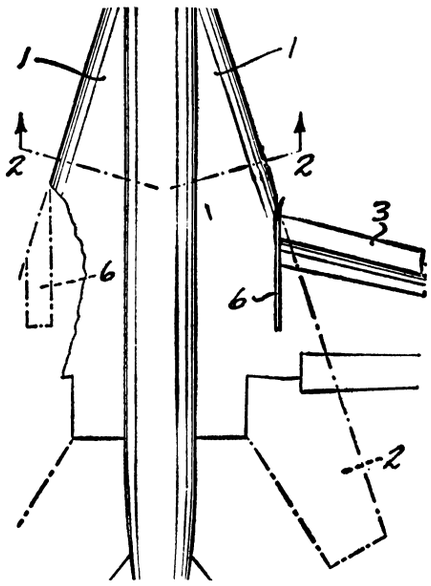
Variable Wing Device For SST Granted Patent

by Ann Ewing



A way of changing the angle of the wings for a supersonic transport, or SST, has been issued a patent by the U.S. Patent Office. The method was originally developed for the Boeing Company's design for an SST, but is not now part of that model.

However, it could be useful for other supersonic planes, inventor Wayne N. Holmquist of Seattle, Wash., said in a telephone interview. Boeing is one of two airplane manufacturers competing for the job of building the jet of the future for long-range travel. California's Lockheed Aircraft Corporation is the other airplane manufacturer now in the running for the SST contract, expected to be assigned by the end of the year.

The variable-sweep wing construction devised by Mr. Holmquist was awarded patent 3,285,542. It was developed as part of the research leading to the present concept of Boeing's SST and is one way of obtaining the required low drag at supersonic speeds and high lift at low speeds.

The plane's wings sweep forward for landing and takeoff, and are retracted to a delta form closely resembling that of rival Lockheed's during high-speed flight, expected to be close to Mach 2.7. That is 2.7 times the speed of sound or about 1,800 miles an hour at the altitude of 12 or 13 miles at which the SST is expected to fly.

Another variable-sweep wing design earned patent 3,285,540 for Shao-tang Lee of Taichung, Taiwan, Republic of China. It is another method for changing the wing area for stability when flying at low or high speed.

Continuous Hydroponic System

A method for continually growing plants without soil, or hydroponically, on endless belts arranged in tiers was granted patent 3,284,948. Mr. Leslie B. Kyle of Indianapolis, Ind., assigned rights to Hydroponics, Inc., also of Indianapolis.

The development involves using a hopper to deliver the seeds uniformly spaced and at equal depths on the endless belts, as well as maintaining a stable atmosphere so that the plants all grow at the same rate. The seed bed is soaked periodically with water containing the necessary nutrients for growth.

The endless belt is broken into segments so that when the plants on the seed mat are fully grown, they can be stripped off in blocks.

Freezing Saline Water

Improvements in a freezing method for making saline water fresh enough to drink was granted patent 3,285,026. The method of purifying salt water to make it brine-free is now being tested in two pilot plants at the U. S. Department of Interior's Test Station at Wrightsville Beach, N.C. One plant produces 15,000 gallons a day and the other, 200,000 gallons a day.

The improvements invented by Dr. Hans Svanoe of Warren, Pa., consist of injecting an aqueous emulsion of an organic refrigerant to facilitate crystal growth, correlating crystal size with the droplet volume of the refrigerant and controlling the temperature throughout the process.

Dr. Svanoe assigned patent rights to Struthers Scientific and International Corporation, New York.

Other Interesting Patents

The late Dr. Vincent J. Burnelli of Silver Spring, Md., made patent application in 1964 for an "advanced jet engine installation." Patent 3,285,538 was granted this week to Hazel C. Burnelli for his method of mounting turbojet engines on the main part of the airplane ahead of the leading edge of the wing and directing their exhaust over the wing's top surface, thus augmenting the lift and providing greater safety if the plane crashes.

A ball-point pen in which the ink supply is pressurized so that the pen will write even when the force of gravity acts against the flow of ink in the cartridge earned patent 3,285,228 for Paul C. Fisher of Sherman Oaks, Calif.

To make models representing the chemical structures of molecules, John C. Godfrey of East Syracuse, N. Y., has developed individual pieces of complicated shapes but nevertheless capable of being easily fitted together. He assigned rights to patent 3,284,926 to Bronwill Scientific Division of Will Scientific, Inc., Rochester, N.Y.

