

The Weather
 Mostly sunny, hot and humid today. Low, 65; high, 90.
 Weather Detail on Page 13

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Around the World in 90 Minutes

U.S. PLANS SPACE SATELLITES

Would Be Size Of Basketballs, Make Records

Details of Objects Not Completed, But Government Scientists Say First One May Be Launched in 1958

WASHINGTON, July 29 (AP) — President Eisenhower disclosed today that the United States plans to launch history's first man-made, earth-circling satellites by the end of 1958.

Still not perfected, the satellites are envisaged by government scientists as small globes, about the size of basketballs. They would be launched by rockets and circle the earth once every 90 minutes at a speed of 18,000 miles per hour and a height of 200 or 300 miles.

They are expected to remain aloft for days and perhaps weeks, then spiral back down and disintegrate as they hit heavier atmosphere.

In announcing that President Eisenhower has approved the satellite project, Presidential Press Secretary James C. Hagerty emphasized that it is for "entirely scientific purposes."

Scientists of all nations, including Russia, he said, will be able to observe the space objects and will receive all the scientific facts developed from the program.

Some members of Congress immediately objected to cutting Russia in on grounds it might provide the Soviets with valuable information for the race to develop intercontinental guided missiles.

Some applauded the project. Others called it fantastic and said it challenges the imagination.

The satellites won't be in the nature of much-discussed space platforms that might be used for both scientific and military purposes. But they are expected to provide information of practical value to mankind — information, for example, that might lead to improved weather

and cosmic rays from outer space, as well as meteorites.

May Add to Knowledge
 If they can get a better understanding of solar radiation, by

Read an editorial, "Birds in the Sky," Page 6.
 Other stories on Page 2.

use of the satellites, they may be able to relate it to weather and climate. Radiations from the sun disturb radio communications, and greater knowledge of them may lead to corrective measures.

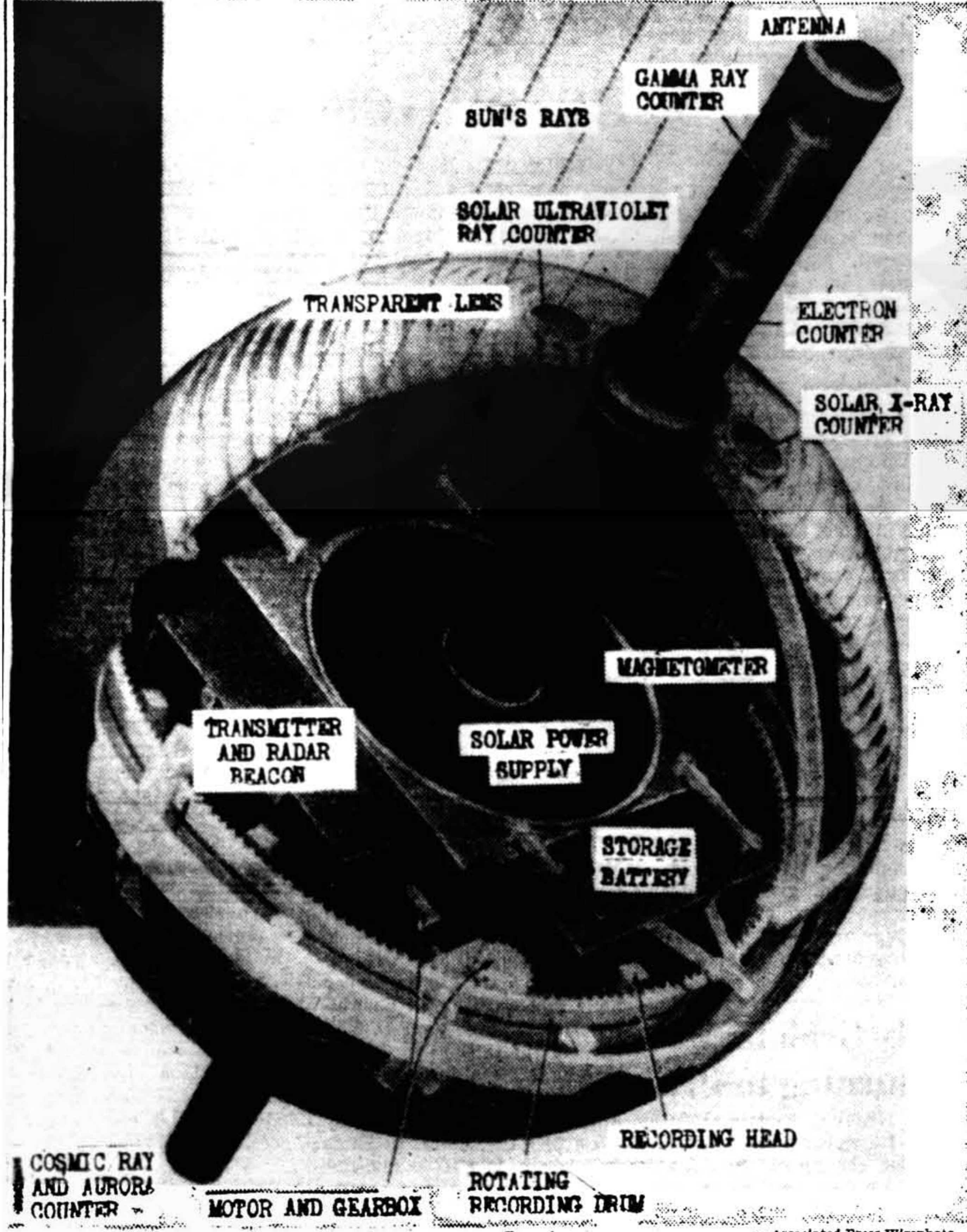
The big experiment may supply facts that will be helpful eventually in turning into reality the space travel yarns of science fiction.

