

AERONAUTICS

Slower Landing for Jets

► THE NAVY is developing a series of high speed planes that can land in half the usual distance and take off with a 40% shorter run.

Patents for the system have been granted to John S. Attinello, head of the supersonic section of Navy's Bureau of Aeronautics, Washington, but details are still a military secret. The British are also working on their own adaptations of the scheme.

Though designed for speed, these planes will be able to float in for a landing at much slower speeds than are now possible. This has been a primary aim of designers of planes for aircraft carriers.

Air jets placed in front of the landing flaps in the wings make the difference, Mr. Attinello told SCIENCE SERVICE. The blowers give the plane added buoyancy by preventing the break-up of the smooth flow of air over the wing when the flap is lowered. Normally, detachment of the flow over the upper surface causes a reduction in lift, or stall.

The jets of gases, obtained from the en-

gine, blow over the top of the landing flaps automatically when the plane prepares for a landing.

Called the Bureau of Aeronautics Super-circulation System, the development will add greater safety in take-off and landing operations and will allow shorter runways or increase the payload of planes flying from longer runways.

The system, he said, could be adapted for commercial aircraft.

A Navy jet trainer, the T2V-1, which uses this principle, is now being produced, and other models are under development.

The compressed gases for the wing blowers can be obtained from any of the three widely used types of engines, the turbojet, the turboprop and the conventional reciprocating engine.

The principle for the system, called "boundary layer control," was developed by the Navy in cooperation with Grumman Aircraft Engineering Corporation and Allison Division of General Motors Corporation.

Science News Letter, April 30, 1955

GENERAL SCIENCE

"Idea Bank" Is Created

► AN AGENCY of the Federal government has established an "idea bank" stocked with descriptions of products, inventions and commercial possibilities to aid the nation's small businesses.

Twenty-six such ideas, inventions and potential products were made public by the Small Business Administration, initiator of the new program. The list, which is to be published periodically, includes such devices as a modern abacus, an improved overhead garage door, a new type of charcoal barbecue broiler, and a telephone-holding device permitting free use of the hands.

In announcing the new service, Wendell B. Barnes, administrator of Small Business Administration, said, "One of the most urgent needs for small businesses is to keep up to date on production and marketing techniques. They need new or improved products and processes so they can diversify, expand and provide jobs."

The Small Business Administration does not endorse the products or processes it lists. It merely tries to introduce the man with an idea and no means of following through to the man with the means looking for an idea.

As part of the agency's products assistance program, both small businessmen and idea men can request or submit information at any of the Administration's 14 regional offices or 24 branch offices throughout the United States.

"I believe," Mr. Barnes said, "the Government can be of practical service to private

industry in this field by marshaling in useful form information on both sides of the problem: ideas for new products and processes on the one side, and manufacturers seeking this information on the other side."

The list recently released to the public is the second of its kind. Earlier, the agency distributed a trial-balloon list in selected areas.

Science News Letter, April 30, 1955

MEDICINE

Less Dangerous Drug For Treating Leukemia

► A COMPOUND that may be superior to nitrogen mustard for the treatment of cancers such as leukemia and Hodgkin's disease has been synthesized at the University of California.

Experiments in mice indicate that the compound, a sulfur mustard, is less poisonous to the body system and has a more lasting effect.

The work was reported by Dr. David M. Greenberg, Berkeley biochemist, and his colleagues, Donald C. Morrison and Ethelda N. Sassenrath, to the meeting of the American Association for Cancer Research in San Francisco.

Dr. Greenberg said experiments showed that the action of the synthetic sulfur mustard against mouse tumors is parallel to that of nitrogen mustard. But it is only about one-tenth as toxic as nitrogen mustard

—it took ten times as much of the new compound to kill mice.

In addition, the sulfur mustard appears to be more stable in the body than nitrogen mustard. A disadvantage of nitrogen mustard is that it apparently is broken down chemically in the body very rapidly, giving it only short-term action. The scientists found that regressions of mouse tumors last longer with the new compound than with nitrogen mustard.

The research was financed by the American Cancer Society, the U. S. Public Health Service and the University. It is a part of a program to create and screen new compounds with cancer-fighting potential.

Science News Letter, April 30, 1955

CHEMISTRY

New Process Makes 100 Octane for Future Autos

► A NEW refining process that gives gasolines of more than 100 octane for the future's high compression auto engines has been developed by the Universal Oil Products Company.

Called Rexforming, the process is an advance over the platinum catalytic refining method now in use called Platforming. In the new process, low octane fractions are separated from the gasolines flowing from the catalyst zone and retained in the system until completely converted into high octane product. This recycling process may be repeated several times. Feed for the new process may be straight run naphthas, straight run or cracked stocks or mixtures.

The process was announced to the Western Petroleum Refiners Association in San Antonio, Tex., by Henry W. Grote, Dr. Vladimir Haensel and Melvin J. Sterba.

Summer averages for octane of motor fuels climbed last year to 85.3 for regular and 92.8 for premium, but auto engines soon to be offered to the public will require 100 octane gasoline.

Science News Letter, April 30, 1955

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