

## FORESTRY

## Millions of New Trees Planted for Future Wood

► MILLIONS OF new trees are being planted by farmers in this country to meet the future wood needs of the nation.

As a defense project of the U. S. Department of Agriculture's Extension Service, Georgia alone is planting 100,000,000 trees a year for the next five years.

Aim of the national project, in which 43 states and one territory cooperated during the past year, is to help meet the demand for building materials and other wood products needed for defense.

The official report of the project, by Dr. M. L. Wilson, director of the Extension Service, states that farmers own nearly half of the nation's 184 million acres of privately owned forest lands. Of these acres, 139 million are suitable for growing continuous crops of timber.

Water as well as wood will be conserved by the proper handling of these forests, because many of the farm woodlands are on important watersheds.

The Georgia tree planting is being carried on with the cooperation of a banking organization. As a result, 100 local banks made possible the purchase of 150 tree-planting machines which are available to farmers free of charge.

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## MEDICINE

## Three Tropical Diseases Attacked by Penicillin

► THREE DISEASE scourges of tropical countries which disfigure, cripple and even mutilate millions of victims can be practically wiped out by penicillin.

The diseases are bejel, which afflicts children and women chiefly among Arabs and Bedouins in the East, yaws, and pinta, the spotted disease of the Western Hemisphere.

Penicillin conquest of these plagues was declared possible in reports to the New York Academy of Sciences.

"Bejel can be controlled and virtually eliminated within a few years by a program of small medical teams, using only penicillin and circulating along definite routes, traversed again at intervals," Dr. E. Herndon Hudson of Ohio University, Athens, Ohio, stated. His report was based on good results of such work carried on in Iraq under the auspices of the World Health Organization, UNICEF and the Iraq Government.

Yaws can now be "cured" in a short period of time and at a low cost, Dr. Charles R. Rein of New York University-Post Graduate Medical School declared.

"There is no reason why millions of people throughout the world," he stated, "should be affected with this crippling and

disfiguring non-venereal treponemal disease."

Good results of treatment with a penicillin preparation of Mexican Indian peasants with pinta were reported by Dr. D. K. Kitchen of Bristol Laboratories, Inc., New York. Pinta spots the skin white, brown, blue, yellow or violet. The disease probably existed among the Aztecs at the time of the Spanish Conquest. But, declared Dr. Kitchen, with penicillin, "eradication of this disfiguring and stigmatizing disease now looms as a distinct possibility."

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## ASTRONOMY

## First Comet of Year Discovered in Sky Survey

► THERE IS a new comet in the sky—the first to be discovered this year.

Named the Harrington-Wilson comet, the recently-found visitor from space is of fifteenth magnitude, too faint to be seen without a powerful telescope. The object was located on Jan. 30 in the constellation of Virgo, the virgin, and was moving toward the constellation Coma Berenices, Berenice's hair, both of which are now low in the northeastern sky.

Dr. Albert G. Wilson and Robert G. Harrington, of both the California Institute of Technology and Mt. Wilson and Palomar Observatories, spotted the diffuse object on a plate taken as part of the sky survey being conducted by Palomar Observatory and the National Geographic Society. That region of the sky where the comet is now located contains quite a few nebulae. The comet is fairly close to the ecliptic, the apparent path of the sun through the sky.

The same astronomical team discovered another faint comet last August in the constellation of Ophiuchus, the serpent holder.

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## INVENTION

## 24-Hour Alarm Clock Eliminates Tardiness Excuse

► YOU WILL no longer have the excuse that you forgot to set the alarm if a 24-hour alarm clock just patented comes into general use. It was invented by Herman D. Parks, Schenectady, N. Y., and given patent number 2,583,794. Rights were assigned to the General Electric Company.

According to the patent, if you set your alarm for seven a. m., and then turn it off, it will automatically ring again 24 hours later. But, it will not ring at seven p. m. This is accomplished with a 12-hour alarm cam giving the clock the simplicity of a 12-hour alarm. At seven p. m., the alarm mechanism, instead of setting off the bell, merely turns the alarm on so it will be ready to ring the next morning.

