

Dyed Mosquitos To Aid Scientists In Their Control

Pests To Be Sprayed Green, Red, Yellow in Test of Range.

Atlantic City. — Fifty million mosquitoes will be indelibly "dyed" red, green, yellow, blue and brown in the Chicago area next summer so entomologists may study their flight range and plan the elimination and control of the pest accordingly. This was announced here at the twenty-third annual convention of the New Jersey Mosquito Extermination Association by J. Lyell Clarke, sanitary engineer for the Des Plaines Valley Mosquito Abatement District.

The district is ten miles long and five miles wide, lying west of Chicago and including part of Cook County, Ill.

Mr. Clarke explained that men with portable sprayers would plod through the marshes where mosquito beds were abundant. The scientists expect clouds of the insects will be stirred up by the men at the rate of ten to 30 mosquitoes from each square foot of grass. The men will spray aniline dyes into the swarms, a different color being used in each locality, so the insects can be readily identified when caught biting a victim later in the season.

Mr. Clarke predicted there would be no shortage of mosquitoes this season, despite the severe winter, except in the house variety, *Culex pipens*.

Dr. Thomas J. Headlee, entomologist of the New Jersey Experiment Station at Rutgers University, was another speaker. He warned promotional advertising would be largely wasted on the 18,000,000 persons who live within 150 miles of the Jersey shore and mountain resorts unless the mosquito pest was curbed.

Thomas D. Mulhern of the same station also warned that visitors would be driven away from Atlantic County unless greater appropriations could be obtained for mosquito control work.

Help yourself by buying goods made in the Maritimes.

New Autogyro Fits Into Garage

IT IS CALLED THE NEW AUTO-AIRPLANE AND DIFFERS VERY RADICALLY FROM OTHER MACHINES

By ERIC GEORGE
Central Press Canadian Correspondent

Washington.—When you see a huge "June Bug" lazying down the highways, don't blame it to your imagination. It's the new roadable autogyro, the new auto-aeroplane.

This amazing aeroplane is being hailed as the flivver of aviation which has been sought ever since the Wright brothers of Dayton first soared into the air at Kitty Hawk, N.C.

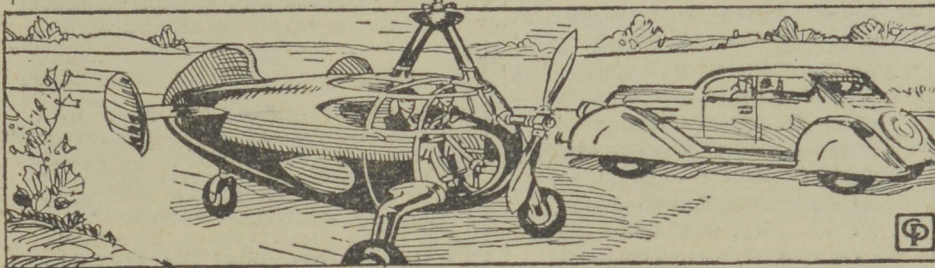
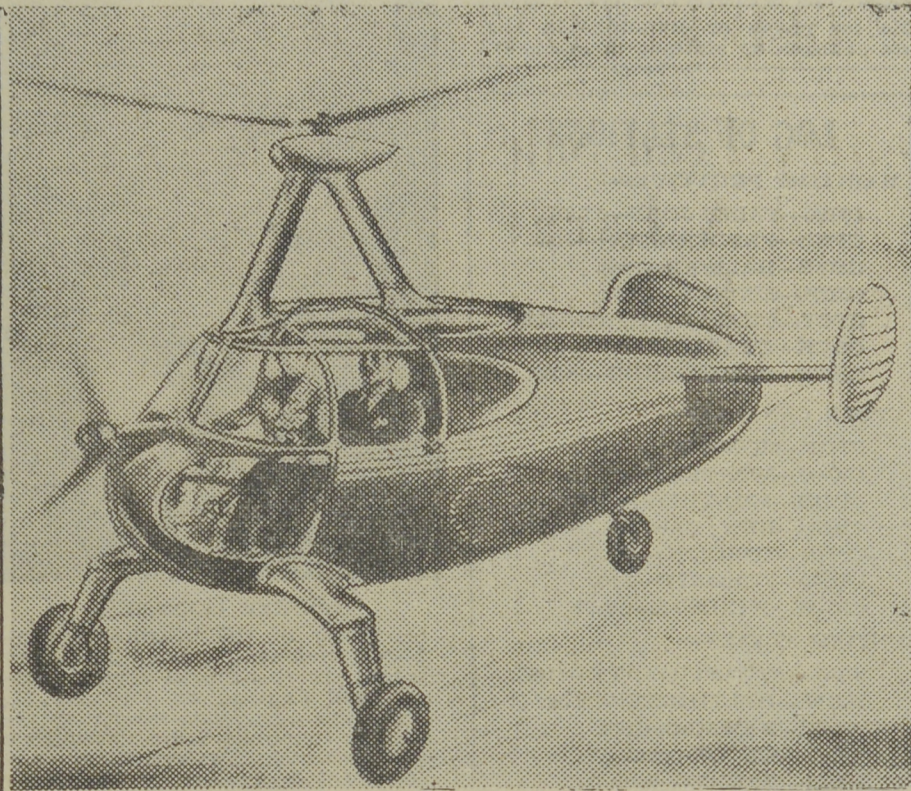
This machine does away entirely with wings. The rotor blades can be folded and the craft is driven along the highway with a drive mechanism which is switched from the propeller to one wheel of the undercarriage. Because of the folding rotor blades, this autogyro can be housed in a garage of ordinary size. So little space is needed for the takeoff and the landing that no airport, as we know it now, is necessary, its designers assert.