SCIENCE NEWS

SCIENCE NEWS LETTER

Vol. 90 November 26, 1966 No. 22

E. G. SHERBURNE JR., Editor

Watson Davis, Director Emeritus, Editor, 1922-66

WARREN KORNBERG, Managing Editor

The Weekly Summary of Current Science, published every Saturday by SCIENCE SERVICE, Inc., 1719 N St., N.W., Washington, D. C. 20036. NOrth 7-2255. Cable Address: SCIENSERVC.

Subscription rate: 1 yr., $5.50; 2 yrs., $10.00; 3 yrs., $14.50. Special trial offer for new subscribers only: 41 weeks, $3.13. Ten or more copies in one package to one address, 7½ cents per copy per week; single copy, 15 cents, more than six months old, 25 cents. No charge for foreign postage. Change of address: Three weeks notice is required. Please state exactly how magazine is addressed. Include zip code.

Copyright © 1966 by Science Service, Inc. Republication of any portion of SCIENCE NEWS is strictly prohibited. Newspapers, magazines and other publications are invited to avail themselves of the numerous syndicated services issued by Science Service. Science Service also produces and distributes THINGS of science (monthly), $5.00 per year; produces and publishes books and conducts the National Science Youth Program.

Printed in U.S.A. Second class postage paid at Washington, D. C. Established in mimeograph form March 13, 1922. Title registered as trademark. U. S. and Canadian Patent offices. Indexed in Reader's Guide to Periodical Literature, Abridged Guide, and the Engineering Index. Member of Audit Bureau of Circulation.

SCIENCE SERVICE

The Institution for the Popularization of Science organized 1921 as a non-profit corporation.

Board of Trustees—Nominated by the American Association for the Advancement of Science: Wallace R. Brode,*** Washington, D.C.; Bowen C. Dees, National Science Foundation; Athelstan F. Spilhaus, University of Minnesota. Nominated by the National Academy of Sciences: Harlow Shapley, Harvard College Observatory; Detlev W. Bronk, Rockefeller Institute; Henry Allen Moe, The Clark Foundation. Nominated by the National Research Council: Leonard Carmichael, National Geographic Society; Eric A. Walker, Pennsylvania State University; Glenn T. Seaborg*, U.S. Atomic Energy Commission. Nominated by the Journalistic Profession: Gordon B. Fister, Allentown (Pa.) Call-Chronicle; Ralph B. Curry, Flint Journal; O. W. Riegel,**** Washington and Lee University. Nominated by the Scripps Estate: Ludwell Denny, Scripps-Howard Newspapers; Edward W. Scripps II,** Edward W. Scripps Trust; Edward J. Meeman, Memphis Press-Scimitar. *President, **Vice President, ***Treasurer, ****Secretary.

Staff—Director: E. G. Sherburne Jr. Assistant Director: Dorothy Schriver. Writers: Barbara Culliton, Jonathan Eberhart, Ann Ewing, Faye Marley, Patricia McBroom, Barbara Tufty, Judith Viorst, Ruby Yoshioka. Magazine Production: Marilyn Raleigh. Science Youth Division: Joseph H. Kraus, Lloyd Ulmer. Photography: Fremont Davis. Production: Marcia Nelson. Syndicate Sales: Forrest L. Snakenberg, Librarian: Margit Friedrich, Interlingua Division in New York: Alexander Gode, 80 E. 11th St., GRamercy 3-5410.

ADVERTISING

Louis D. Young, Advertising Director, SCIENCE NEWS, 1719 N St., N.W., Washington, D. C. 20036. Telephone 202-667-8945.

Advertising Representatives: SCRIPPS-HOWARD NEWSPAPERS. General Advertising Department: 200 Park Ave., New York, N.Y., TN 7-5000; 400 N. Michigan Ave., Chicago, Ill., SU 7-3355; 800 Broadway, Suite 1100, Cincinnati, Ohio, 721-1254; Suite 211, Braniff Building, Dallas, Texas, FL 7-3847; 908 E. Northland Tower, Southfield, Michigan, 444-4595; 6363 Wilshire Blvd., Los Angeles, Calif., OL 3-0026; Room 1522, Philadelphia National Bank Building, Philadelphia, Pa., LO 3-6275; Central Tower Building, 703 Market St., San Francisco, Calif., GA 1-5187.

Science Service, Inc. is collaborating with JSTOR to digitize, preserve, and extend access to *Science News*. www.jstor.org