The sponsors of the project, the National Science Foundation and the National Academy of Sciences, said in a joint statement that observations of the satellites will "indicate the conditions that would have to be met and the difficulties that would have to be overcome if the day comes when man goes beyond the earth's atmosphere in his travels."

Part of Event
 The satellite program is planned as part of this country's participation in the International Geophysical Year, from July, 1957, to December, 1958. Some 40 other nations, Russia among them, also will take part then in world-wide studies of the earth sciences.

(Continued on Page 2, Col. 2)

Cutaway Drawing of One Satellite Idea



100 POUNDS—This is an artist's conception of a cutaway view for an earth satellite as proposed by a University of Maryland physicist, Professor S. F. Singer. The aluminum sphere would weigh about 100 pounds, with most of the weight consisting of scientific instruments. Dr. Singer is in Copenhagen with International Aeronautical Federation.

'Flying Saucers' Not Satellites

WASHINGTON, July 29 (AP)—Don't blame the satellite program for the "flying saucer" rumors that have cropped up in the past.

Officials were asked today whether satellite experiments could have given rise to the saucer reports. They replied that since no satellites have been launched they couldn't be the "flying saucers."

Government experts have said that the great majority of flying saucer "sightings" arise out of optical illusions (about 90 per cent of them), with jet aircraft and guided missile tests presumably accounting for most of the remainder.

forecasting and improved radio transmission.

Scientists taking part in the program said that little is known about the regions beyond the earth's close-down denser atmospheric layers, which act as a partial shield against light, ultra-violet rays

Chief Figures at Announcement of Plans to Launch Satellite



TOP MEN—Five scientists and White House Press Secretary James Hagerty pose at the conference yesterday announcing President Eisenhower's approval of plans for the building and launching of the world's first man-made satellite. Left to right, seated, are Dr. Alan T. Waterman, Hagerty, Dr. S. Douglas Cornell and Dr. Alan Shapley. Standing, left to right, are Dr. J. Wallace Joyce and Dr. Athelstan F. Spilhaus. The first satellite is expected to be launched in two years.

Maryland U. Scientist Has Proposed Same Plan for Years

Satellites Old Stuff to One Physicist

BALTIMORE, July 29 (AP)—The type of earth satellite President Eisenhower said the United States plans to launch for scientific purposes matches in detail proposals of a University of Maryland physicist.

S. Fred Singer for the past several years has contended a small floating laboratory could be put in motion over the earth for "two-thirds of the cost of one big Air Force bomber."

Singer had estimated his "Minimum Orbital Unmanned Satellite of the Earth (MOUSE)" could be launched for from one to ten million dollars, including the cost of launching sites.

Has Presented Papers

He has presented papers on the satellite to meetings of the American Rocket Society.

Singer's MOUSE would be a three-stage affair, using one of the captured V-2 German rockets with modifications for the initial blast.

The V-2 would hoist the MOUSE and the other two rockets to an altitude of 50 miles before expiring. The second rocket would increase the speed of the remaining assembly to 12,600 miles per hour and level off at an altitude of about 200 miles. The blast of the third rocket would simply accelerate the speed of the MOUSE to about 17,280 miles per hour.

