



#### PICTURING EXPLOSIONS FOR STUDY

The flame, shown on the left, followed the detonation of a mixture of oxygen and carbon monoxide in a tube one inch in diameter. It traveled six feet during one fifteen-hundredth of a second and in so doing spiraled at the rate of 26,000 rotations a second. R. P. Fraser, the photographer-scientist, is standing by his apparatus on the right.

#### PUBLIC HEALTH

## People With "Nerves" Found To be Most Accident Prone

ONE out of every four people in factories and offices are afflicted with "nerves," a word often used to describe a condition that is little understood. Investigations made by Great Britain's Industrial Health Research Board also show that the word "nerves" must be used to explain many human factors which hinder industrial efficiency.

The British investigators ran up against the problem of nervousness symptoms when they looked into the matter of both trivial and serious accidents in industry. Those who are emotionally unstable have more accidents and there is hope that they may be picked out by simple tests, such as the psycho-galvanic reflex or a dotting machine test. Since accident-prone people are dangerous both to themselves and to those around them, it is important to recognize "nervous" people before they have accidents.

#### Most Important in Employers

The investigations in England have progressed so far that Dr. Major Greenwood, who tells of them in *Human Biology*, holds out hope that combined

use of psychological tests and examinations by specially trained physicians will prove practical. Workers in offices where nervous tension is high will be interested in finding that the "nerves" of employers are more important to efficient work than the "nerves" of the employees.

As to the cause of our nervous world today, Dr. Greenwood will not agree with those who argue that we are living at too fast a pace.

#### Life Longer and Slower

"In this age of the world," says Dr. Greenwood, "'nerves' are more important than in the age of William the Conqueror not because the pace of life is faster than in 1066 but for the precisely opposite reason. It is so much slower. Life in old England may have been merrier but it was certainly shorter than it is now, the struggle for bare existence keener. Hardly any people in this country, speaking statistically, are in imminent peril of actual starvation. Millions of people now have leisure for reflexion. They may not be acutely hungry, they are not in imminent peril of death, but they are insecure."

*Science News Letter, July 16, 1932*

#### ENGINEERING

## Explosions Photographed By Revolving Mirror

EXPLOSIONS are photographed in one twenty-five thousandth of a second in apparatus perfected by R. P. Fraser at the Imperial College of Science, London.

To find out what takes place during an explosion, a double-sided mirror is rotated at speeds up to 30,000 revolutions per minute in an airless chamber. The flame is photographed upon a film that is moved at the rate of over a half-mile a second. A mixture of one part oxygen and two parts carbon monoxide gas was found to produce a flame that spins in a spiral during its explosion.

The research is being conducted in the laboratory of Prof. W. A. Bone to discover ways of improving the efficiency of internal combustion engines such as those used in automobiles and airplanes.

Other photographs show the effect of shock or compression waves that frequently accompany explosions. They were taken after the actual detonation had been induced by shock waves, which appear in the photograph as parallel dark lines.

*Science News Letter, July 16, 1932*

#### GEOGRAPHY

## Russian Scientist Predicts Finding of New Arctic Isle

THERE is an island in the Kara Sea, north of the line where Europe and Asia join. Prof. V. Vyse, Russian geographer, has made this declaration as the result of his studies of data on water temperatures, ice drift, bottom contours and other phenomena, brought back by the Soviet ice-breaker "Sedov."

This is not Prof. Vyse's first prediction of this kind. Before the "Sedov" exploratory cruise in 1930, he based a similar declaration on similar data for another location; and the island was found there as he said it would be. It was named Vyse island, in his honor.

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Growing girls shoot up fastest at about 13 years of age, while boys have their fastest wave of growth when about fourteen and a half.

The average person in this country spends \$5.50 a year for drugs and medicines, it is reported by the Committee on the costs of Medical Care.