Direct Control

This strikingly unorthodox flying machine is also a "direct control" autogyro. In all previous types control was obtained by the methods used in conventional aeroplanes, by rapidly moving air acting upon movable control surfaces. In this type there are no ailerons or elevators and the fixed wings have been eliminated entirely.

The new autogyro, which is going into production, has been flight tested for more than a year. It has a side-by-side seating arrangement in cabin style. The gross weight is 1,350 pounds, overall length is 24 feet, overall height 8 feet and the overall width, with rotor blades folded, is 7 feet. The maximum speed on land is 20 to 25 miles an hour and the maximum air speed is 115 miles an hour. The engine is a geared seven-cylinder radial, developing 90 horsepower at 3,500 revolutions per minute. The diameter of the rotor blades is 34½ feet.

The autogyro lands with no forward roll in still air. It will take



Among the unique features of this autogyro are its rotor blades which can be folded so that the craft can be driven along a highway.

off within a distance of 50 feet, its designers claim.

Slow Flight Difficulties

The full advantage of slow flight, an outstanding characteristic of the autogyro, could not be realized so long as control was dependent upon forward speed. In machines employing conventional aeroplane controls—ailerons, elevators and rudders—the effectiveness of control diminished toward the vanishing point as the autogyro approached the minimum speed, which for landing might be zero. While the ordinary aeroplane controls are satisfactory for a machine which cannot fly slowly, they are obviously inadequate for one which can descend vertically and fly at extremely slow forward speed.

Control of the autogyro is obtained entirely by tilting the rotor. The rotor is attached to the top of a pylon by means of a universal joint, and is connected to a normal control stick, operated by the pilot in the usual manner. The controlling force, therefore, is derived directly from the lift of the rotor, not from surfaces which depend upon the movement of the machine through the air. Control is entirely independent of forward speed and is fully effective while the machine is hovering in the air or coming to a land.

Other Advantages Claimed

While adequate control is the fundamental and important purpose of this new development, there are other resulting advantages claimed.

The fixed wings of earlier autogyros are no longer necessary as a support of ailerons, for lift, or for lateral stability. Also, their elimination has improved the pilot's visibility and added much to the appearance of the machine. Cost of production is materially reduced by elimination of movable tail surfaces, ailerons and fixed wings.

It is a definite advantage, moreover, that the new craft is noticeably smooth riding, even in comparatively rough air, because the entire lift of the machine is borne by the hinged blades of the rotor.

Absence of fixed wings simplifies the housing of the machine. Folding rotor blades permit the machine to be stored in a shelter little larger than an automobile garage.

Experts Measure An Atomic Force Of The Universe

Hydrogen Nuclei Tested By Scientists in Washington.

Washington.—Scientists of the Carnegie Institution have succeeded in measuring one of the atomic forces that hold the universe together, they announced recently. They have measured what is scientifically known as the "proton-proton interaction," or the forces between the nuclei of two hydrogen atoms when they are separated by less than twenty-thousand billionths of an inch.