The MOUSE, itself, as Singer visualizes it, is a 100-pound metallic cylinder revolving about a central antenna protruding at each end.

After the last rocket dropped away, the MOUSE would go spinning around the earth, its

orbit gradually tightening due to the force of gravity.

Within two or three weeks it would drop low enough into the earth's atmosphere to be burned to a cinder by speed and friction.

Meanwhile, however, delicate instruments would be reaping a harvest of scientific knowledge.

Airplanes patrolling in the polar regions would fire radio signals at the spinning MOUSE as it completed an orbit of the earth every 90 minutes.

The radio signals would trigger a tiny transmitter, which through the use of magnetized tape, would compress the instrument findings of 45 minutes into 30 second broadcasts.

Equipment on the planes would receive the broadcasts.

Makes Predictions

Here are some of the things Singer feels such a floating laboratory might accomplish:

Light reflected from the earth could be measured to give a picture of total cloud coverage, leading to long range weather forecasts for as much as an entire season.

Magnetic storms, strange periods of activity on earth, could be traced to their source in the sun. Any information developed from this source might help solve serious communication disturbances which have puzzled radio and telephone engineers.

Cosmic Ray Study

The question of the origin of cosmic rays might be made clearer through instrument observation. Since scientists feel a systematic study of cosmic

days might lead to a better understanding of the nature of nuclear forces, the possibilities in this field, alone, are tremendous, according to Singer.

Equally important, says Singer, such a project could "pave the way for flight into interplanetary space."

Space Idea 'Old Hat' To Penn State Prof

UNIVERSITY PARK, Pa., July 29 (AP)—President Eisenhower's announcement that the United States plans to launch man-made, earth-circling satellites by the end of 1958 today came as "old hat" to a professor at Pennsylvania State University.

"This announcement undoubtedly seems like something pretty fantastic to the average layman but to a person who has worked in the field it comes as what you might call 'old hat,'" said Dr. Harold Hipsh, head of the school of aeronautical engineering.

"Had the President announced that the United States will send an expedition to the moon, I could really get excited, because I feel that is about 25 or 50 years away," Dr. Hipsh added.

"However, this launching is something that should be considered a big step toward man's eventually getting into outer space," he said.

Satellite Could Be Seen On Earth With Naked Eye

Scientist Says Man-Made Space Object Would Be Illuminated by Sun

WASHINGTON, July 29 (AP)—If the Government gets a basketball-sized satellite to circling the earth, you will be able to see it.

"You would perhaps barely see it at twilight with the naked eye—certainly you could see it with binoculars," Dr. Athelstan F. Spilhaus said.

As is the moon, the satellite would be illuminated by the sun. Dr. Spilhaus is a member of the United States National Committee for the International Geophysical Year.

Chorus of 'Yes'

He and other scientists at the White House news conference for the announcement of the planned satellites answered with a chorus of "Yes" when a reporter asked if the announcement meant "we are capable of putting up the satellite."

Dr. Alan T. Waterman, director of the National Science Foundation, said the significance of the announcement is twofold:

- "1. We regard this as feasible.
- "2. We can put a time schedule on it—1957-58."

Could Be Tracked

The scientists said the satellite could be tracked by telescopes, and by some radio means if it can be packed with equipment.

Dr. Waterman indicated that probably the main reliance will be on use of telescopes by the world's scientists.

A satellite, he said, should stay up for days, "perhaps, if we are lucky, for weeks."

Around the World in 90 Minutes

U. S. Reveals Plan to Launch Satellites

(Continued from Page 1)

It was in response to a resolution by the Special Committee for the International Geophysical Year, recommending that thought be given to "the launching of small satellite vehicles," that the United States decided to go ahead with the satellite program.

Joseph Kaplan, chairman of the United States Committee for the Geophysical Year, cabled Sydney Chapman, president of the Special International Committee, in Brussels, Belgium, last Wednesday that this country now has "definite plans for the launching of a small satellite during the International Geophysical Year."

Details Uncertain

What the satellites will look like, what they will be made of, whether they can carry instruments, where they will be launched—those are some of the details government scientists said must be worked out in the months ahead.

Even the cost of the program is uncertain. Dr. Alan T. Waterman, director of the National Science Foundation, told reporters the "preliminary, rough estimate is something on the order of 10 million dollars." He indicated the project would be financed with funds already authorized for United States participation in the International Geophysical Year.

