

AERONAUTICS

New Transport Plane

The CW-20E, biggest and fastest twin-engine transport, will be adapted as a luxury passenger airliner for postwar use; includes many new comforts.

► THE BIGGEST and fastest twin-engine transport plane in the world was shown at Lambert Field by its manufacturers, the Curtiss-Wright Corporation. The new plane, known as the CW-20E, is the luxury airliner version of the military transport C-46, used widely by the Army and Navy to carry troops and supplies to world battlefronts during the past three years.

The new plane is designed to meet the needs of medium-range airline operations, and will be used by airlines for limited stop service between such points as New York and Miami, or Chicago and Denver. It is designed to take off from, and land on, the average-sized airport.

The passenger version of the plane includes many features suggested by airline operators, and others which are the result of experience gained from flying the military model over the world under a variety of weather conditions.

Many new comfort features include interchangeable chairs provided with finger-tip control for reclining the back and sliding the seat forward, flush-type

ash trays built into the arm of each chair, and a small ledge on the lower portion of each window frame for personal articles such as handbags, cigarettes, compacts, and cameras, overhead racks for luggage and packages run the full length of the cabin. A single, indirect fluorescent lighting fixture runs the entire length of the cabin ceiling. Individual reading lights are located in overhead reading panels above each chair, providing glareless illumination in a 20-inch circle of light at reading level.

The main ventilating system completely changes the air in the plane once every minute. The temperature inside the cabin is controlled so that it will remain at 70 degrees Fahrenheit, although the outside temperature may be as low as 40 degrees below zero.

The cabin is equipped with separate comfort rooms for men and women, as well as a complete kitchenette, for preparing and serving meals in the sky.

The CW-20E has more cargo space per passenger than any other transport airplane. In the two cargo holds, there

are 526 cubic feet of space for luggage, mail, and other shipments.

The pilot's vision is improved by the use of deep side-view windows made from double-pane safety glass and equipped with defogging nozzles for clear vision in cold flying weather.

Science News Letter, November 4, 1944

"Double-Bubble" Safety

► DOUBLE-BUBBLE construction of the low-wing 36-passenger Curtiss Commando CW-20E passenger and cargo plane assures greater comfort, safety and economy of operation than have previously been achieved in transport airplanes.

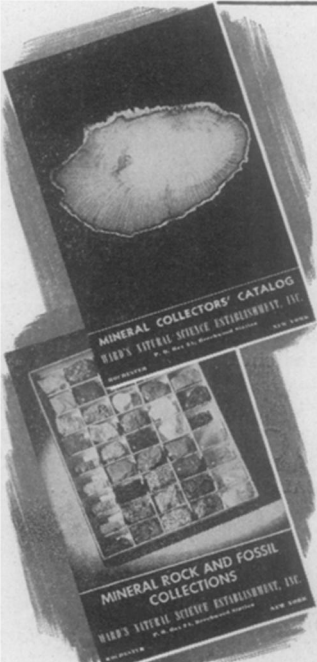
At a special press showing in St. Louis facts about this largest twin-engine transport were revealed. The double-bubble construction of the fuselage can best be visualized by thinking of the plane's cross section as two interlocking circles, the larger on top of the smaller, with a straight line which is the cabin floor across the point where they intersect. This patented design was originally intended to be used for a pressurized cabin for high-altitude flying. Although the cabin may be pressurized, the space in the smaller bubble, under the cabin floor, is now offered as a cargo hold for 526 cubic feet of baggage, boxes, and mail.

In a crash landing the bottom bubble provides added protection for passengers, since it acts as a cushion for the main cabin when it hits the ground. In over 100 crash landings there is no record of the bottom bubble being smashed or broken. Recently, near Jacksonville, Fla., one of these planes landed on its belly. After fitting on new propellers the plane took off again, having suffered no damage to the fuselage.

Facilities for handling cargo and servicing the plane are so arranged that the time needed on the ground at stops is considerably reduced. Cargo is rapidly loaded through special doors in the side of the bottom bubble. Electric batteries are mounted on an elevator under the fuselage, and may be lowered quickly for rapid replacement.

Power enough to lift a half-ton elevator at the speed of sound, or to drive more than 40 average automobiles, is contained in each of the two 2,200-horsepower engines that are used in the new passenger plane. These are the same Wright Cyclone air-cooled engines that thrust the B-29 Superfortresses and the giant Martin Mars flying boats through the air today.

