

chro Press Type B, was conceived in Eastman laboratories, and developmental work started on the film.

The Weston rating (used in setting exposure meters) of the new film is 200 daylight, 160 tungsten. This is more than twice as fast as the fastest films previously in use which have Weston ratings of 80 daylight and 50 tungsten. The manufacturers state that the ratings for the new film may be doubled with little danger of under-exposure.

Science News Letter, August 5, 1944

MEDICINE

Cigaret Smoking Dangerous After Certain Injuries

➤ A WARNING against the habit of giving an injured soldier a cigaret if an artery has been injured appears in a report by Dr. Grace M. Roth and Dr. Charles Sheard, of the Mayo Clinic, and Capt. John B. McDonald, M.C., A.U.S., (*Journal, American Medical Association, July 15*).

In the case of artery injury, the scientists point out, segmental spasm of the artery is common and the constriction of blood vessels that cigaret smoking may cause in a person sensitive to tobacco may cause "irreparable damage."

Smoking of standard cigarets should also be avoided, they warn, by patients with disease of the small blood vessels lying near the surface of the body.

Effects of smoking standard cigarets and also those made of corn silk were tested on four men physicians and two women technicians between the ages of 22 and 41 years and all in good health. After smoking two standard cigarets the pulse rate increased, on the average, by 36 beats a minute. Average blood pressure increase was 19 millimeters of mercury for the systolic and 14 for the diastolic.

Changes in heart action appeared on electrocardiograms, basal metabolic rate increased and the temperature of toes and fingers decreased after smoking two standard cigarets. After smoking corn silk cigarets, these changes and those in blood pressure and pulse rate were either negligible or slightly in the reverse direction.

Blood pressure, pulse and electrocardiogram returned to normal within five to 15 minutes after smoking the standard cigarets but the temperature changes in fingers and toes persisted for half an hour or longer.

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MILITARY SCIENCE

World War I Weapon

A week before the armistice, the United States had a gyroscopically-steered flying bomb that in tests hit targets after flights of up to 35 miles.

➤ JUST A week before the armistice of the first World War, the United States had a "secret weapon," a gyroscopically-steered flying bomb, that in tests hit targets after flights of up to 35 miles.

This early version of the flying bomb, which may well be the forerunner of some of the weapons now coming into use in this war, was the development of a group of engineers, one of whom was Dr. Thomas Midgley, Jr.

Dr. Midgley, who since those days has invented tetra-ethyl lead for anti-knock gasoline and refrigeration chemicals, told of these early experiments at his home in Worthington, Ohio.

The bomb-carrying device was a small, unmanned airplane, powered with a four cylinder air-cooled V type engine, giving 40 horsepower for about 45 pounds weight, which was very good for those days. It carried a 50-pound bomb.

Its first flight was at South Field, Dayton, Ohio, 25 years ago last November. A year later 12 of these A.T.'s or aerial torpedoes, as they were called, were taken to Carlstrom Field, Arcadia, Fla.

"Totally inexperienced personnel tried to fly them," Dr. Midgley related. "This resulted in four crashes and one getting loose.

"The army then sent for some help from the group who had developed them. Following the arrival of this group, the rest were successfully flown except for two crashes, one due to trying out an idea of a local lieutenant and the other due to an 'excited' lieutenant colonel who released the ship before the gyro had been set. The rest dropped their bombs inside a 30-foot circle at three miles range.

"A further model was built from salvaged parts and set for 35 miles. It was followed by a DH-4 and movies were taken. It landed practically on its target. So far as I know it is still there. There was no great lack of accuracy but you couldn't get an old line artillery officer to admit it."

The originator of the main idea was Elmer Sperry, but this particular development was assigned to Dr. C. F. Kettering, then of Dayton, now in charge of research for General Motors and chair-

man of the National Inventors Council. It was developed by the Research Division of Dayton Metal Products which later became the Research Laboratories of General Motors, in collaboration with Dayton Wright Airplane Company. Orville Wright was chief consultant. Harold Wills, then with Ford, developed the engine.

Experiments were continued by Elmer Sperry on his own, until his death.

Dr. Midgley was Dr. Kettering's assistant in this work, being specifically in charge of instrumentation and coordination and he went to Florida at the Army's request to fly the aerial torpedoes at Carlstrom Field.

A photograph of this flying bomb obtained from the U. S. Army Air Forces was published (*SNL*, Jan. 1, p. 7) and when it came to the attention of Dr. Midgley, he recounted the early history and called attention to inaccuracies in the caption.

Science News Letter, August 5, 1944

MEDICINE

Unique Club for Patients Who Have Lost Larynx

➤ A UNIQUE club, composed of 100 men and women who have had their larynx, or speech organ, removed, has been organized at the National Hospital for Speech Disorders in New York, Dr. James Sonnett Greene, founder and medical director, announced.

The name of the club, Anamilo, which is Greek for "I speak again," tells the reason for the club's founding. A patient who has had his larynx removed must learn to speak again, either by using a mechanical device or artificial larynx, or by substituting an esophageal voice.

A special committee of the club has been formed to call, on the request of the attending surgeon, on patients in the metropolitan area who face larynx removal or have just had the operation. A visit from an Anamilo member is said to give much-needed reassurance to others about to have the larynx removed. Cancer is responsible for the loss of the larynx in most cases.

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