Today's announcement, Dr. Waterman said, has a dual significance:

- "1. We regard the project as feasible.
- "2. We can put a time schedule on it—1957-58."

Confidence Supported

Waterman said exploratory work with rockets, which have reached a height of 250 miles, supports the confidence that satellites not yet fully blue-printed can be launched by the end of 1958.

"We know how much energy it takes, the power required to do it," he said.

Unlike rockets, which go straight up and come straight down, the satellites would be pushed to the necessary height by rockets, then would require a side thrust to get them up to 18,000 miles an hour and start them on their orbits around the earth.

That speed is considered necessary to offset the pull of gravity from the earth. Too much speed, something on the order of 25,000 miles per hour, would keep them going into space.

Low Resistance

Because of low resistance in the rarified upper atmosphere, nothing as great as nuclear power is expected to be needed to supply the side thrust.

Dr. Athelstan F. Spilhaus, a member of the United States Committee for the Geophysical Year, said a satellite may or may not carry instruments, but even if it can't a lot of valuable information can be obtained on such matters as the density of the upper atmosphere.

In Brussels, the executive secretary of the Geophysical Year International Committee, Professor Marcel Nicolet, told a news conference a United States satellite will carry 100 pounds of scientific instruments. He said a rocket of the German V-2 type will carry the satellite to about 14 miles, then a smaller one will take over.

Based on Letter

Nicolet said this information was based on a letter from the United States Geophysical Year Committee.

Here in Washington, Hagerty told a special news conference, attended by officials of the National Science Foundation and National Academy of Sciences, that President Eisenhower had not discussed the satellite pro-

gram with the Russians at the Geneva conference last week. He said there was no reason to, since Russia belongs to the Geophysical Year organization.

Radio Moscow said several months ago that the Russians have set up a commission to send out a satellite of their own.

Reports have been filtering into this country from assorted sources that the Russians have stepped up this program.

Powerful Red Engine

The Soviets reportedly have developed a powerful rocket engine with 260,000 pounds of thrust at sea level. That is five times as much as the Germans produced for the first stratosphere V-2 rockets with which they struck England in World War II.

This country has been looking into the possibility of perfecting satellites for at least nine years. The first inkling of the explorations came in a 1951 trial at which David Greenglass testified he slipped Russian agents atomic secrets and information on a "sky platform" obtained in 1947.

Then in 1949, a routine annual report by the late Secretary of Defense James Forrestal contained a single unexplained phrase saying his department was conducting "earth satellite studies."

Today, Hagerty passed word he would have an announcement of importance this afternoon. Word of what it would deal with quickly leaked out in Congress and at various press rooms around town.

Ike Okayed Plans

For the official, historic announcement, half a hundred reporters and photographers crammed into the reception room of President Eisenhower's office. The doors were closed, a rule laid down ahead of time

that nobody could leave early, and Hagerty introduced the six officials of the National Science Foundation and the National Academy of Sciences flanking him.

"On behalf of the President," Hagerty said, "I am now announcing that the President has approved plans by this country for going ahead with the launching of small, unmanned, earth-circling satellites as part of the United States participation in the International Geophysical Year, which takes place between July, 1957, and December, 1958."

"This program will for the first time in history enable scientists throughout the world to make sustained observations in the regions beyond the earth's atmosphere. "The President expressed personal gratification that the American program will provide the scientists of all nations with an important and unique opportunity for the advancement of science."

Dr. S. Douglas Cornell, executive officer of the academy, said that "observations will be passed all around the earth, to every nation." Each nation, he said, will be informed of the orbits and the frequency on which the satellites will broadcast, if it is possible to equip them to do so.

Possibly, he said, they will be able to listen to signals that will tell the brightness of the sun in upper space, the intensity of ultra-violet and cosmic rays, and the density of the atmosphere.

