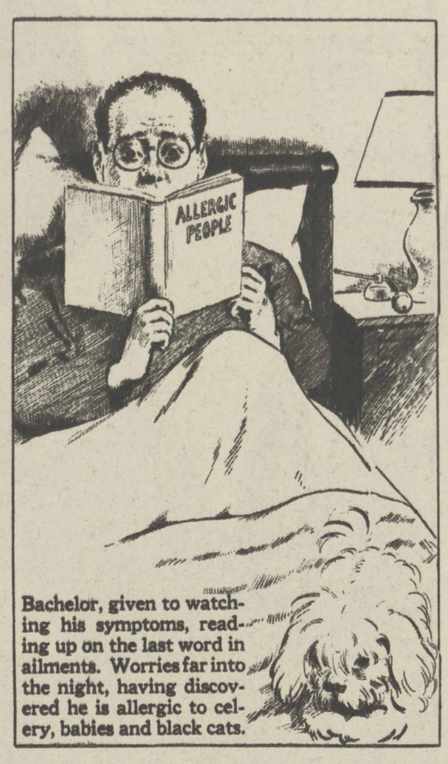
THE NIGHT WORRIERS

By W. E. Hill

Upper bracket man worrying over his 1938 income tax blank while getting ready for beddy-bye. The little wife is worrying herself sick over her new hat. It hasn't the style she thought it had. She won't sleep a wink thinking about it.



Bachelor, given to watching his symptoms, reading up on the last word in ailments. Worries far into the night, having discovered he is allergic to celery, babies and black cats.

"Are you awake, Gus? Harriet's boy stuck a pencil in his ear and the lead broke, and they think it's still in there." Grandma gets thinking about the grandchildren, worrying over this and that, and Grandpa can't sleep.

Bachelor week-end guest worried because something bit him. Mosquito probably. There's a dog in the house and he's looking for fleas. In the morning he will say, "Something bit me last night," and his hostess won't like the remark.

Worried about oversleeping. Carl has to make an early train. Sets his mind on six o'clock and hopes to wake on the dot. But he wakes up every half hour to see if it is six yet.

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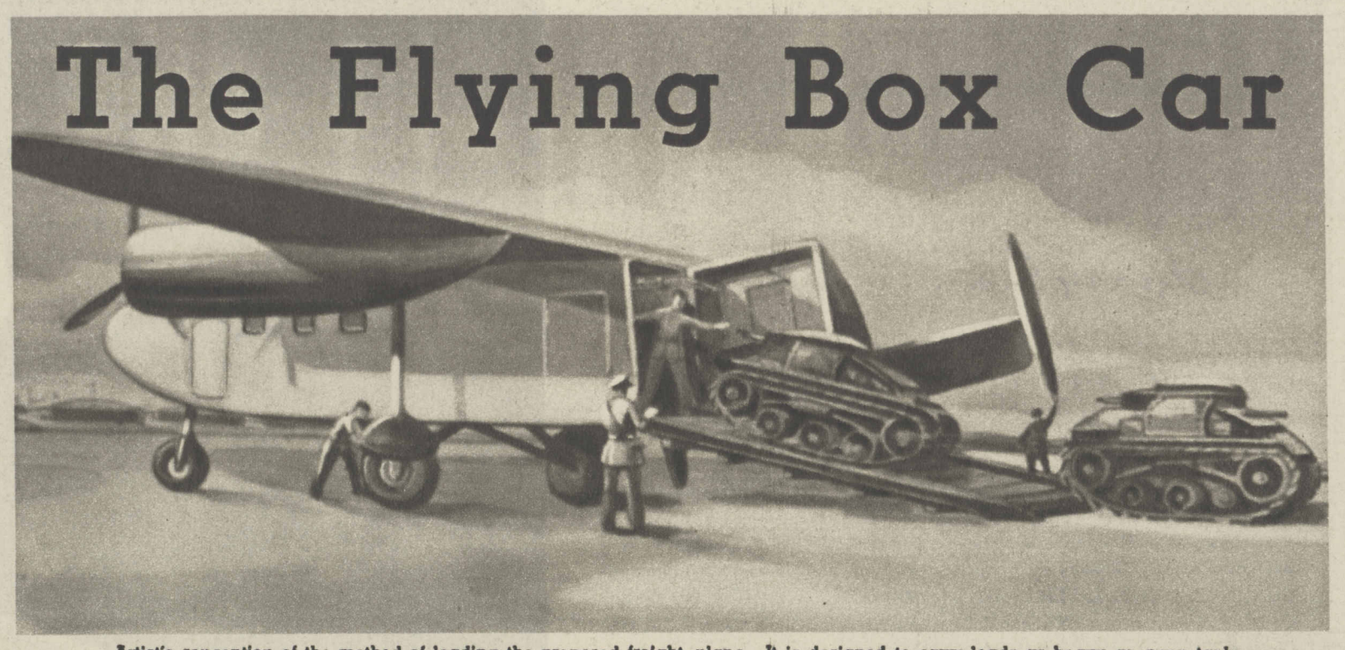
Lovely girl, taking her evening hot soak, hears phone ringing and ringing. She'll worry all night, wondering whose invitation to what she lost out on.

