

Army Studying Report on Explosive

Chemistry

Radium atomite, the explosive said to be more powerful than T. N. T. or dynamite, is now engaging the attention of army engineers in Washington. The report of Lieut. Col. L. M. Adams, who tested the new explosive at the California Institute of Technology at Pasadena, has been received, and referred to the Board of Engineer Equipment of Troops, at Fort Humphreys.

No details of the composition or samples of the explosive have been sent to Washington. Lieut. Col. Adams reported that it is a light greenish powder, dry and very finely divided. The inventor, Capt. H. R. Zimmer, of Los Angeles, former Army officer, claims that it can be produced for one-half the cost of T. N. T. It is

declared more stable than T. N. T. and unaffected by dampness, a serious fault of the latter.

In the tests by Lieut. Col. Adams, the power of radium atomite was compared with T. N. T. and 80 per cent. dynamite. A lead cylinder, 12 $\frac{1}{8}$ inches in diameter, 14 $\frac{1}{2}$ inches high, with a hole 1 $\frac{1}{8}$ inches in diameter and 9 $\frac{1}{4}$ inches deep, was used with each. The entire cylinders each weighed about 700 pounds. An ounce of the explosive was placed in the bottom of the hole and covered with three ounces of sand, then the explosive was detonated electrically.

Before explosion, the holes each had capacities of 125 cubic centimeters. T. N. T. enlarged the hole 1.002 cubic centimeters, dynamite

1,255, and radium atomite 1,370.

Tests were also made of the speed of explosion, or how fast the explosive reaction travels through it. This is about 10,721 feet per second for radium atomite, 16,082 for T. N. T. and 8,300 for 60 per cent. dynamite. For general use, it was stated by army engineers, this range makes no practical difference.

Officials of the engineer corps were unable to state whether or not the explosive will be adopted. After the board that is now considering the report is through, they may either request Captain Zimmer to furnish them with samples for additional tests or else invite him to Washington for the purpose.

Science News-Letter, June 30, 1928

Scientific Arson

Engineering

When the recent fire held in Washington by the Bureau of Standards to test the fire resistant properties of safes was at its height, a stranger arrived at the Union Station. That was about the time that the photograph on our cover this week (taken by James Stokley) was made. The stranger saw the smoke and thought the entire city was on fire. His surprise increased when he arrived at the scene and found most of the firemen gazing idly at the conflagration, a few were squirting water on the ground, nearby buildings—every place but the fire.

Not for many days after the blaze had the ruins cooled off sufficiently to permit the safe to be removed by S. H. Ingberg, chief of the bureau's fire-protection division, and his associates. The safes are now at the bureau, where they are being studied. Some came through the fire nobly, as they were opened with the combination, and the papers within them were not even scorched. Others were more or less damaged, and one, on the first floor, had a door knocked off, so that its contents were completely burned. Evidently something fell on it. (See *Science News-Letter* for June 23, pp. 391-392.)

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