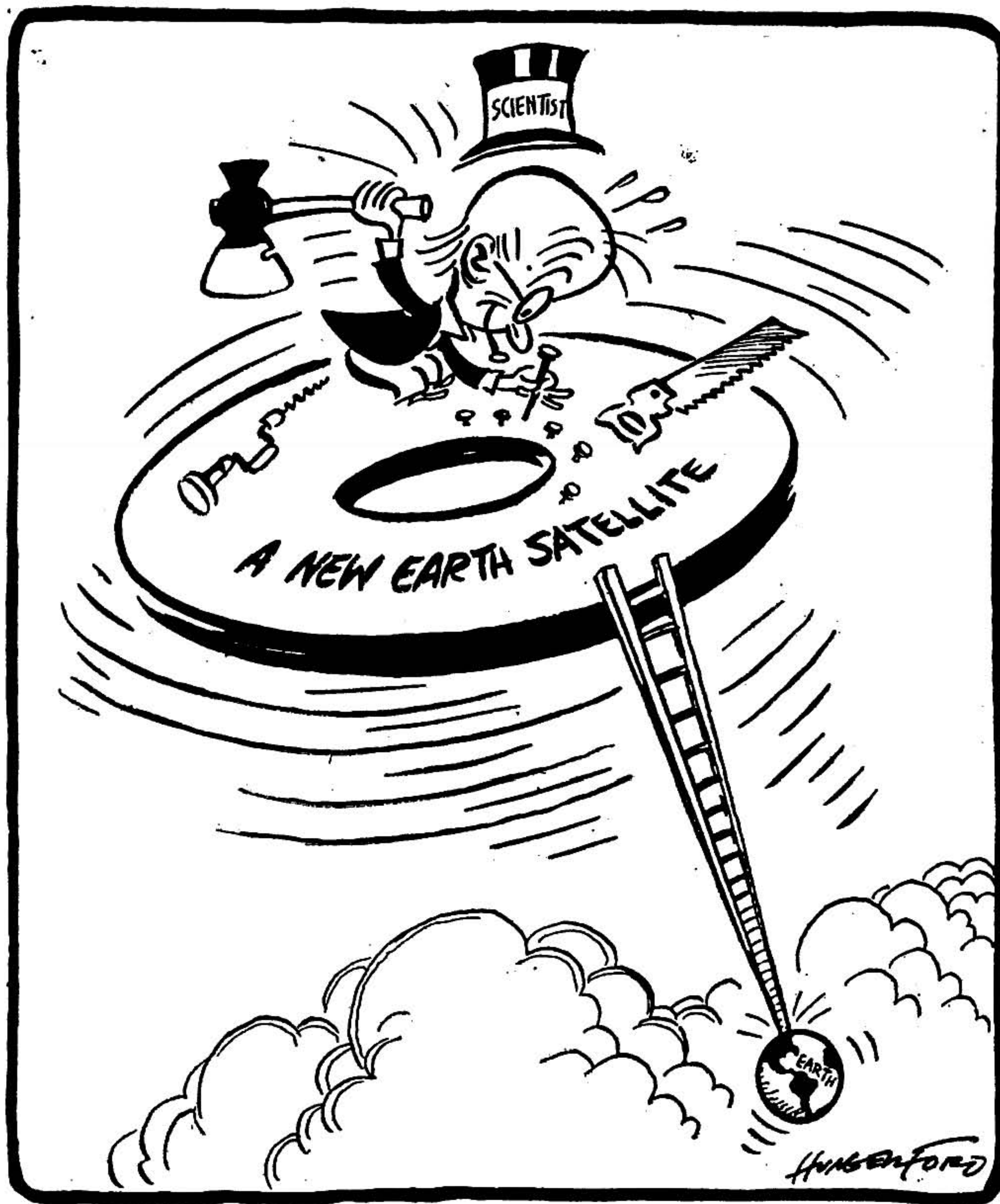
While the military has been working on satellites, Hagerty and the official announcement emphasized that on the present project the Defense Department will provide only technical advice and the equipment and facilities for satellite launching.

'Birds' in the Sky

SCIENCE FICTION writers will have a field day with the news that the United States hopes to launch, some time before 1959, a number of tiny satellites to whirl about the Earth. These satellites won't be the space platforms that have been hopefully and fearfully talked about: platforms that could serve as gun mounts and radar posts to dominate nations on Earth, or as way stations for rocket flights to the Moon and beyond. Rather, these satellites are to serve as tools for science.