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# IN SCIENCE

## PHYSICS

## Tricks for Reuniting Thermometer's Mercury

► IF THE mercury in your thermometer or thermostat casing separates, try one of the following tricks before sending it back to the factory. They are usually effective in reuniting the mercury, says Robert Soroka, engineer for the Minneapolis-Honeywell Regulator Company, Minneapolis, Minn.

First, tap the case or thermometer in the palm of your hand, bulb down. If this doesn't work, try centrifugal force by attaching a stout string to the thermometer and swinging it in a circle around your head. Finally, there is the refrigeration technique. All this involves is placing the thermometer or thermostat casing in the freezing compartment of a refrigerator where the cold will draw the liquid down into the bulb.

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## TECHNOLOGY

## Exploding Atoms Aid Making New Lubricants

► EXPLODING ATOMS manufactured in the AEC's Oak Ridge atomic reactor are being used by the Shell Development Co. laboratories in Emeryville, Calif., to measure the effectiveness of new lubricants for tomorrow's machinery and automobiles.

Machinery gears are given wear tests with different kinds of oils. One of the gears is radioactive. The amount of wear is accurately measured by picking up the radioactivity of microscopic particles in the oil stream with a Geiger counter.

The "hot" gear is made radioactive by being bombarded with neutrons in the Oak Ridge, Tenn., pile and rushed back to the California laboratory for testing.

The "cold" gear is tested by placing it on ordinary photographic film. If an exposure shows on the film, the Shell Oil scientists know that metal from the other gear has been transferred and the lubricating oil has failed to do its job effectively.

Before the new radioactive method was used wear testing was slow and tedious since every gear had to be weighed carefully and examined microscopically, before and after testing a lubricant with it. The radioactive method is more accurate as well as faster.

M. E. Spaght, president of Shell Development Co., predicted that new lubricants for high pressure and high speed machinery will be developed through use of the new gear testing method.

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# CE FIELDS

## MEDICINE

### "Bang" Chemical Helps Heart Disease Patients

► PETN, the chemical that puts the "bang" in the bazooka's tank-killing rocket projectiles, is helping patients with heart disease, angina pectoris.

Patients have fewer attacks and considerably less pain when attacks occur as a result of treatment with this chemical, doctors in New York and California report.

Chemically, PETN is known as pentaerythritol. As a drug, it is called Peritrate. It does not replace nitroglycerin for relief in angina attacks, but patients taking this new explosive drug need less nitroglycerin.

Physicians reporting clinical trials with it in the medical publication, *JOURNAL OF ANGIOLOGY*, are: Drs. Travis Winsor and Patrick Humphreys of the University of Southern California, Dr. Abraham Perlman of New York Medical College and Drs. Saul S. Samuels and Elias D. Padernacht of the Stuyvesant Polytechnic Hospital, New York.

The drug is manufactured by the Chilcott Laboratories, Morris Plains, N. J.

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## METALLURGY

### Copper-Clad Steel Helps Copper Shortage

► PRESENT AND future shortages of copper may be relieved with a new copper-clad steel which can be made, unlike earlier types, in large sheets and plates.

The process was developed by W. L. Ulmer of the Superior Flux and Manufacturing Company, Cleveland. It is made possible by the use of a highly volatile liquid flux, which vaporizes when used, to counteract the oxides that form when steel is heated.

The process of making this bi-metal, in which the copper is inseparably bonded to the steel, starts with thick slabs of steel on which molten copper or copper alloy is cast. The bi-metal slab is then rolled into commercial sheets, plates and strips. The product combines the corrosion resistance of copper with the strength of steel and can be drawn or rolled without danger of separation of the two metals. Sheets 80% steel and 20% copper can be produced. Any percentage of copper or brass to steel can be produced from 10% up.

Copper-clad steel has been made by several processes during the past years but these processes have not provided copper-clad steel in large sheets and plates where the demand mainly exists, Mr. Ulmer

states. A copper-clad wire, however, has been successfully made for several years.