Love has hit Mary a terrible wallop. She fears Leslie doesn't feel as intense about things as she does. Wonders if it would be all right to call him long distance and ask him about it.

Timid girl worrying over night noises. Can't make out whether it's some one snoring or the oil burner doing something strange, or just burglars.

Allan is trying to figure where that twenty bucks went. He took Babe to the pictures, and then they went to "El Bombo" and danced, and he has seventy-seven cents left.

The Flying Box Car



Artist's conception of the method of loading the proposed freight plane. It is designed to carry loads as heavy as army tanks.

Freight Plane Will Open New Transport Field

By WAYNE THOMIS

FREIGHT by air. Canadians are accustomed to this thought. So are the gold miners of New Guinea, the business men of South America, the miners and Indians of Alaska. But not the citizens of the United States. Yet the day soon will be here when the transportation of certain kinds of freight inevitably will be handled by airplane.

This is the conviction, at least, of a Chicago aeronautical engineer, Ben O. Howard. And Howard, to meet this market, has designed and now is preparing to build a cargo-carrying airplane that he facetiously calls a "flying box car."

Ben O. Howard

It is intended to carry a load of about four tons at a cost per mile that will permit its operators to charge rates that will not materially exceed present rates for carrying of parcel post packages and small railway express shipments by railroad trains, and yet provide a fair margin of profit.

The airplane is to be a working ship, able to justify its operation without air mail contracts. It is to be constructed so that it can be flown with equal ease and lack of maintenance and repair difficulties on the Arctic circle or on the equator. It is to double as a transporter of heavy mining machinery, supplies, live stock, or as a carrier of war supplies, troops, heavy cannon, shells, or even entire light tanks if necessary.

It is not intended for the transportation of passengers. It will have none of the soundproofing, the luxurious seats, the iceboxes, and the cooking gallies of the aristocratic transport airliners that now ply the country's airways. This particular airplane is to be an aerial freighter, as practical, as stripped of fuss and feathers as one of the modern oceangoing freight steamers that earn their way by the amount of goods and materials they carry in their holds.

First of all, the airplane has been designed to make a profit from its flying. It is designed to carry an 8,000-pound pay load at a cruising speed of 149 miles an hour. With all this its total direct operating cost is to be only 26.2 cents a mile. This contrasts with operating costs of about 65 cents a mile for the Douglas and Lockheed airliners that now are standard equipment on the nation's major passenger air lines. And these luxurious airliners carry a pay load of approximately 6,500 pounds when loaded for a flight of only 600 miles.

Requirements for a freighter on which no passengers are to be carried are quite different from those of a gleaming passenger ship. And in every possible way Howard has made the most of his opportunities to improve the money-making characteristics of the particular plane he is designing for its particular freight-carrying job.

First of all, the Howard freighter is to have an unobstructed hold 8x8 feet by 24 feet long. This gives a cargo capacity of 1,536 cubic feet for the four-ton cargo. And the loading of this airplane is to be simplified by the hinged tail. Howard designed this ship so that its loading can be accomplished in the easiest possible fashion. There will be no jockying and prying of cargo to get it aboard this freighter.

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After the plane has landed the pilot will open a valve and the entire tail of the machine will swing aside. This will leave an opening eight feet square into which the freight can be loaded. The loading operation can be direct from motor truck or railroad freight car into the plane. When the cargo is aboard the tail will be swung back into position and locked securely into place. Then the machine will take off on its journey to its destination.

The tricycle landing gear, having proved its worth in the DC-4, the DC-5, the army's new attack-bombers, and even in the new Lockheed multi-engined pursuit plane, also is used for the freighter. But this gear will be fixed, and streamlined to present as little drag as possible. This will eliminate the weight and complication (and consequent expense) of a retractile gear. Yet the cruising speed of the ship—approximately 150 miles an hour at 62.5 per cent full power—will be within probable requirements for a freight-carrying plane.

The freighter is to be a large plane, gross weight 20,400 pounds, with an empty weight of 10,000 pounds. The wing will have a total area of 1,000 square feet, and the machine will have two engines that may range from 750 to 1,100 horsepower each. It will be of a high-wing design, with twin stabilizers and rudders at the tail—much like the Lockheed planes.

It is to have a climb of 1,000 feet a minute, to land at 63 miles an hour through use of Howard high-lift flaps. It is to have a ceiling on one engine of 9,000 feet and to take off after a run of less than 300 yards. The cockpit will be arranged for its operation by one pilot.

The structure is designed for ease of repairs. The wing, in one solid structure like the Fokker wooden wings of the 1920s, will be constructed of wooden spars and ribs, with a covering of one of the new phenolic plywoods that are impervious to temperatures and to water. The entire wing will then be fabric covered, as in the small Howard DGA series of passenger planes that have been shown to be among the best in their class for the last four years.

