

MEDICINE

New Type Industrial Injury Caused By Diesel Engines

Fuel Oil Escaping Under High Pressure May Penetrate Skin and Result in Gangrene Following an Accident

AN entirely new type of industrial injury may be charged against certain types of Diesel engines. The danger is due to the very high cylinder pressures at which Diesel engines operate.

A California motor mechanic has recently had to have one finger amputated following an accident in which fuel oil escaping under high pressure penetrated the skin and led to dry gangrene.

The *Journal of the American Medical Association* (Sept. 11) tells of the industrial hazards caused by the introduction of high pressures in industry. The severity of these accidents is dependent upon the character and quantity of oil and upon the pressure under which it is introduced into the tissues, states Dr. C. E. Rees of San Diego.

The case Dr. Rees reports is that of a mechanic who was testing the jet of a Diesel engine. He was holding the jet, which he had removed from the cylinder head, about one inch from the tip of his right middle finger when he tripped the valve. Oil was forced from the jet into his finger at a pressure estimated to be about 4,000 pounds.

Intense pain, high temperature, hospitalization, gangrene, amputation—these were the aftermath of the accident. It was eight weeks before the hand healed.

Diesel engines differ in principle from gasoline engines in that the fuel in the

explosion chamber is ignited not by an electrical spark but by heat generated from compression of the mixture of fuel and air.

The fuel is supplied directly into the cylinder of the engine, where it is mixed with air, compressed and fired.

In one type of Diesel engine which uses the heavier fuels the oil is forced into the cylinders through a jet, where it is fragmented by air under very heavy pressure—from 1,200 to 5,000 pounds per square inch. Such pressure is capable of forcing fuel oil into human flesh.

Last January the *Journal of the American Medical Association* published a letter from a doctor subscriber asking physicians to report such accidents and their treatment, as nothing has been published on the subject.

Dr. Rees is of the opinion that in the case of such accidents a liberal incision should be made over the injured area to permit the irritant oil to escape.

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The newest war tanks not only trample everything in their path, but breathe out fire by means of flame-throwers.

In a campaign for clean sidewalks, a group of citizens aided by the Sanitation Department recently scrubbed pavements in New York's Times Square.



Indian Market-Basket

THE STORY of the Indian contribution to modern diet, even in remote lands like China and equatorial Africa, is an old one. But these plants—corn, potato, sweet potato, beans, tomato, peanut, pumpkin, etc.—were almost altogether tropical or subtropical in their origin. The Indians whom white men found cultivating corn and pumpkins in this country had learned the business, ultimately, from Mexico and Central America.

However, there were literally hundreds of species, some of them rather odd to our modern imagination, that Indians used in one part or another of temperate North America. The U. S. Department of Agriculture has published a checklist of these plants, prepared by Dr. Elias Yanovsky of the Bureau of Chemistry and Soils.

The various tribes of the semidesert Southwest, oddly enough, had rather better pickings than one might expect of the desert. They made food uses of the pulpy heart of the agave or century plants, the thick roots of the yucca, the sweet though prickly fruits of several species of cactus.

The plains and foothills tribes toward

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