MEDICINE

More Chemical Conquests

Feature functions of some of the latest drugs are: a dual attack on stomach ulcers, safer and easier blood transfusions, superiority to streptomycin in combatting TB.

➤ FURTHER conquests of disease by chemical developments were forecast to the American Chemical Society meeting in Philadelphia.

One drug makes a double-barreled attack on peptic ulcers. This compound, reported by John W. Cusic and Dr. Richard A. Robinson of G. D. Searle & Co., Chicago, not only relaxes the smooth muscle of the stomach, thereby curbing spasms, but it also inhibits the nerve impulses releasing acid in the stomach. The compound, which is a complex metho-bromide, can be taken by mouth. Now being tested clinically, it is not yet available for general medical use.

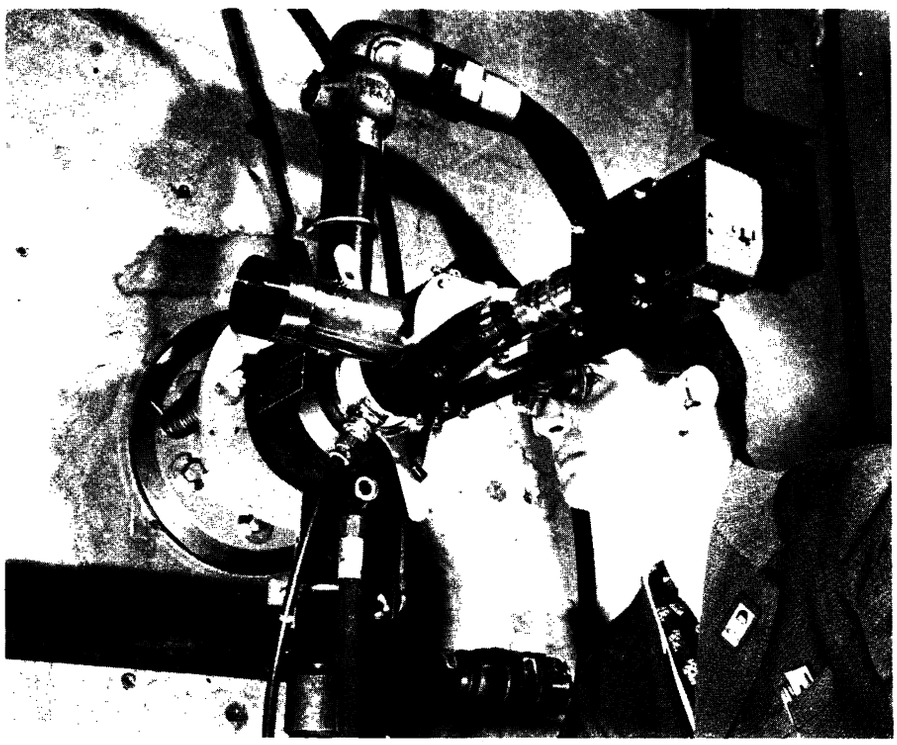
A new medicinal cream which itself fights bacteria and fungi promises to be an effective carrier of other drugs as well. This new product is cyclohexyl pyroborate and was developed by Dr. M. M. Clark and Dr. A. R. Clark at the Foxlyn Laboratories, Mountain Lakes, N. J. It rubs into the skin without forming greasy film or jelly and melts when it picks up moisture from the skin. Not only is it antiseptic itself but it stops insect bites from itching, and it also deodorizes.

A new series of synthetic chemicals, which promise to rival the potency of streptomycin in combatting tuberculosis, has been developed at E. R. Squibb & Sons Research Laboratory, New Brunswick, N. J., by Dr. Jack Bernstein. The new drugs can be taken by mouth. So far they have not been tried on human beings, but they show promise in mice experiments.

German research during the war pointed to the possibility of these anti-tuberculosis chemicals which form a new class of compounds called thiosemicarbazone. Over a hundred different chemicals of this sort have been made and tested.

A new chemical promises safer and easier blood transfusions, because while it raises the blood's clotting power in the body it has the opposite effect in blood stored in blood banks. Reported by Dr. Gustav J. Martin, research director of National Drug Company, Philadelphia, the compound is ethylene bis-iminodiacetic acid.

Science News Letter, April 22, 1950



VIEW BY PROXY—By looking through a special, water-cooled periscope, the engineer can watch the pattern of burning gases in a jet engine on the other side of the wall. The hoses running into the periscope carry 45 gallons of water per minute to cool the optical system. On the right, by the observer's head, is a motion picture camera for recording in color action inside the engine as it would appear to a man if he could look directly up the engine's exhaust pipe.

PHYSICS-AERONAUTICS

Periscope Examines Gases In Jet Engine Exhaust

➤ THE inner parts of the flaming gases in the exhaust of a jet-engine, in which higher temperatures exist than unprotected metals can withstand, are being examined in Lynn, Mass., with a special, water-cooled periscope.

It is a quarter-ton steel cylinder, projecting through a heavy wall into a chamber behind a stationary jet engine and into the fiery exhaust which may have a temperature of 2,500 degrees Fahrenheit. It is jacketed in thick stainless steel, beneath which is a 45-gallon-per-minute water-cooling system. It is in use at General Electric's gas turbine division. It was developed at the company's Schenectady laboratories.

A quartz window in the cylinder, both air-cooled and water-cooled, permits the user to look up the business end of the engine. The air-cooling system blows a stream of cold air over the window, preventing the exhaust gases from reaching it.

Observations are made from the outer side of the protecting wall. Images of the burning gases are transmitted to the observer through the tube by mirrors. Records can also be made with a motion picture camera attached to the observing end of the periscope.

Science News Letter, April 22, 1950

GENERAL SCIENCE

First National Science Fair To Be Held

➤ THE first National Science Fair, its exhibits the work of enterprising high school students from all parts of the country, will be held in the famed Franklin Institute in Philadelphia May 19, 20 and 21.

The finalists from more than 12 regional science fairs in April and May will be sent to Philadelphia by sponsoring newspapers.

Three days of sightseeing, tours of research laboratories and interviews with leading scientists will be climaxed for the youngsters by presentation to the winners of more than $1,000 in scientific equipment.

First national competition of its kind, the fair is an activity of Science Clubs of America. Operating scientific devices, complex studies and collections of rare specimens in many fields—all the work of the youthful participants—will be on exhibition to the public.

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