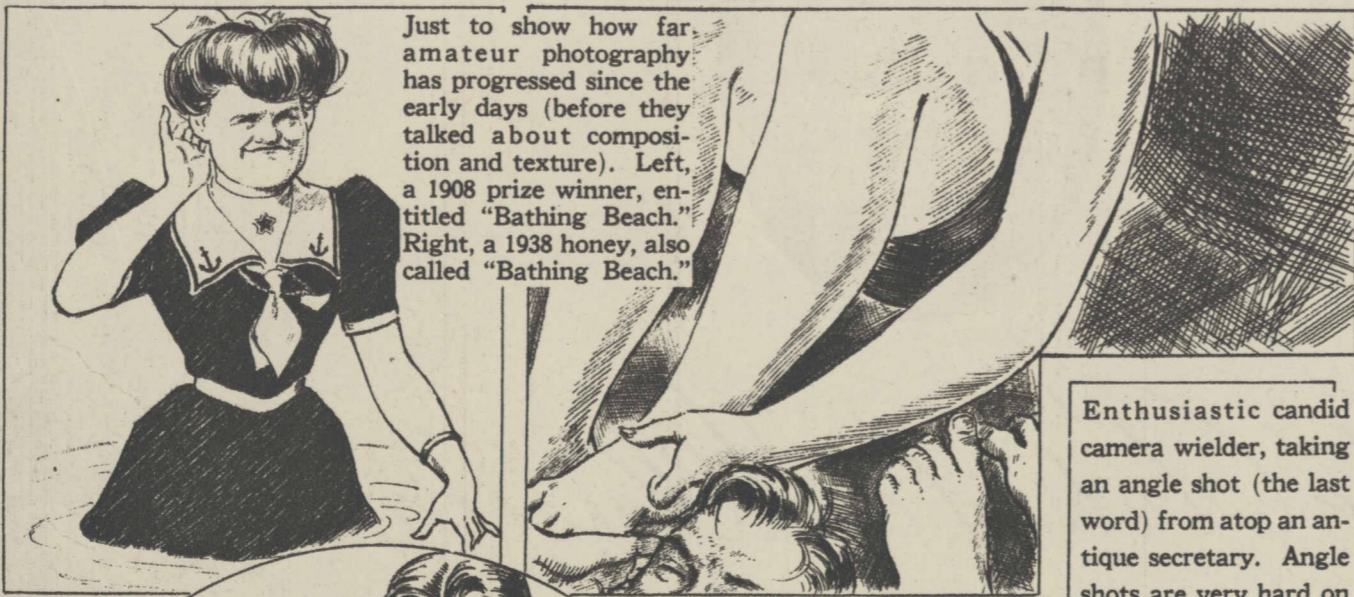


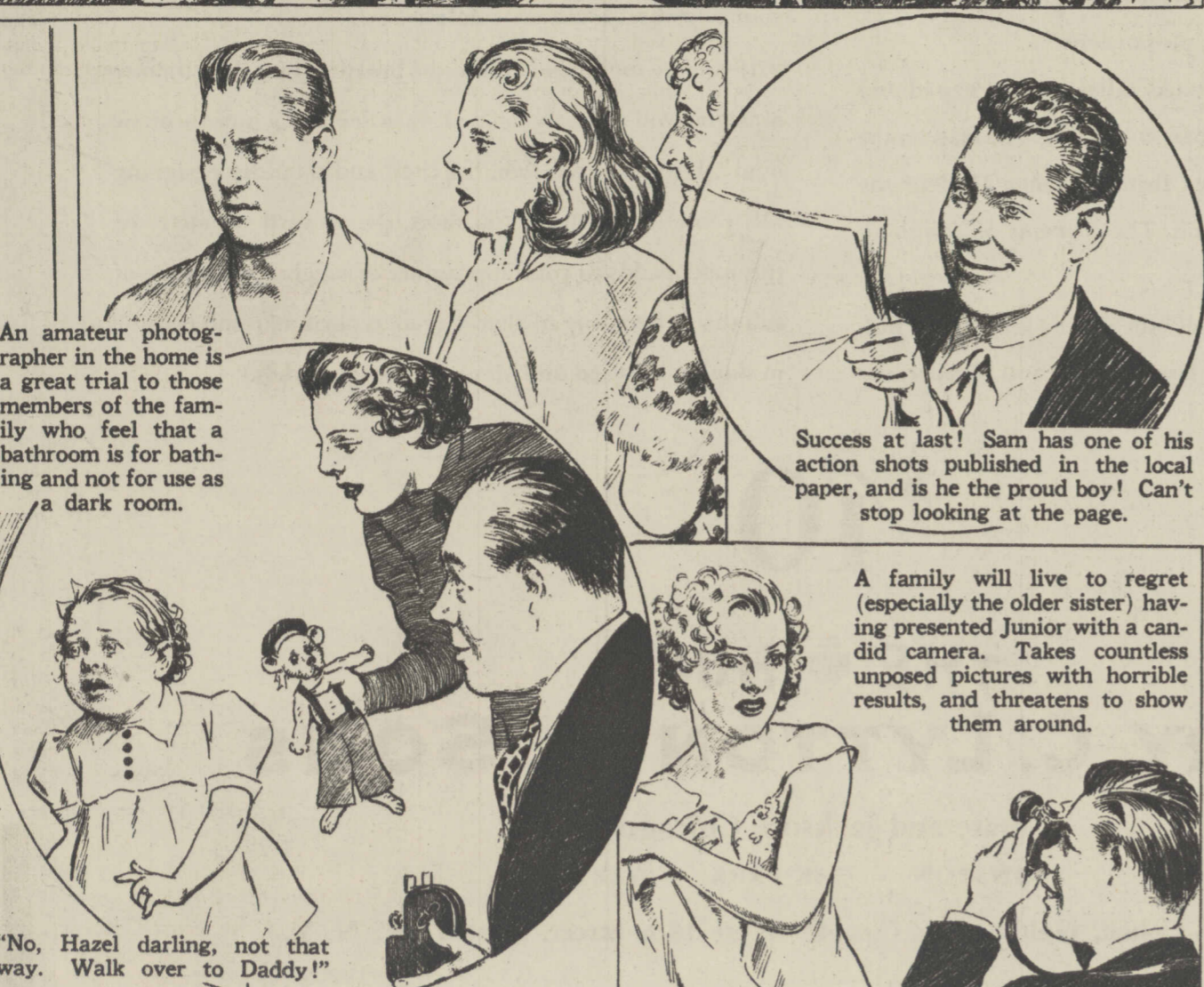
# AMATEUR PHOTOGRAPHERS

By W. E. Hill

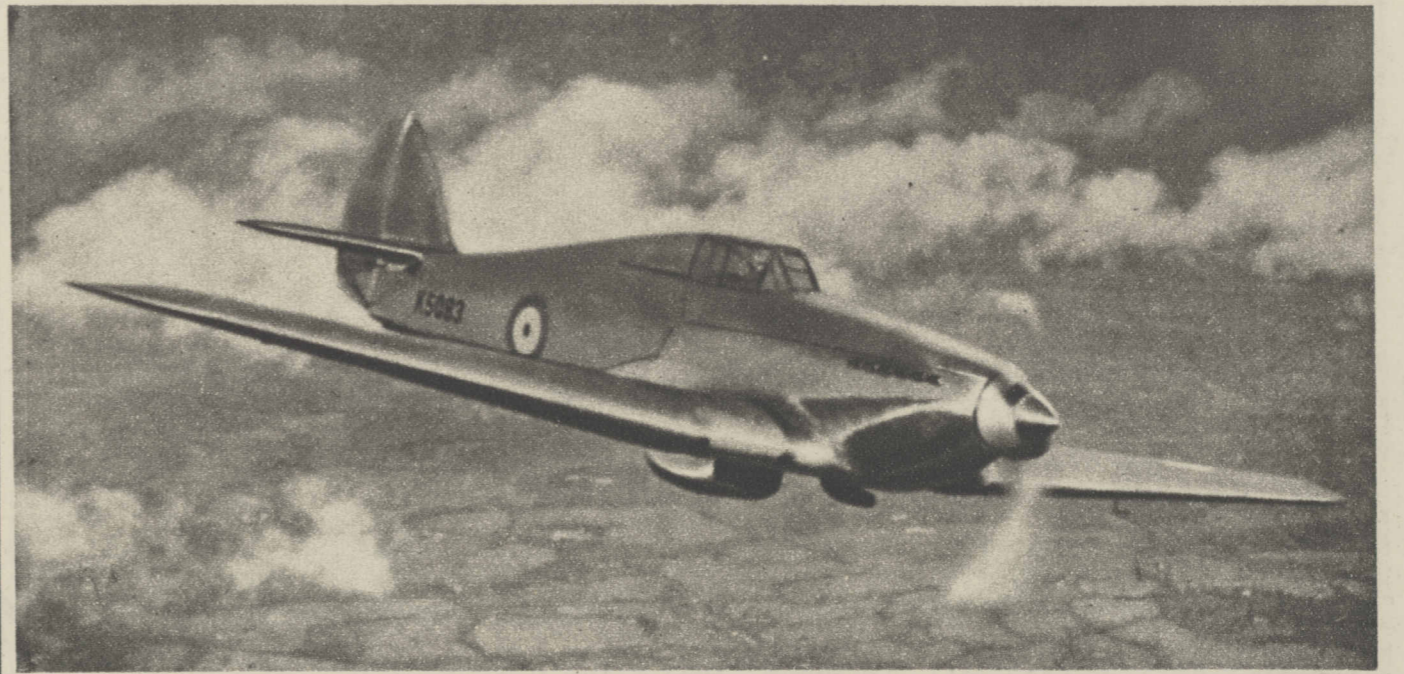
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Enthusiastic candid camera wielder, taking an angle shot (the last word) from atop an antique secretary. Angle shots are very hard on the furniture.



# Fastest Air Fighters



Hawker Hurricane in flight. This is a sister ship of the plane which made the 408.75-mile-an-hour mark. Note the clean lines.

A NUMBER of questions undoubtedly arose in the minds of readers who noted a brief dispatch from London on Feb. 11 which stated that the day before a standard single-seat fighter of the Royal Flying corps had flown a course of 327 miles at an average rate of 408.75 miles an hour. This is but 32 miles an hour below the world's speed record, held