

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.

Science News Letter, October 2, 1937

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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● RADIO ●

October 5, 5:30 p. m., E.S.T.

SALT OF THE EARTH—Miss F. E. Harris of the U. S. Department of Interior.

October 12, 5:30 p. m., E.S.T.

INDIANS WHO MET COLUMBUS—Herbert W. Krieger of the Smithsonian Institution.

In the Science Service series of radio discussions led by Watson Davis, Director, over the Columbia Broadcasting System.

the north ate the bulbs of many wild plants of the lily family, particularly the camas, but also wild lilies and dog-tooth violets. The bitterroot, spite of its name, was an accepted food plant in the West. Fruits of a number of plants of the nightshade family were favorites, particularly those of the so-called husk tomato.

Eastern and Southeastern Indians ate all kinds of things, some of which one would never imagine a human being would trouble to gather. Nuts and berries of course were abundant and logical as foods. And we "foreigners" have learned the value of native grapes, persimmons, pawpaws, and pokeweed greens. But who would ever have ever thought of buttercup sprouts, water-lily buds, thistle stems and roots, and the tiny seeds of dodder?

Of course, the point is that the cultivated crops of Indians were small, wild plants more abundant than they are now, and perhaps palates less fussy about some of the tastes.

In all, Dr. Yanovsky lists 1,112 different species as having been used for food by North American Indians.

Science News Letter, October 2, 1937

SAFETY ENGINEERING

7,000 To Tackle Job of Cutting Accident Deaths

SEVEN thousand representatives of nearly every industry and field of endeavor in the United States will gather at Kansas City, Mo., from October 11 to 15 to help make America safe.

What to do about the 111,000 accidental deaths caused last year by automobile, airplane, factory, and home hazards will be the order of the day when the 1937 National Safety Congress is called to order.

The Congress, sponsored by the National Safety Council of Chicago, includes this year for the first time a section devoted to agricultural safety.

Science News Letter, October 2, 1937

PSYCHOLOGY

Judgments of Character Reflect Own Personality

"IN THE smiles and frowns of others, we see but a reflection of our own."

That maxim has now received scientific confirmation in research to determine the accuracy with which character and personality may be judged, summarized in a report by the German Dr. Annelies Argelander to *Character and Personality*.

One person's judgment of an individual differs from another's estimate not only because each judge sees his fellows through prejudice-tinted spectacles, but also because a man, like a chameleon, changes with the company he is in. If you are a thoughtful person, your companions may assume a more serious mood as you come near; if you are gay, they will laugh with you, if you are sad, it will spoil their fun.

The estimate of a person's character depends to a great extent upon where the individual is observed. If you know

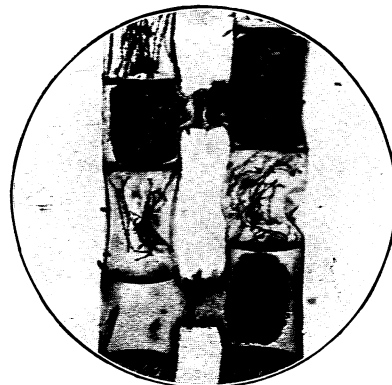
a man only in the office or in church, your verdict will be different from what it would be if you met him only at parties or relaxed at home.

Intimate friends see a person in a somewhat more favorable light than do more distant acquaintances. Their judgment is likely to correspond with the person's ideal view of himself.

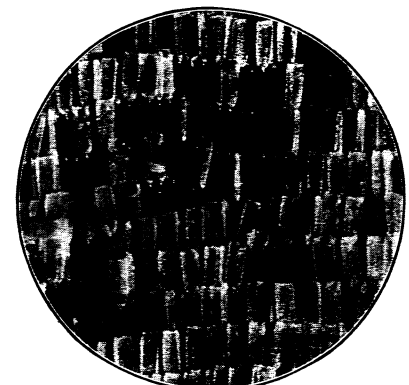
Closer observation and better understanding of one's own sex affects character judgments. Here are a few traits you are more likely to ascribe to persons of your sex: quick comprehension, accurate judgment of men, ambition, persistency, impetuosity in speech, courageousness, accessibility to new ideas, observation, demonstrativeness, natural behavior, fondness for animals. The opposite sex are considered easily despairing, tenacious of old opinions, bad observers, but absolutely trustworthy.

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