Science News Letter, November 4, 1944

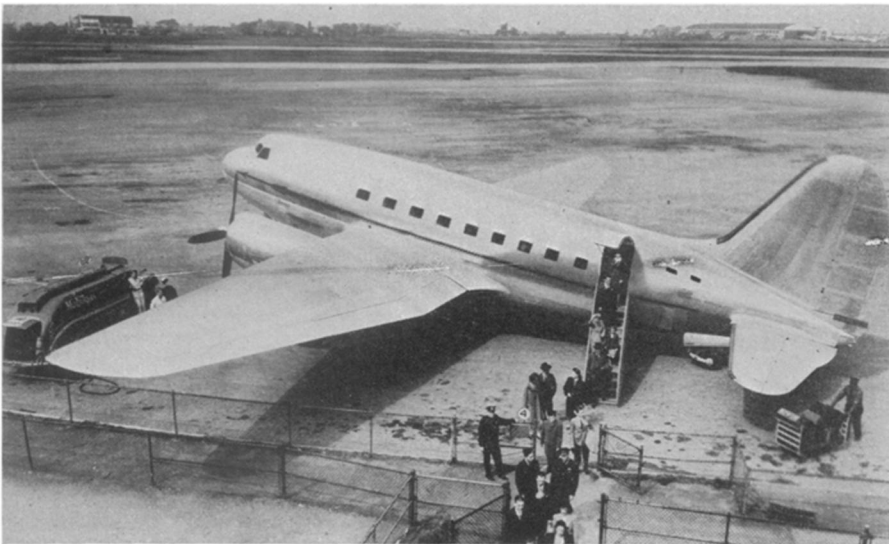


Like Mineral Study?

WARD'S IS WORLD HEADQUARTERS FOR TEACHING SPECIMENS AND COLLECTIONS... AND FOR RARE AND BEAUTIFUL EXHIBITION MINERALS

• Mineralogy instructors and departments look to Ward's as the world's foremost supplier of teaching specimens and collections. Mineral collectors, too—those who delight in the collection and study of specimens that portray the wondrous structure and formation of our earth—find at Ward's minerals of rare beauty and interest. Catalogs (at left) available on request: N-441, Mineral Specimens for Collectors and Museums; N-443, Mineral Rock and Fossil Collections.

WARD'S NATURAL SCIENCE ESTABLISHMENT, INC.
P. O. Box 24, Beechwood Station
ROCHESTER 9, N. Y.



FASTEST TRANSPORT—The CW-20E Curtiss Commando will look like this and will have many innovations to assure greater comfort, safety, and economy of operation in the postwar future.

• Books of the Week •

AIRCRAFT SHEET METAL BLUEPRINT READING—Harry H. Coxen and others—*American Technical Society*, 132 p., paper, illus., \$2.50.

ARCHAEOLOGY OF NORTHWESTERN VENEZUELA—Alfred Kidder, II—*Peabody Museum of American Archaeology and Ethnology*, 178 p., paper, illus., \$3.75. (Papers of the Museum, vol. XXVI, No. 1.)

A DIPPER FULL OF STARS, A Beginner's Guide to the Heavens—Lou Williams—*Follett*, 170 p., illus., \$2.

BRAZIL ON THE MARCH—A Study in International Cooperation—Morris Llewellyn Cooke—*McGraw*, 303 p., illus., \$3.

CHEMICAL ENGINEERING PLANT DESIGN—Frank C. Vilbrandt—*McGraw*, 452 p., illus., \$5, 2nd ed.

DIRECT-CURRENT CIRCUITS—Earle M. Morecock—*Harper*, 387 p., illus., \$3.25.

FOREIGN INFLUENCES IN AMERICAN LIFE—David F. Bowers—*Princeton Univ. Press*, 254 p., illus., \$3.

FUNDAMENTALS OF CHEMISTRY AND THEIR APPLICATIONS IN MODERN LIFE—Monroe M. Offner—*Blakiston*, 408 p., illus., 69c.

AN INTRODUCTION TO PUBLIC HEALTH—Harry S. Mustard—*Macmillan*, 283 p., \$3.25, 2nd ed.