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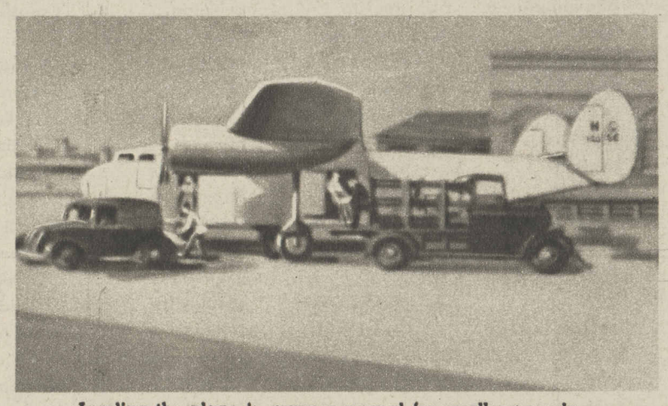
The fuselage will be of welded steel tubing. The cargo and nose sections will be covered with dural sheets. The rear section will be fabric covered, with a catwalk within for inspection purposes. The stabilizers and elevators at the tail will be wood with plywood covering, while the rudders and fins will be of tube construction, fabric covered.

"The swinging rear end of the fuselage allows the greatest conceivable loading possibilities," said Howard recently. "Parcels as large as the inside dimensions of the cargo hold may be loaded through a rugged end door that will swing downward to serve as a convenient ramp."

Instead of using new and highly expensive aircraft engines and propellers for this machine, Howard envisions the purchase from the commercial air lines of discarded motors and propellers. Present-day motors are discarded after about 3,000 hours of operation and propellers after 1,500 hours of flying. This is a safety measure taken merely to insure perfect operation while flying passengers, but there is every reason to believe that engines and propellers have an indefinite life. They could be used on freight airplanes because only one life would be involved.



Loading the plane in manner normal for smaller parcels.

"A cargo run is obviously a desirable means of proving self-reliant ability of junior pilots as well as a way to retain the investment otherwise lost when certain pilots, for different reasons, become disqualified for further duty on passenger runs," said Howard.

Cost estimates based on the calculated performance of this cargo airplane indicate that all first-class mail could be carried by air in such ships at a profit to the government and to the contractor without any increase in the 3 cents an ounce cost as at present.

Furthermore, it is indicated that express and freight could be carried at less than one-third of their present costs in such ships and still insure a sizable profit for the freight carrier.

FOUR EARLY BIRDS

Full color reproductions of famous Audubon paintings of the birds described here appear today on page one of the Picture Section.

By BOB BECKER

FEW BIRDS that come north in the early spring get a heartier welcome than the purple martin. A useful member of the swallow family, the martin spends the winter in Brazil. It makes a leisurely migration flight, usually arriving in Texas late in February and then slowly working north to keep pace with spring's advance. There have been years when these birds arrived in the lower Lake Michigan area late in March or by the first of April. But its average arrival date is April 15. These birds take a heavy toll from the insect population.

Preceding the purple martins are the red-headed woodpeckers, which have an average arrival date of April 1. It's not difficult for these gayly colored members of the woodpecker family to migrate ahead of the martins, for they do not cross the Caribbean into South America to spend the winter. In fact, some may stay north all winter if they have an abundance of acorns on which to feed. Noisy, active, and bright colored, the red-headed woodpecker is one of the most conspicuous early spring migrants in the middle west.

The beautiful plumage and sweet song of the rose-breasted grosbeak make it a favorite with thousands of bird fans. The grosbeaks sometimes appear late in April, but their average arrival date is around May 1. The grosbeak's music is melodious. This migrant spends the winter from southern Mexico and Yucatan southward to Venezuela. It gets a double welcome from farmers because of its beneficial food habits. Thousands of destructive potato beetles, chinchbugs, tussock moths, and other insect pests which damage the farmer's crops are consumed by these beautiful birds.

Tangled thickets and ornamental shrubbery are among the favorite retreats of the catbird. With habits somewhat similar to those of the southern mockingbird and a répertoire of songs almost as varied, the catbird unfortunately mars its spring concerts with occasional catcalls. From this habit has come its name. It may winter from the gulf states down through Panama, coming north in the spring to arrive around the first of May.

● JOHN JAMES AUDUBON developed his fame as an authority on birds from the hobby of a rather petted childhood. Born in 1785 in Santo Domingo, now Haiti, where his father, Lieut. John Audubon, French naval officer, had a plantation, Audubon developed an early interest in bird and animal life. He started his collection in Santo Domingo and continued it in Paris, where he attended military school and art school, both briefly, and later still on his father's farm near Philadelphia. Audubon's paintings have been criticized from various angles, but none denies him the credit for an inestimably valuable introduction of American bird life. He was one of the first artists to paint birds in natural poses, and his earliest exhibitions had a wide effect, even in literature. The Audubon publishing work became a family affair, Mrs. Audubon supporting the group while her husband got his start, their son John later assisting in the collecting and painting, and another son, Victor, taking over the business management.