The experiments were carried out in the Department of Terrestrial Magnetism of the institution here by Drs. M. A. Tuve, N. P. Seydenburg and L. R. Hafstad, and were announced by Dr. J. A. Fleming, director of the department.

The scientists observed the deflections of high-speed hydrogen particles after collision with hydrogen nuclei in a gas-filled chamber. They were able, they say, to measure the attracting forces which hold together the nuclei of atoms heavier than hydrogen. Without this force, scientists assert, the entire universe might consist of nothing but hydrogen.

"The successful measurements," Dr. Fleming reported, "were made by passing a beam of hydrogen nuclei, called protons, from the million-volt Carnegie vacuum-tube through a series of slits into a chamber filled with pure hydrogen at a pressure one sixty-fifth as great as atmospheric pressure.

Protons of the beam which come sufficiently close to a hydrogen nucleus in the gas are deflected from the original beam through angles up to 45 degrees, and these intimate collisions are recorded by a special radio-amplifier which measures the deflection to an accuracy of two degrees.

"A lower voltages, the numbers of particles observed at various angles verified the ordinary law of repulsion between electric charges, but when the velocity of the proton beam reached 750,000 volts a marked increase occurred in the number of particles deflected through angles exceeding 30 degrees, and at 980,000 volts the number observed at 45 degrees was seven and one-half times as many as would be expected from the ordinary forces.

"This excess in the observed number of particles, arising from the fact that the higher-energy protons approach closer to the stationary protons of the gas, provides an accurate measure of the 'proton-proton interaction' at distances measured in fractions of one ten-thousand-billionth of an inch."

More than five years was spent by the Carnegie investigators in developing their high-voltage technique to the degree of precision and control necessary for this experiment.

POULTRY SHIPMENTS

The trade in live poultry from Canada to the United States has again become a factor of considerable importance to the poultry industry in Western Ontario as a result of the tariff reductions made effective under the recent Canada-United States Trade Treaty. During January, 1936, shipments of live poultry to nearby United States points, chiefly Buffalo, N.Y., amounted, according to unofficial figures, to 11,233 head. In January, 1935, shipments totalled only 566 head. By the terms of the treaty the United States duty on live poultry was fixed at four cents per pound. It previously had been eight cents per pound.

Shipments are made up largely of fowl. Prices on live fowl at Montreal and Toronto at the present time are approximately five cents higher than last year.

Angling Trophy Is Presented To The Winner For 1935

Allen Everett, Cranford, N. J., Receives Award at Big Sportsmen's Show.

New York City.—Allen Everett of Cranford, New Jersey, is the possessor of a challenge trophy which makes him the envy of most of the sportsmen of the Metropolitan District.

The trophy is one awarded annually by the New Brunswick Guides Association to the non-resident catching the largest Atlantic silver salmon on New Brunswick open waters while fishing with a member of the association. Presentation was made recently at the New Brunswick exhibit appearing at the National Sportsmen's show in Grand Central Palace.

The prize fish was taken on the Southwest Miramichi River on September 24 last. Its weight, when taken from the water, was 20 pounds, length 39 inches and girth 20 inches. Raymond Currie of Fredericton was guiding when the fish was caught.

The specimen was by no means the largest caught on New Brunswick waters last season but was the largest entered in the contest. Regulations demand that the angler be a non-resident, that he be accompanied by a licensed and registered guide who is a member of the New Brunswick Guides Association, and that an affidavit attesting to the size of the fish shall be made.

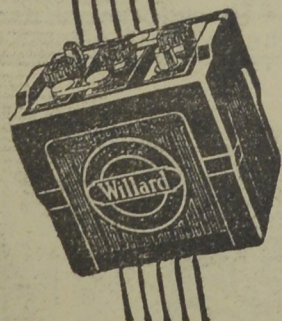
An angler winning three times, not necessarily in succession, will be accorded permanent possession of the trophy. The award to Mr. Everett marks the third occasion on which the trophy has changed hands. Former holders were Captain Charles Campbell, New York City; and Charles D. L. Harrison, of Green's Farms, Conn.

Heat transmitted by wireless will soon be making life pleasant for traffic policemen in Moscow. There special coats will have a thin wire mesh between layers of asbestos; this wire will catch the heat waves from a special radio station.

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