INVESTIGATIONS IN EROSION CONTROL AND RECLAMATION OF ERODED LAND AT THE CENTRAL PIEDMONT CONSERVATION EXPERIMENT STATION, STATESVILLE, N. C., 1930-40—T. L. Copley and others—*Gov. Print. Off.*, 66 p., paper, illus., 15c. (U. S. Dept. of Agric., Soil Conservation Service, Tech Bull., No. 873.)

LABORATORY MANUAL FOR GENERAL ZOOLOGY—Tracy I. Storer—*McGraw*, 150 p., illus., \$1.25.

THE MATHEMATICS OF PHYSICS AND CHEMISTRY—Henry Margenau and George

Moseley Murphy—*Van Nostrand*, 588 p., \$6.50.

NAVAHO WITCHCRAFT—Clyde Kluckhohn—*Peabody Museum of American Archaeology and Ethnology*, 149 p., paper, \$2.25. (Papers of the Museum, vol. XXII, No. 2.)

RADIO'S 100 MEN OF SCIENCE—Orrin E. Dunlap, Jr.—*Harper*, 294 p., illus., \$3.50.

THE SCHOLAR AND THE FUTURE OF THE RESEARCH LIBRARY—Fremont Rider—*Hadham Press*, 236 p., illus., \$4.

SMITHSONIAN PYRHELIOMETRY AND THE ANDEAN VOLCANIC ERUPTIONS OF APRIL 1932—L. B. Aldrich—*Smithsonian Institution*, 5 p., paper, 5c. (Smithsonian Misc. Collections, vol. 104, No. 6.)

TABER'S DICTIONARY OF GYNECOLOGY AND OBSTETRICS—Clarence Wilbur Taber—*F. A. Davis Co.*, \$3.50.

TERNARY SYSTEMS—INTRODUCTION TO THE THEORY OF THREE COMPONENT SYSTEMS—G. Masing—*Reinhold*, 173 p., illus., \$4.50.

TRAVELERS ALL, The Story of How Plants Go Places—Irma E. Webber—*Scott, W. R.*, \$1.25. Basic facts in colorful fashion, for children.

WHAT SHIP IS THAT?—E. C. Talbot-Booth, ed.—*Didier Pubs*, illus., \$4.

Science News Letter, November 4, 1944

PUBLIC HEALTH

Deaths in Large Cities Show Big Increase

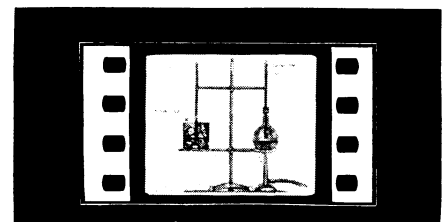
► DEATHS in 92 large cities of the United States increased from 8,347 the week of Oct. 14 to 8,982 the week ending Oct. 21, according to figures reported to the U. S. Census Bureau. Cause of

this large increase, which is also considerably above the three-year average of 8,371 deaths for this particular week, is not known, since only total figures are included in the weekly telegraphic reports from the cities. Reports of deaths by specific causes come in later.

A slight increase in infantile paralysis cases brought the total up to 711 for the week ending Oct. 21, the U. S. Public Health Service reports. Massachusetts and New York City and State had the chief increases. With the epidemic dying out so slowly and 16,855 cases reported so far this year, health authorities believe the total for the year will come close to 20,000.

The year 1944 is also expected to be a record year for cases of endemic typhus fever. Less serious than the European variety of typhus fever, the endemic type in this country is spread by rat fleas and is a considerable health problem in the South. Total number of cases this year have passed the 4,000 mark. Last year, with the largest number of cases reported for any previous year, there were 3,479.

Science News Letter, November 4, 1944



From S.V.E. Slidefilm "Water", part of General Science Series on Foundations of Chemistry.

Cover Many Science Subjects



SLIDEFILMS!

The teaching material in S.V.E. Slidefilms is authentic and the pictures are carefully made. Following are a few of the many subjects in the General Science Series:

The Atmosphere
Carbon and its Oxides
Chlorine and its Compounds
Facts and Laws
Fire and Fuel
Laws and Theories
Nitrogen
Oxygen and Hydrogen
Sulphur and its Compounds

Each film with manual.....\$2.00
Set of 10 with manuals.....18.50

SOCIETY FOR VISUAL EDUCATION, INC.
Dept. 11 SNL., 100 E. Ohio St., Chicago 11, Ill.
1919 TWENTY-FIFTH ANNIVERSARY 1944