz

MEDIUM

Feuerbüchse

BOLD

Kohlekasten

BLACK

Reglerzug

11 pt
LIGHT

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11 pt
BLACK

28pt
BOLD

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28pt
REGULAR

The steam moves reciprocating pistons which are mechanically connected to the locomotive's main wheels (*drivers*). Both fuel and water supplies are carried with the locomotive, either on the locomotive itself or in wagons (*tenders*) pulled behind. Steam locomotives were first developed in Great Britain during the early 19th century and used for railway transport for over 100 years until the middle of the 20th century.

48t
LIGHT

Neben der verbreitetsten Bauart mit *Dampferzeuger* und *Kolbendampfmaschine* mit Kurbeltrieb-Fahrwerk gibt es Sonderbauarten wie Zahnrad dampflokomotiven, solche mit Einzelachs- oder Turbinenantrieb, Kondens- und Hochdrucklokomotiven.

48t
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72t
LIGHT

abcdefghijklmnop
opqrstuvwxyzß
ABCDEFGHIJKLM
MNOPQRSTUVWXYZ
XYZ.1234567890

72t
LIGHT
ITALIC

abcdefghijklmnop
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72t
REGULAR

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72t
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The steam generated in the boiler fills the space above the water in the partially filled boiler. Its maximum working pressure is limited by spring-loaded safety valves. It is then collected either in a perforated tube fitted above the water level or by a dome that often houses the regulator valve, or throttle, the purpose of which is to control the amount of steam leaving the boiler. The steam then either travels directly along and down a steam pipe to the engine unit or may first pass into the wet header of a superheater, the role of the latter being to improve thermal efficiency and eliminate water droplets suspended in the „saturated steam“, the state in which it leaves the boiler. On leaving the superheater, the steam exits the dry header of the superheater and passes down a steam pipe, entering the steam chests adjacent to the cylinders of a reciprocating engine. Inside each steam chest is a sliding valve that distributes the steam via ports that connect the steam chest to the ends of the cylinder space. The role of the valves is twofold: admission of each fresh dose of steam, and exhaust of the used steam once it has done its work.