

## TECHNOLOGY

# Navy's Jet-Powered Car

► A JET-POWERED car will roar down a cement test track at the Naval Air Station at Lakehurst, N. J., at more than 200 miles per hour.

Powered by four turbo-jet engines, the car will be used by the Navy to test the strength of equipment built to stop high-speed jets as they complete making aircraft carrier landings.

The jet car has a steel tubing chassis with a skin of aluminum and rides on four aircraft tires. The jets and equipment needed to run it are housed within the car's body.

Since the advent of the jet age, the Navy has been faced with the problem of designing arresting devices to stop high-speed jet planes landing on carriers. The jet car will help solve this problem.

Basically, the arresting gear is a powerful cable stretched across the end of the track. A steel deadweight, substituting in the tests for a jet plane, has a hook in it similar to the one trailing from a landing jet plane. This hook grabs the cable with the same force as a 50,000-pound plane landing at 200 miles per hour. Both ends of the cable are connected to a giant piston that absorbs this force and is designed to stop the motion within 150 feet.

The jet car will be placed over a pair of rails running down the center of the track. The engine will be started and revved up

to the desired speed. A brake will be released and the car will rip down the track, pushing the deadweight. Just before entering the arresting area, a trigger on the track will cut the jet engine and the car's brakes will stop its movement. The steel deadweight will lunge forward, its hook engaging the arresting cable.

At present, the car's top speed is over the 200 mph mark, but experts have not ruled out the possibility of even higher speeds and further diversification of its use.

Adaptation of these jet cars to transonic and supersonic velocities appears feasible, says J. C. Terry of the Navy's Bureau of Aeronautics. The speed range is being extended to a small degree by the application of jet car techniques to aircraft carrier pilot human engineering problems.

In this application, the jet car will be arranged for live occupancy and evaluation of human tolerance of acceleration in the special cases of launchings and arrestings, he said.

The jet car and the six test tracks it will use are part of a \$23,000,000 construction program that will make the Lakehurst Naval Air Station the main Navy testing facility for aircraft launching and arresting systems.

It will be officially designated the Naval Ship Installations Test Facility.

Science News Letter, June 1, 1957

Weather Bureau warnings of its location, path and movement, based on radar tracking of the storm.

The unusual height reached by the thunderhead clouds from which the tornado funnel swooped, 52,000 feet, shows the storm's severity, Bureau experts report. Normally, the thunder clouds are considered high if they reach to 20,000 feet.

Tornadoes can occur at any hour, but they are most likely to form following the warmest hours of the day. Of all known twisters, 82% have hit between noon and midnight.

Science News Letter, June 1, 1957

## PUBLIC HEALTH

## Today's Smart Criminal Is a Medical Quack

► THE HIGHEST paid criminals working today are those who are promoting and selling medical frauds to a still gullible public.

Medical quackery in the U. S. mails is at an all time high, Postmaster General Arthur E. Summerfield reported.

So far this year, the number of cases cracked down on represent an annual loss to the public of \$50,000,000. This does not include the toll of life the fake cures may take.

Many of those who trade on the hopes of the desperately ill cannot be successfully prosecuted because the patients who are the chief witnesses die before the case is called up in court, says Chief Inspector David H. Stephens.

The most common medical frauds in order of popularity are "dietless" reducing schemes and "sure cures" for cancer, arthritis, skin trouble, baldness, and "lost manhood." Bust development devices are also on the best-seller list.

In recent years the most prevalent types of cancer cures have been devices that are supposed to contain "atomic" material or that are "electric."

The price tag on these is usually in the hundreds of dollars and, although they look impressive, their insides are just a mess of flashing light bulbs, ticks and buzzes.

Of the many bust development gadgets uncovered, one was a set of ordinary two-pound dumbbells painted a dainty blue and adorned with pink ribbons.

Among the big money makers are the cures for baldness. Concerning them, postal inspectors have noted a strange coincidence: almost all the promoters of cures for baldness are themselves quite bald.

Medical quacks are flooding homes and offices with offensive advertising but sealed first class letters are not subject to postal inspection. In these cases, Mr. Summerfield noted, the Post Office Department is limited in what it can do until the quacks are discovered and put out of business, he said.

Mr. Summerfield advised the public to report any suspected mail fraud to the postmaster or postal inspector.

Science News Letter, June 1, 1957

## METEOROLOGY

# Forecasts Have Improved

► ESTABLISHMENT of an Institute for Long-Range Weather Forecasting was recommended to the National Science Foundation by a Weather Bureau expert on the subject.

Jerome Namias, chief of the bureau's extended forecast section, called for an extensive investigation of the possibilities of predicting weather trends for several weeks or months in the future at such an Institute.

He also revealed for the first time that the IBM 701 computer at the Weather Bureau's office in Suitland, Md., had been successfully used to forecast weather for 30 days in advance. The computer is presently used routinely in making 24-hour predictions and experimentally in five-day forecasts. The regular 30-day predictions are made by a combination of physical and statistical methods.

Mr. Namias said results of the 30-day computer prediction were "extremely encouraging." To foretell weather trends for periods longer than 30 days, he said, surface conditions would probably have to be taken into account.

An early snow cover over a large area, he explained, has been found to influence

weather patterns, as has the slower warming in the spring of oceans compared to land areas. Such climate factors and geographical features are not now considered in 30-day and shorter forecasts.

Experimentally, Mr. Namias said, the Weather Bureau was predicting 30 days in advance the chances a particular area would be hit by tornadoes or by hurricanes, that is, its vulnerability to severe storms. These forecasts would be to alert weathermen in such areas, probably not for general distribution.

Certain large-scale weather patterns seem to be almost always required before tornadoes are born. One pattern is a circulation that tends to bring cold air in from the Pacific or down from Canada until it clashes with warm moist air flowing up from the Gulf of Mexico.

Improved reporting of tornadoes is probably the reason why the total number of tornadoes for 1957 puts this year slightly ahead of 1956 and 1955. The total so far through May is 411, compared with 392 in the other years.

The twister that roared through eastern Kansas and Kansas City would have taken many more lives except for frequent