by the Italians, and far exceeds the world's land plane speed record of 379 miles an hour, held by a German pilot and machine.

Some of these questions probably were: Was there a helping wind? How was the flight timed? Does this mean that the British have succeeded in building a 400-mile-an-hour military fighter? How does this speed compare with the military fighters of the United States of America? How does the British machine look, how is it constructed, and, above all, what is its motor like?

Now for answers to some of these queries. There was a helping wind, reported at from 50 to 80 miles an hour. The wind was blowing along a bearing of 130 degrees. The flight was made along a bearing of 167 degrees from Turnhouse airdrome, Edinburgh, to Northolt, an R. A. F. base in central England. Thus the wind was nearly astern and consequently of considerable assistance.

Just how the flight was timed is not known. Reports were that the pilot, Squadron Leader J. W. Gillam, commandant of Fighter Squadron 111 at Northolt, took off at 5:05 p. m. He immediately climbed to 17,000 feet and held this level until 100 miles from his goal, when he began a long power dive to the home field. He is supposed to have landed at 5:53 p. m.—48 minutes after his departure.

According to this report, the record is a remarkable one. It would include the takeoff into the wind, climb to a safe height for a turn on the downwind course, the climb to altitude, and the time taken for maneuvering at the landing after reaching Northolt. If, on the other hand, the time of departure was taken by the pilot as he shot over Turnhouse in the air, and again as he dived across Northolt field, the flight is not quite so impressive.