Most metallurgists believe that in order to form an inseparable bond between two dissimilar metals, there must be a casting or pouring of molten copper on to heated steel, he said. This results in an actual fusion and alloying of the two metals.

In carrying out this process of fusion, a flux must be used to counteract the oxides which form when steel is heated. Flux in solid form is not satisfactory. In the new process, Mr. Ulmer uses a highly volatile liquid flux which he invented. Its trade name is "Gasflux." This liquid flux vaporizes when used.

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## DENDROLOGY

### Mangrove Trees Plunge Seedlings Straight into Mud

► MANGROVE TREES actually do plant most of their seedlings vertically in the mud, thus giving the young trees a good chance at healthy growth.

Studies by Dr. Carl D. La Rue and Thomas J. Muzik of the University of Michigan at Ann Arbor and the Federal Experiment Station at Mayaguez in Puerto Rico have confirmed the disputed theory of how young mangrove trees get started on their own.

They surveyed three areas of a typical mangrove swamp to find out whether the old story was true. About 95% of the young seedlings, after growing to about 14 inches on the mother tree's fruit, are dropped vertically into the ground. The scientists' survey showed, however, that some seedlings fall flat in the mud. These, when floated away, are the most important means of spreading mangrove trees to distant sites.

Mangroves develop many prop roots in the air, and these, after a time, form a mass that cannot be penetrated. The trees are thus active land builders.

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## MEDICINE

### 1000 Patients Helping Cancer Education

► ONE THOUSAND patients in cancer clinics and detection centers throughout New York State are helping scientists of Cornell University, Ithaca, N. Y., learn why some patients go promptly to cancer detection centers and why others delay going.

They are also telling the scientists how they feel about doctors, clinics and disease, what they know about cancer and where they got the information.

The findings of the study, being made by Profs. Edward A. Suchman and Robin M. Williams, Jr. and Mrs. Rose K. Goldsen will be made available to the New York State Department of Health for use in cancer control through education.

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## BIOCHEMISTRY

### New Synthesis Gives More Compound F for Arthritis

► MORE THAN twice as much Compound F may soon be available for trial as an arthritis remedy, thanks to a new synthetic method announced by Miss Rose Antonucci and associates of Lederle Laboratories at an American Chemical Society meeting in New York.

Compound F, also called Hydrocortisone, is an adrenal gland hormone related to cortisone. It is believed to be the principal hormone of the adrenal gland cortex and some scientists think it may be even more effective than cortisone in arthritis. Scarcity of the chemical has so far limited trials of it.

Several methods of synthesizing Compound F have been developed. Among these is one worked out by scientists at Merck and Co. in which cortisone is converted to Compound F. The process involves protecting two of the carbonyl groups. Merck scientists did this with semicarbazide and reported a yield of about 8%. The Lederle method uses ethylene glycol and yields about 20% of Compound F. The Lederle method is also said to be "much cleaner and easier."

Besides Miss Antonucci, the Lederle team consists of Robert Lenhard, Ruddy Littell, Dr. Seymour Bernstein, Dr. Milton Heller and Dr. J. H. Williams, Lederle's director of research.

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## INVENTION

### Color TV Improvement Aims Electrons Correctly

► AN IMPROVEMENT to an RCA color television tube which more correctly aims the electrons at the TV screen, received patent number 2,584,814. It was invented by Milton Rosenberg, Trenton, N. J., and Jan A. Rajchman, Princeton, N. J., and assigned to the Radio Corporation of America.

On a color TV screen, the inventors explain, the dots, which translate the electrons into light, are subdivided into parts which are sensitive to the colors, red, green or blue. It is important that electrons intended to light up the red part of a dot, exactly hit that part. This is called "registry."

To obtain registry, a screen is placed between the electron source and the picture screen. This screen has many fine apertures in it which are lined up with the dots.

This particular invention adds to that arrangement a group of closely-spaced, parallel, multi-apertured electrodes, mounted between the electron gun and the screen. This, the inventors say, assures that each different color signal controls all light emissions of one color and none of any other color.

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