

Books of the Week

BALL AND ROLLER BEARING ENGINEERING
—Arvid Palmgren—trans. by Gunnar Palmgren and Bruce Ruley—*SKF Industries*, 270 p., charts, illus., \$1.75. Intended to serve as a fundamental text.

CLIMBING OUR FAMILY TREE: How Living Things Change and Develop—Alex Novikoff—*International Publishers*, 96 p., illus., \$1.85. Evolution for boys and girls written by an instructor in biology at Brooklyn College.

CONTRIBUTIONS TO EMBRYOLOGY, Vol. 31, nos. 198-206, *Carnegie Institution of Wash.*, 176 p., charts, illus., \$4.50 paper, \$5 cloth.

A GUIDE TO COLLEGES, UNIVERSITIES, AND PROFESSIONAL SCHOOLS IN THE UNITED STATES—Carter V. Good, ed.—*American Council on Education*, 681 p., \$5. Designed primarily for the guidance of veterans who wish to attend college under the GI Bill of Rights. Arranged in tabular form by both college and course.

PERSONALITY FACTORS IN COUNSELING—Charles A. Curren—*Grune & Stratton*, 287 p., charts, \$4. Twenty phonographically recorded interviews.

PROCEEDINGS OF THE INDIANA ACADEMY OF SCIENCE FOR 1944—Vol. 54—R. C. Corley, ed.—*State Library, Indianapolis*, 233 p., illus., \$3. Technical papers by members of the academy.

THE REFUGEES ARE NOW AMERICANS—Maurice R. Davie and Samuel Koenig—*Public Affairs Committee*, 32 p., illus., 10 cents. Based on a nation-wide study of the adjustment of refugees and their effect on our society, conducted by the Committee for the Study of Recent Immigration from Europe.

SAFE WORK PRACTICE IN WOODWORKING—G. Harold Silvius and Gerald B. Baysinger—*American Technical Society*, 82 p., illus., 85 cents. Safety education arranged according to tools and machines, with bibliography and index.

THE SCIENCE AND ART OF PERFUMERY—Edward Sagarin—*McGraw*, 268 p., illus., \$3. Covers the history of perfumery, the raw materials of the perfumes and the methods of their production.

VALENCY: Classical and modern—W. G. Palmer—*Cambridge University Press*, 242 p., charts and illus., \$2.50. Includes a history of valency, application of electronic theory to the heavier elements, and current developments.

Science News Letter, December 29, 1945

NUTRITION

Quick-Frozen Tomatoes Soon To Be on Market

► **FROZEN** tomatoes, whole, sliced, and as tomato juice, soon will be merchandised in the same manner as other frozen food products, John E. Nicholas, agricultural engineer of the Pennsylvania State College, predicted. He has stored satisfactorily all of these products in his laboratory.

For freezing, whole or in slices, tomatoes should not be too juicy, he pointed out. This year the early crops from both greenhouse and field proved best.

Both whole fruits and slices must be frozen very rapidly. Therefore they should not be wrapped until the freezing process is complete. Whole fruits require a temperature of 20 degrees below zero Fahrenheit or lower, but it is possible to freeze half-inch slices in direct contact with a freezer plate or air blast at 10 below. For good results, the tomatoes should freeze in 30 minutes or less. They may be placed on cellophane or a wire screen for ease in handling, Mr. Nicholas stated.

When completely frozen, the tomatoes or tomato products may be wrapped in cellophane, packaged in vapor-moisture-proof containers, or glazed by dipping in ice water. Whole tomatoes which have been frozen quickly and stored at below-zero temperatures will slice satisfactorily when partially thawed and will not break down if completely thawed out.

Tomato juice for freezing is prepared in the usual manner. It may be frozen in a large open tray and then broken into pieces of convenient size for packaging, or it may be frozen in glass jars or moisture-proof paper containers. It thaws enough for use if allowed to stand at room temperature for about an hour, Mr. Nicholas explained.

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AERONAUTICS

Engine Permits Speeds Over 500 Miles-an-Hour

► **STREAMLINED** like a torpedo, a new engine for jet-propulsion will speed planes well in excess of 500 miles an hour, it is claimed by General Electric, in whose factory in Schenectady the new powerplant was designed and constructed. It functions most efficiently when running at nearly full throttle, and is intended for speedy long-range flights.

The new motor is an axial flow turbojet engine. It was developed for the Army Air Forces, but is suitable for use in civilian planes. It marks definite improvements in aerodynamic design and in fuel consumption. It makes possible greater range and more economical operation of airplanes than earlier turbojet engines. Also, because of its torpedo-shaped body, it will fit more snugly into the wings of a plane than any powerful reciprocating engine.

The two principal parts of the engine, the air compressor and the combustion chamber, are directly in line. In operation, air rams into the relatively small diameter axial flow compressor, and, after compression, is forced almost in a direct line into combustion chambers. There fuel is added, usually kerosene. It burns intensely, creating the gases that expand through the buckets of a turbine and pass out the jet exhaust, giving the reaction push that drives the plane.

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Photo courtesy Haverford College

RESISTANCE BOXES FOR STUDENT USE

L&N instruments like those shown above take long and hard use by physics students in their experiments. The resistance boxes are made in 2-, 3- and 4-dial instruments with enclosed switches, and can be used in d-c or low-frequency a-c measurements. D-C resistance change from zero setting, measured across binding posts, equals readings $\pm(0.1\% + 0.01 \text{ ohm})$.

The Adjustable Mica Capacitor has a total capacitance of 1 μf in 5 sections: 0.5, 0.2, 0.2, 0.05, 0.05 μf . Limit of error is $\pm 0.25\%$.

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