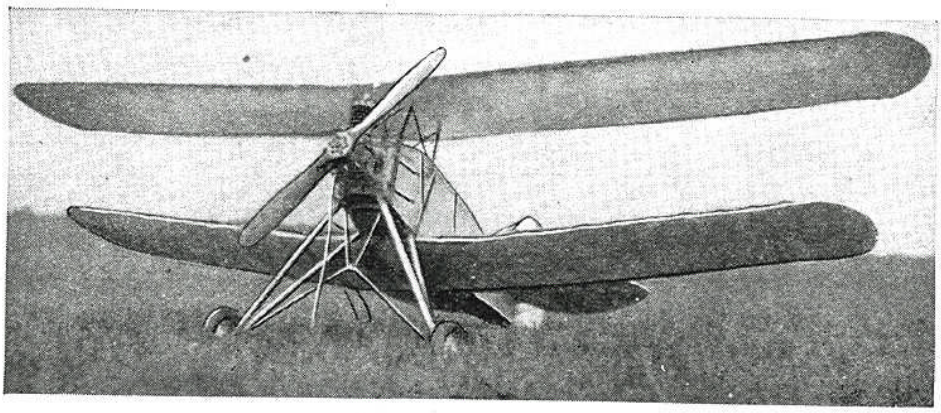
Amazing Model Planes

Every model plane enthusiast dreams of owning a miniature petrol-engined plane. Here we tell you how an expert made that dream come true



Fitted with a tiny petrol engine, this model plane, called Kanga, carries a clockwork regulator which shuts off the engine at the end of every flight.

HERE is a model aeroplane with a real petrol engine installed in its nose just like its big brothers! The model really looks so much like a real one that it is quite hard to tell the difference at first glance.

Named Kanga by its designer and builder, Captain C. Bowden, it is fitted with a minute petrol engine cleverly adapted from a small power unit built in America for driving model speedboats.

As you can see from the photographs the plane is a full cantilever biplane, which means that the wings are not braced with either struts or wires but are simply attached to the fuselage. Actually there is no full-size plane just like it, although it resembles the Southern Martlet in a general sort of way. The Martlet, as you may know, is a single-seater plane of very modern lines.

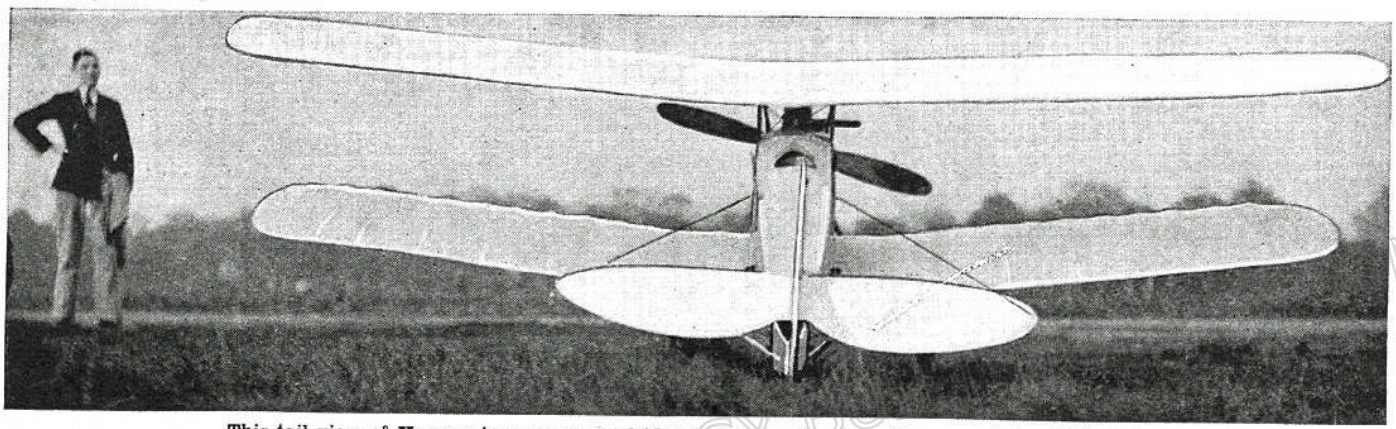
The span of the top wing is 7 ft. 6 ins., the bottom wing being just a foot shorter. The overall length of the plane is about 4 ft. Both wings are strapped on to the fuselage with strong rubber bands, so that should the plane make a bad landing, the wings will give and prevent a nasty smash up.

