

New Concept in Metallic Crystal Structure"; Amory Bloch Lovins, 16, Amherst Regional H.S., Amherst, Mass., for "A New Nuclear Magnetic Interaction"; David L. Abel, 17, Northwestern Sr. H.S., Hyattsville, Md., for "*Plasmodium berghei*: p-aminobenzoate"; Rudy Steve Spraycar, 16, Anaconda Sr. H.S., Anaconda, Mont., for "Tracer Studies of Nutrient Utilization by *Fungi imperfecti*"; Ronald DeWayne Jones, 18, Welch H.S., Welch, Okla., for "Micro-meteoroid Erosion and Spacecraft Materials"; Preston W. Cook, Jr., 16, Dartmouth H.S., North Dartmouth, Mass., for "Constructional and Operational Problems of High Speed Displacement Hulls"; David Edward Kieras, 16, Central H.S., San Angelo, Texas, for "A Machine Which Duplicates the Learning Process"; Donald Willis Tubbs, 16, North Thurston H.S., Lacey, Wash., for "Effects of High 'G' on Living Things"; John F. Schultz, Jr., 15, Burges H.S., El Paso, Texas, for "Spark Chamber Construction and Operation."

THE U. S. AIR FORCE awarded plaques, expenses-paid trips to USAF research facilities and salaried summer jobs at research laboratories in the fields of their individual interests to ten finalists. USAF winners and alternates to their awards were: in Aerospace Biological Sciences, Arthur Edward Frankel, 16, Stephen F. Austin H.S., Austin, Texas, for "Biochemical and Physiological Analysis of the Hemoglobin in *Daphnia magna Strauss*" (Alternate: Robert James Brock, 17, Fort Worth, Texas); in Aerospace Chemistry, David A. Shannon, 17, Choteau H.S., Choteau, Mont., for "Chemical Analysis by Infrared Spectrophotometry" (Alternate: Eugenia Ozier, 17, Greenwood, Miss.); in Aerospace Dynamics, Laidacker M. Seaberg, 17, Forest Park H.S., Beaumont, Texas, for "Design of Autogyros" (Alternate: Patricia Anita Titsworth, 16, Cookeville, Tenn.); in Aerospace Electronics and Communications, H. Grady Rylander III, 16, Austin H.S., Austin, Texas, for "Simultaneous Oscillations in Negative Resistance Devices" (Tied for Alternate: Thomas M. McGahee, 17, Melbourne, Fla., and Robert George Spencer, 17, Soquel, Calif.); in Aerospace Environmental Sciences, David Aaron Matthews, 18, Anacostia H.S., Washington, D. C., for "Extratropical Cyclones" (Alternate: Alan Emerson Wittbecker, 17, Waynesboro, Va.); in Aerospace Medicine, Stephen Hayward Sinclair, 18, North Phoenix H.S., Phoenix, Ariz., for "Hibernation vs. Hypothermia" (Alternate: John McLean Shearman, 16, Lovington, N. Mex.); in Aerospace Physics, Kevin J. Glading, 16, Albany H.S., Albany, Calif., for "Nuclear Quadrupole Resonance Effects" (Alternate: Thomas Abbott Girard, 16, Monterey, Calif.); in Aerospace Physiological and Social Sciences, Sharon Ann Fair, 17, Sandia H.S., Albuquerque, N. Mex., for "Sleep—A Habit? Rest—Necessary!" (Alternate: Karen Lee Cray, 16, Atchison, Kans.); in Aerospace Propulsion, Richard Darrell Bennett, 17, Norte Del Rio H.S., North Sacramento, Calif., for "The Making of a Ramjet" (Alternate: Charles Filmore Peach, 18, Arlington, Texas); in Mathematical and Computational Sciences, Douglas Allen Lind, 17, George Mason Jr.-Sr. H.S., Falls Church, Va., for "Generali-

zations of Circular and Hyperbolic Functions" (Alternate: David R. Jefferson, 15, Beltsville, Md.).

• Science News Letter, 85:325 May 23, 1964

## GENERAL SCIENCE

**Armed Forces 'Operation Cherry Blossom'**

► THREE TEEN-AGED FINALISTS at the 15th National Science Fair-International will go to Japan to exhibit their winning science projects as special representatives of the U.S. Armed Forces.

The unprecedented award, sponsored jointly by the three services, was announced in Baltimore at the NSF-I Awards Banquet.

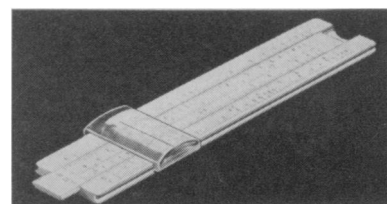
Nancy Lee Williamson, 17, Bryan H.S., Bryan, Ohio, selected by the U. S. Army for her project, "Immunological and Serological Studies of Plant Lectins as Related to Blood Groupings"; Robert James Brock, 17, Arlington Heights H.S., Fort Worth, Texas, selected by the U. S. Navy for his project, "Determination of Suppressor Gene Loci in *E. coli* K-12"; and H. Grady Rylander III, 16, Austin H.S., Austin, Texas, selected by the U.S. Air Force for his project, "Simultaneous Oscillations in Negative Resistance Devices," will be flown to Japan to exhibit at the 8th Annual Japan Student Science Awards' Science Fair in Tokyo, Nov. 2-8.

Alternates for "Operation Cherry Blossom" are: Erik Olin Wright, 17, Lawrence H.S., Lawrence, Kans.; John Richard Gott III, 17, Mayme S. Waggener H.S., Louisville, Ky.; and Kevin J. Glading, 16, Albany H.S., Albany, Calif.

Representing The Honorable Stephen Ailes, Secretary of the Army, and Gen. Earle G. Wheeler, Chief of Staff, was Brig. Gen. Walter E. Lotz, Director of Army Research. Representing The Honorable Paul H. Nitze, Secretary of the Navy, and Adm. David L. McDonald, Chief of Naval Operations, was Rear Adm. Donald G. Irvine, Assistant Chief of Naval Personnel for Education and Training. Representing The Honorable Eugene M. Zuckert, Secretary of the Air Force, and Gen. Curtis E. LeMay, Chief of Staff, was Maj. Gen. Don R. Ostrander, Commander, Office of Aerospace Research.

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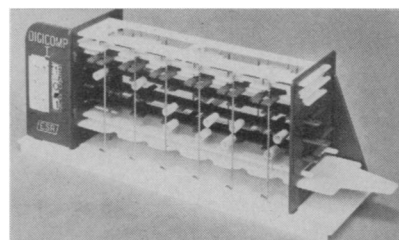
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