

The different kinds of Steam Engines are, the high pressure —formerly considered dangerous for vessels; the low pressure reciprocating engine, where the machinery is kept in motion by a revolving crank; and the rotary engine, where the steam is applied by a rotary motion, without the loss of power by friction.

It may be simply said of the low pressure engine, that it consists of a forcing pump, with its rod fixed to one end of a lever that is worked by the pressure of the atmosphere upon a piston at the other end; a temporary vacuum being made below it by suddenly condensing the steam that had been let into a cylinder in which the piston works, by a jet of cold water thrown into it. A partial vacuum being thus made, the weight of the atmosphere presses down the piston, and raises the other end of the straight lever, loaded with water, when used in a mine; then immediately a hole is uncovered in the bottom of the cylinder, by which a fresh supply of hot steam rushes in from the boiler, which acts as a counter-balance to the atmosphere above the piston, and the weight of the pump rods at the other end of the lever carries that end down, and, of course, raises the piston of the steam cylinder. The orifice for the admission of steam is immediately shut, and the cock opened for injecting the cold water into the cylinder. This condenses it to water, and another vacuum is made below the piston, which is again forced down by the weight of the atmosphere; and thus the work is continued as long as water and fuel are supplied.

With the application of steam to coal mines, to manufactories, and other general purposes, all are familiar. From a report of a Committee of Parliament in 1822, it appears that the first attempt at impelling vessels by steam was made by an Englishman of the name of Hull, who, in 1736, obtained a patent for a steamboat, to be moved by cranks and paddles. It was in 1807 that the invention was brought to practical use by Fulton, an American, who had the advice of Bell, a Scotch engineer. As in the case of printing, a claim has been made both by Fulton