The fuselage, which was built of three-ply and spruce longerons mounted on bulkheads and covered with doped silk, had to be made specially strong, otherwise the vibration of the $\frac{1}{4}$-h.p. engine, bolted to its nose, would have shaken it to pieces.

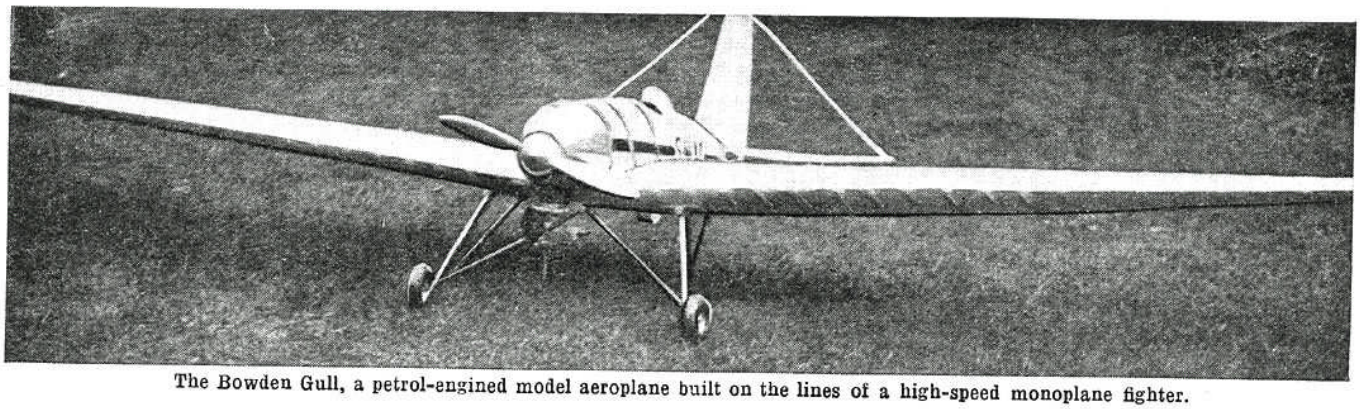
Kanga was built for an attack on a twenty-year-old record, and the very greatest care had to be taken to make it as perfect as it is possible to build a model plane. Captain Bowden even went so far as to make the undercarriage of special duralumin tubing—the metal from which airships are constructed—and to fit tiny rubber tyres specially made for the job by the Dunlop company.

When at last it was finished, the plane was taken out on to Hounslow Heath for a trial flight; and it soon showed that it was a better flier than anyone had dared to hope. It flew so well, in fact, that some way had to be found of preventing the plane flying away altogether, for once the engine was set for a steady speed, there was no knowing what might happen. It would just carry on until the petrol ran out.

So, to begin with, a thread was attached to the throttle on the engine, and every time that Kanga looked like going for good, a pull on the thread



This tail view of Kanga gives you a good idea of its size, the top wing-span being 7 ft. 6 ins.



The Bowden Gull, a petrol-engined model aeroplane built on the lines of a high-speed monoplane fighter.

would throttle back the engine and bring the plane down to earth again in a glide.

For the record attempt, however, the thread was replaced by a very ingenious device which automatically closed the throttle after the plane had been flying for a certain time—a kind of robot pilot, as it were. The principal part of this mechanism was a small clock fixed to the fuselage; and by setting this clock the person on the ground could limit the flight to anything from five seconds to half an hour. As soon as the time had expired, the clock would switch the engine to its slow-running position and this would bring the plane down in a good glide. For the record, the clock was set at one minute.

It was far easier to set the clock than to get the single cylinder engine running smoothly, however. And to persuade the plane to take off from the special runway that had been prepared on Messrs. Fairey's aerodrome was still another difficulty, the grass being short enough for the wheels of a full-size plane but far too long for the tiny undercarriage of the model.

By the time the engine had been satisfactorily tuned up, the wind had dropped and the runway was, in consequence, no longer long enough. So the party had to set to work to lengthen it. It just shows you what a small thing can upset a model-plane record attempt.

By eight o'clock in the evening, however, a runway 25 yards long and about 6 yards wide had been cut and Kanga was set at the end of it with engine running. Then, when she had been trimmed for a steady flight, she was given a slight push.

It was enough. The tail came off the ground and away she went, taxi-ing down the long strip of cut turf to clear the long grass at the end by bare inches.

