

ASTRONOMY

Fair Project Patented

► THE SCIENCE FAIR PROJECT of a teen-aged National Science-Fair International finalist has been granted a patent, No. 2,948,189, under the title of "Reflecting Telescope With Interchangeable Optical Systems."

The young inventor, Robert E. Fischer of Forest Hills, N. Y., said, "My invention was conceived entirely as a result of my entry in the School Science Fair sponsored by the American Institute of the City of New York."

This fair is one of some 200 regional, state and nation-wide, and area science fairs affiliated with the National Science Fair-International, conducted by SCIENCE SERVICE.

Last year, when Bob was 15 years old, he designed and built the telescope and the interchangeable optical systems that allow automatic and very fast photography of heavenly bodies.

Because the rotation of the earth moves objects out of the field of vision before a sighting can be made and the camera put in place on a telescope, complicated clock mechanisms previously were necessary for successful astrophotography. Bob's invention is designed specifically to solve such problems. At the desired instant, the diagonal of the telescope is shifted 90 degrees,

immediately tripping the shutter of the attached camera.

A spectroscope, camera or optical system may be easily positioned on the reflecting telescope. All parts are detachable and can be interchanged rapidly and conveniently.

The telescope won top honors at the American Institute's School Science Fair-Borough of Queens, where the inventor was selected as a finalist to the Tenth National Science Fair-International in 1959. At the national event Bob's project earned him a Fourth Award and designation as a national Navy Science Cruiser, Air Force winner in Air Exploration and Honorable Mention of the Instrument Society of America.

This year Bob again was named a finalist to the National Science Fair-International for his project "Electronic Astronomical Spectrum Analyzer," which uses a spectroscope mounted on a telescope and a photomultiplier to magnify the spectrum one million times. The magnification is electronically recorded on an oscilloscope, providing immediate scanning. Bob now has applied for a patent on this analyzer.

He is spending the summer at the optical division of Hayden Planetarium at the American Museum of Natural History in New York, where he is working on his next science fair project designed to produce instantaneous spectra of stars.

• Science News Letter, 78:116 August 20, 1960

PHYSICS

Politics Stopped Test Ban

► POLITICS, not science, is behind the recent Soviet rejections of Western proposals for control plans for a workable nuclear test ban agreement, Secretary of State Christian A. Herter believes.

"Their rejections have not been on scientific grounds at all. They have been on purely political grounds," he said.

Secretary Herter noted that at a meeting of the scientist representatives of Britain, the Soviet Union and the United States last May in Geneva, "a complete accord" had been reached on a plan for a coordinated test series for control purposes.

"That accord," he said, "while it was never reduced to any more than a recommendation to the Commission, was completely kicked overboard by the Soviets on political grounds and they said . . . that the agreement of the scientists had no standing whatsoever."

Secretary Herter said he was "hopeful" that an agreement with the Russians might be reached in this area, despite discouraging obstacles. He told a news conference that the U. S. is "considering certain alternatives that might be offered" the Soviets so that a control test series essential to any agreement could be carried on.

Among these alternatives is a request to Congress from the Administration to declassify certain information now secret under the Atomic Energy Act of 1954 and

make it available to the Russians so that they may agree to a series of underground atomic tests to improve seismic detection and control.

Herbert Klein, press secretary for Vice President Nixon, was asked how the Vice President would view such a request.

He said, "The Vice President makes it a policy not to comment on any matters that may be a part of important international negotiations currently pursued."

Sen. John F. Kennedy, Democratic Presidential nominee, could not be reached for comment.

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PHYSICS

Atomic Blast Wave Can Be Made in Cone

► A SMALL CHARGE detonated in a cone-shaped shock tube can produce blast waves as powerful as those generated by the atomic bomb dropped over Hiroshima, a scientist at the Naval Ordnance Laboratory, White Oak, Md., has found.

The conical shock tube method enables physicists to study the effects of blast waves under laboratory conditions without having to work in remote areas. It was developed by William S. Filler, an NOL physicist.

When a small charge is fired in the tip of a cone, the blast waves it generates represent a small part of the spherical shock waves generated when a much larger charge is fired in the open.

Experimental results of tests so far made show that blast waves equivalent in magnitude to those from atomic weapons are possible with the cone-shaped tubes. To simulate the equivalent of the Hiroshima atomic bomb would require detonating a 1,000-pound charge of TNT in a cone 2,000 feet long, having an angle at the tip of one-half degree.

Probably the most important advantage of the cone method, Mr. Filler reported, is that "the experimental problems of studying high explosive blasts in a variety of fluid media are expected to be drastically simplified in future studies with the cones."

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