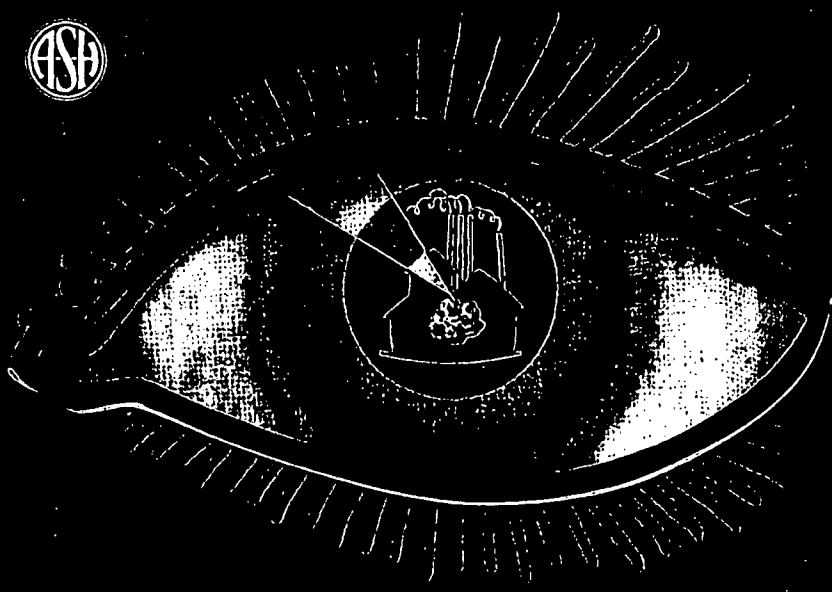


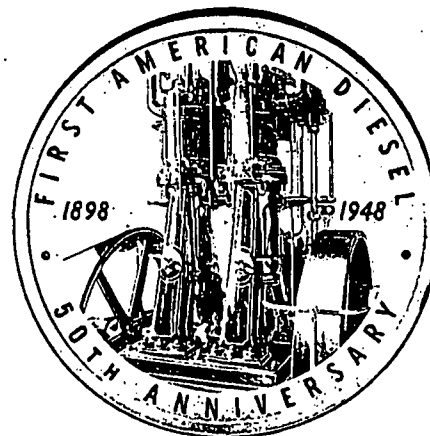


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MODERN DIESEL ENGINES

50 Years of Progress

By L N ROWLEY, Managing Editor

Fifty years ago an oil engine, built in this country under the patents of Dr. Rudolph Diesel, coughed into being, for the first time, demonstrated the commercial feasibility of a type of internal-combustion engine still bearing the name of *diesel*.

Like all major engineering advances, this one did not spring into being without ancestry, nor did it survive long without substantial modifications.

After the brilliant French thinker Sadi Carnot laid down, early in the nineteenth century, theoretical principles on which a "perfect" heat engine should operate, a succession of engineers strove to bring them to reality.

Out of the work of Lenoir, Beau de Rochas, Langen and Otto, came the spark-ignition low-compression engines operating on what is generally called the *otto* cycle. By 1898, these engines, using gaseous or readily vaporized fuels, had achieved a substantial measure of acceptance, and Ackroyd Stuart and Carl Weiss had produced engines capable of operation on oil fuels.

Onto the stage thus set came Dr. Diesel. He visualized an engine capable of fully realizing Carnot's ideal cycle: coal dust was to be the fuel. Not surprisingly, the first practical engines built under his patents departed from many of the original theoretical concepts. The hard facts of experience, and crossbreeding with engines undergoing parallel development, dictated still further modifications.

Yet this in no way diminishes the importance of Diesel's contribution and the pioneering efforts of those who brought his engine to commercial fruition. Like many others whose inventive genius is remembered in popular legend, he came on the scene at a time peculiarly suited to his talents. By the power of his personality and his missionary zeal, he set the wheels of engineering progress turning faster.

While the purist may quibble as to just how much the present-day "diesel" owes to the man who gave it its name, there can be no doubt that he played a far-reaching part in oil-engine development and that the year 1898 is worthy of commemoration as a major milestone in its history.

In a world ever hungry for more power and better ways of producing it, the diesel has, in fifty years, won its spurs as a stationary prime mover, in ships, on the rails, in mobile machinery, and on the highways. It played an outstanding role in winning World War II and stands ready to help win the peace.

To the practical engineer, the history of the diesel, however fascinating, must take second place to its present-day possibilities. For this reason, *POWER* celebrates this golden anniversary by providing, in the following pages, a concise survey of modern practice — how diesels work, how they are built and how they may be put to practical use to lower power costs.

POWER • APRIL, 1948 • P W SWAIN, EDITOR