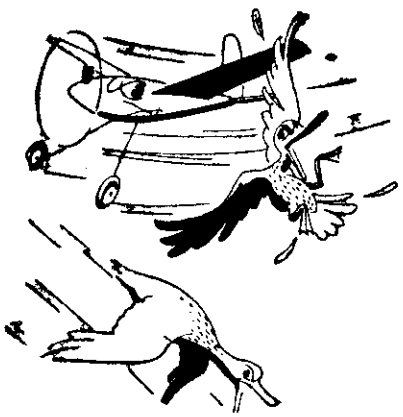
SEE HOW THEY FLY!

From Rubber To Petrol In The Story Of Model Aeroplanes



ONCE in Christchurch, more than 10 years ago, a group of model aeroplane enthusiasts were gathered in Hagley Park. Smart models of various kinds were being wound up, or launched, or assembled out of their special crates. There were neat scale models, monoplanes and biplanes in bright colours, and sleek models designed solely for efficiency, in which beauty of line was a mere incidental. Along came a couple of boys with a "stick-model," a wing fixed on to a spruce spar, and the usual tail surfaces. Nobody noticed them particularly, but they launched their aeroplane into the air and watched it climb. It seemed to shoot up at a violent angle, and the propeller went on spinning. In a few moments the stick model was the centre of attraction and all eyes turned upwards, away from scale models and acknowledged record-breakers. The propeller was seen to stop, but air currents had carried the little frame high up into the air. It turned its nose in the direction of Fendalton, and its excited owners dashed off on their bicycles. Others followed, and there was a little band of cyclists racing along without a care of the dangers of the road, heads thrown back and hands shading their eyes, pedalling for their lives in pursuit (we even reproduce a picture of them here). Long after the launching, the model was lost to sight, drifting away over the Canterbury plains, known to have flown longer than any similar model hitherto. It was not a record, however, because nobody had thought of timing it with a watch.

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BUT that was more than 10 years ago, and model aeroplanes have flown a long way and developed a long way since then. Though this hobby still has its lighter side—as when a cow recently ate one valuable model because it apparently liked the "dope" on the wings—it is a rather more serious thing these days than our artist's drawings might suggest. We discovered this when, having noticed some tiny petrol motors in a shop window, we decided to make further inquiries.

"It's a Real Science"

In the words of H. E. Righton, general secretary of the New Zealand Model Aeroplane Association, "it all grew out of the old paper-bag-and-rubber model that started as a toy for boys. Now with petrol models with 10-foot wingspans, and remote control by radio, it's a real science."

In other countries, this "real science" is recognised by Governments, and assisted by oil companies. It is recognised, for instance, that the Davis "air-foil" (cross-section pattern of an aeroplane wing), which is now being used

in the wings of Liberator bombers and other American aircraft, was developed by a model-aeroplane maker. Members of the Wellington Model Aeroplane Club saw the efficiency of this wing-section for themselves when their first model employing it took off and sailed away into the Tararuas. It has never been seen since. In New Zealand, Mr. Righton says, about 90 per cent of the eligible members of the various clubs went into the Air Force, and senior members now act as instructors to the model aeroplane sections of the Air Training Corps. There has been unofficial recognition of the clubs' contribution in the present war in ways which we have been asked not to mention.

There are four roughly-divided kinds of model—the indoor model that may have a span of two feet and yet weighs only one-tenth of an ounce; the outdoor model (driven, like the indoor one, by twisted rubber); the petrol-motor machine, that may have a span of anything from four to 10 feet, weighing up to 10 pounds; and the glider model that is launched out-of-doors by a tow-rope that is pulled off its hooks by a little parachute when the tension is released.

Lighter Than a Feather

When Mr. Righton told us of the indoor model that weighs only one-tenth of an ounce, we wondered at first whether we had heard correctly. These models, it seems, can be constructed with balsawood frames, the main spars being hollow, and the flying surfaces covered with microfilm, so that far from being merely "light as a feather," they are much lighter than a feather of equal size would be. Microfilm is the name given to a membrane obtained by pouring a cellulose liquid on water, and then lifting it off and drying it. Balsawood is a very light wood that comes from South America, where the word means "raft." It is used nowadays in "grown-up" aeroplanes, too — Hudson bombers employ it as an insulating material in plywoods. Indoor models, such as have been known to fly for 15 minutes inside a large building, bear little resemblance to the model aeroplane. They have a big propeller that merely idles round, driven by a loop of rubber three-sixty-fourths of an inch wide, twisted 2600 times—by a 10-to-one geared winder, as Mr. Righton quickly explained, when we queried the figure.

Rubber-driven outdoor models such as have entered in the Wakefield and Moffet contests (flown by proxy flyers), are the more familiar style of thing—ranging from the conventional high-wing monoplane that bears some resemblance to the small one or two-seater aeroplanes of the 'thirties, to the more abstracted design that has wingtips bent upwards, extra vertical surfaces underneath the tail, and a propeller that folds up like a moth's wings to lengthen the glide when the rubber motor has run down. Mr. Righton showed us a photograph of one answering to this description, built by a Chinese boy in New Zealand, which won sixth place in one of the Moffet Contests.

"We rely on gliding time being three times the time of the power-flight. That one has blades that fold back into that position when the tension is released from the rubber."

Binoculars Forbidden

There is a strict code of rules, accepted internationally, under which contests may be conducted and results recognised. Timers may not follow the aeroplanes as they drift; they may not move more than 12 yards away. Nor may they use optical aids—other than sunglasses! Once out of sight, the model has finished it's flight for competition purposes.

Flights of 20 minutes and more have become the accepted thing since petrol motors were introduced. In 1935, Mr.

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