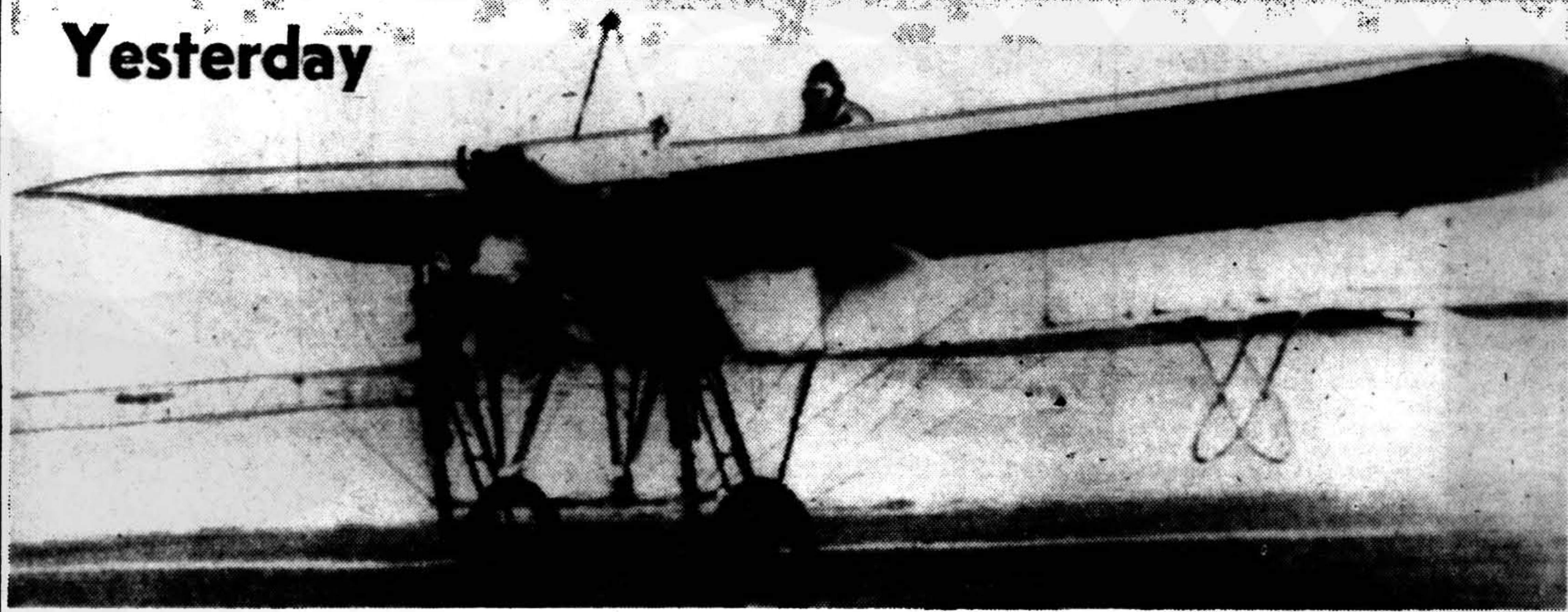
They are to be about the size of basketballs. Rocket-fired and set free to drift about the Earth, they can carry instruments to record and send back data about such space phenomena as the ionosphere, cosmic rays, sun conditions, weather factors, and heaven-knows-what. The basketball moons — which scientists call "birds"—will serve all nations, both as objects for astronomical sighting and as collectors of information. Their lives will be short: after a few weeks at best the Earth's gravity would so drag down their free whirl as to pull them to destruction in the Earth's atmosphere.

Some years ago, E. B. White wrote a piece for the *New Yorker* magazine about two soldiers on a space platform who went whacky and turned their super-cannon on the Earth. That was the end of Earth. We're a long way from that terrifying possibility. But, what with the "bird" development, not quite long enough away for peace of mind.



Man's Conquest of Space

Yesterday



REPLICA— French pilot Jean Selis lands a replica of the light plane used by Louis Bleriot in 1909 to complete re-enact-

ment of the first airplane flight across the English Channel. Selis completed the 21-mile flight from Calais, France, to Dover, England. He had original-

ly planned to make the flight on Monday — July 25 — the actual anniversary of Bleriot's historic flight, but he was delayed by weather conditions.

Today



SEA DART— The Navy's XF2Y Sea Dart jet fighter plane, which usually takes off from San Diego Bay on two skis,

balances like a human skier on one foot as it takes off, using only one ski during a test. This plane has been fitted with a single ski as part of the Convair

Aircraft Company's testing program, which has been under way for months. The Sea Darts, first jet seaplane built, have exceeded the speed of sound.

Tomorrow?



MODEL— This is an artist's conception of a space station outlined by University of Maryland physicist, Professor S.

F. Singer, who called his idea the "mouse," meaning minimum orbital unmanned satellite of the earth. It would weigh about 100 pounds.



PATH— This drawing from Popular Mechanics magazine illustrates how an artificial earth satellite might circle the earth

over the North and South poles every 90 minutes — similar to the project envisioned in yesterday's announcement made by the White House.