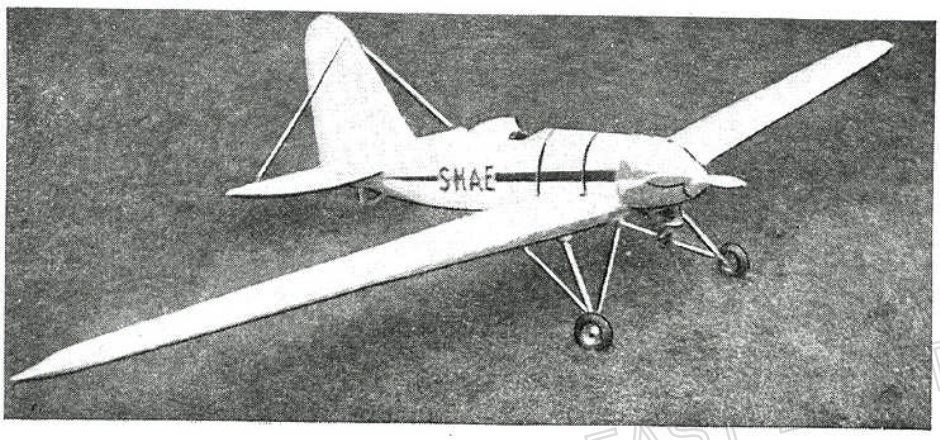
Once off the ground, she flew round in a big circle, gradually climbing to more than 200 ft., which is pretty high for a model. Following her at a run, for the machine was by no means slow, went officials with stop watches, ready to time the exact moment when she touched ground again.

Other enthusiasts armed with cameras and cine-cameras ran with them, hoping to get a good shot of the plane on its way down. They found it impossible to keep up with the model, however, and a good picture of Kanga in the air has yet to be taken.

After exactly one minute, the engine throttled back as arranged and down she came in a long straight glide, landing safely on the aerodrome seventy-one seconds after ascending. The record had been broken!

And now Captain Bowden is planning to break his own record. Already he has built a new plane, two photographs of which appear on this page. In trials, it has shown itself to be a most promising flier.

It is called the Bowden Gull, and it is a kind of all-round improvement on its elder brother.

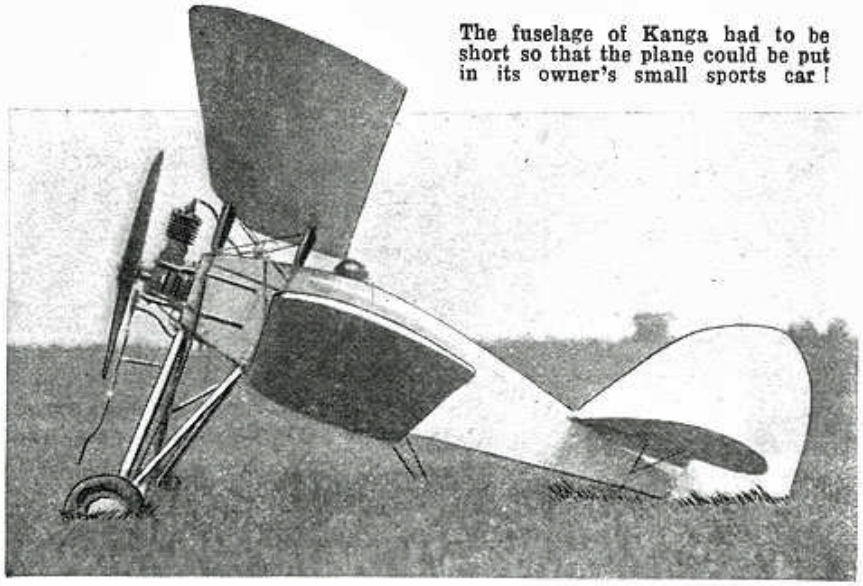


This view of the Bowden Gull gives you a good idea of its racy, streamlined appearance.

As you can see, it is a low-wing monoplane with a wing-span of 9 ft. and an overall length of 5 ft. In spite of its size, however, it weighs only 8½ lbs. together with the engine.

As the photo shows, the Gull is a great improvement on Kanga. For one thing, it only requires an engine of about half the size of the one in the biplane, proving that its design is more efficient.

So, perhaps, by the time this appears in print, Kanga may have lost its record to the Gull, and its seventy-one seconds flight may appear to us as ridiculous as do the old two hundred yard hops made by Wilbur Wright in the first days of full-size aeroplanes.



The fuselage of Kanga had to be short so that the plane could be put in its owner's small sports car!