

## AERONAUTICS

**Largest Non-Rigid Airship Being Built at Akron**

**W**HEN the TC-13, non-rigid airship under construction at Akron, Ohio, makes its appearance in the skies as the largest ship of its type in the country, its occupants will be riding in a car streamlined into the inside envelope and suspended from inside cables.

Cars are suspended below envelopes from exterior cables on previously built army non-rigids in this country, and the change is only one of several planned for the cruiser.

Another feature not found on the previous Army non-rigids will be an observation car which can be lowered by means of a 1,000-foot cable while the TC-13 is hidden above clouds. The cable will also serve as an electrical conductor for telephone communication.

The new ship will have five control surfaces, a gain of one over earlier models. To provide for trim and expansion, two ballonets will be installed. The radio will have a range of 3,000 miles.

Two engines, each of 375 horsepower, will be the motor equipment. These will occupy a central location on each side of the car. Gear of engines will be three to two in relation to operation of three-bladed propellers.

The car will embrace welded tubular construction. It will be covered with corrugated metal and fabric. Water, fuel and storage tanks will be placed overhead, conveniently arranged so as to be dropped in an emergency to create more buoyancy.

The car will accommodate three pilots, a navigator, two mechanics, a bomber and a radio operator. Besides sleeping quarters, there will also be storage space for a supply of bombs.

The new non-rigid is expected to have an average speed of 68 miles an hour, it was said. It will be 233 feet long and 54 feet in diameter at its largest point. Including car, overall height will be 69 feet. Helium gas capacity will be 360,000 cubic feet, as compared with 200,000 cubic feet of the army's biggest non-rigids at present.

The airship is being built by Goodyear-Zeppelin Corporation, which turned out the naval cruiser Akron, and which is building a sister ship, the Macon.

*Science News Letter, October 1, 1932*

**Aiders of Evolution**

**I**NSECTS, which in the opinion of some scientists may yet drive man off the earth, made the earth fit for man to live on in the first place.

It is a commonplace that all human life, indeed all higher animal life, depends on plants, and on the higher plants at that. Man eats bread and a large assortment of vegetables and fruits, he wears clothing of cotton and linen, he lives in houses built of wood. All these are products of the higher plants. He also eats meat and dairy products, wears wool and silk, rides horses and camels. These are animal products and services; but the animals must be nourished on plants. All flesh, both of man and his beasts, is grass.

But the plants that feed man and his beasts are products of an evolution in which insects played a leading part.

Every school child knows the story of flower pollination, and the importance of insects as carriers of pollen. With only a very few unimportant exceptions, all the multitudinous plants that figure in our daily lives are seed plants, dependent either now or at some time in the past on pollination for their survival and evolution.

When seed plants first appeared, away back when coal was in the making, there were plenty of plant species, but not one of them fit food for man or beast. Even the first seed plants would have yielded precious little in food or fodder. But, aided by the insects which were then in the beginning of their long and varied history, these pioneer plants begat offspring that gradually shaped themselves into the kindlier plants that we know and grow today.

It may be objected that most of our timber trees, like pine and oak, as well as many of our food plants, like the grains, are wind-pollinated, and do not need insects. That is true, but it has not always been true. The grains and other grasses give evidence of having descended from lily-like plants. The story of the trees is not quite so clear, and it is probable that the pines and their relatives have always been wind-pollinated; but it is also not unlikely that the ancestors of the higher wind-pollinated tree species, like the oaks, originally bore bee-visited flowers. Even now bees and other insects swarm over their inconspicuous blossoms, gathering pollen and nectar, though they are no longer needed as carriers of the fertilizing dust.

*Science News Letter, October 1, 1932*

## Holds your SNL in a grip of steel

Here is a cover for your SCIENCE NEWS LETTER that is no bother at all! No holes to punch, no screws to tighten. Just snap it open, lay in your latest SCIENCE NEWS LETTER on top of the older ones, snap it closed. Two strong fingers of steel hold the copies firmly. Capacity, four months' issues. Cover color, black. Cover material, leather finished heavy bookbinder's bristol. Cost 50c, postpaid anywhere in U. S. A. \$1 elsewhere. Cash in advance. Send order and remittance to Librarian, SCIENCE NEWS LETTER, 21st and Constitution Avenue, Washington, D. C.

Costs  
50c  
Post-  
paid  
in  
U. S. A.