The consensus here is that the tail wind was well over 100 miles an hour, a speed which is common at heights above 8,000 feet. This contention is supported by reports that the engineers who designed the English plane say it has a designed top speed of between 310 and 315 miles an hour. The contention is supported also by the record of a flight made from Edinburgh to Northolt several weeks ago by three planes of 111 squadron. They averaged 301.8 miles an hour.

Engineers say that there is very little difference between cruising and top speed of modern fighters at their

## Britain, U. S. Compete for Honors

By WAYNE THOMIS

optimum altitude. At such a height—and 17,000 feet is supposed to be the optimum height for the English planes—the motor with wide-open throttle is able to deliver only its cruising power, due to the fall-off in air pressure.

The plane which made the remarkable flight in question is one of two new single-seat fighters which are now being built in large quantities for the R. A. F. under the air force expansion program. It is a Hawker Hurricane with a Rolls-Royce engine rated at approximately 1,000 horsepower. The Hurricane is a low-wing monoplane with retractile landing gear and split flaps.

No figures for its weight, dimensions, landing or top speeds, or cru-

the best airplanes of their types in the world today, not excluding the new British fighters.

Little is known about the Curtiss planes, but the performance of the Seversky has been proved publicly by the entering of these machines in the National Air races last year and by record speed attempts made in them. At Detroit last fall Jacqueline Cochran set a woman's land plane speed record of 294 miles an hour in a Seversky Executive with an 1,100-h.p. twin-row Wasp radial engine.

This same plane, which is virtually a duplicate of the military fighters, has a cruising speed of 300 miles an hour at 20,000 feet. Its top speed at that altitude is supposed to be about 350 miles an hour, because the motor is supercharged to deliver its full rated 1,100 horsepower up to 14,000 feet. The new Seversky fighters have the latest twin-row Wasps, which deliver 1,200 horsepower up to 14,000 feet and consequently should have a still higher top speed.

The Curtiss P-36, which also has the twin Wasp engine, has a general performance approximately equal to that of the Seversky. But the P-37,



The American version of the single-seat fighter—Curtiss P-36. The engine is a twin-row Pratt & Whitney Wasp rated at 1,200 horsepower. The army air corps has ordered 210 of these planes.

ing range are available. However, it is known that its wing span is nearly forty feet and that its fuselage is of approximately equal length. It is fitted with a large wooden fixed-pitch air screw. The fuselage and wings are of metal construction, covered with fabric. The landing wheels fold into wells in the wings so that they do not protrude when retracted.

Strangely enough, the Hurricane is supposed to be the slower of the two new fighters. The second machine—the Spitfire, built by the Supermarine corporation—has the same motor but a constant-speed air screw. It is smaller, built of metal with metal covering for fuselage and wings, and has retractile landing gear and flaps. The Spitfire is supposed to have a top speed of nearly 350 miles an hour in still air. The British are said to be considering an attempt to break the world's land plane speed record with this machine.

Now for a comparison with U. S. air service machines. Our own latest fighters are the Seversky P-35 and the two Curtiss planes, the P-36 and P-37. These planes, according to officers of the U. S. army air corps, are

which has the new Allison engine rated at 1,000 horsepower, is said to be much faster. The Allison motor is a liquid-cooled V-12 type engine much like the Rolls-Royce motor used by the British. However, the American engine is fitted with a turbo-supercharger operating off the exhaust which enables it to deliver its full power up to 20,000 feet.

This, of course, means that the airplane is capable of top speeds of virtually 400 miles an hour at 20,000 feet, where the thin air, with a pressure of less than 4 pounds a square inch, exerts less than one-third the drag of the sea level air, where the pressure is 14.7 pounds a square inch.

The recent development of a constant-speed propeller which can be fully feathered or can take an enormous bite of air for high-altitude flying is another factor favoring American machines. This propeller, which still is on the army and navy secret list and cannot be described, has just been perfected and now is being delivered in large quantities to army and navy squadrons.

First fighter with a liquid-cooled engine built in the United States in more than a decade. It is the Curtiss P-37 with the Allison V-12 engine, which is similar to the Rolls-Royce Merlin. (Associated Press photo.)

