165 Surprise in the Pacific—the "Zero" (1940) seen in U.S. markings. 166 The Blackburn B.20, of 1940, had a retractable planing bottom

THE FIRST FIFTY YEARS

1940 Two fighters which gave the Allies some of their
biggest surprises, and some of their most serious worries, were
both radial-engined. They were the Japanese Mitsubishi Navy
Type O (165), dubbed "Zero" by the Americans, and the German
Focke-Wulf Fw 190 (168). Both excelled in manoeuvrability, but whereas the "Zero" achieved this in part at the expense of armour and equipment, the Focke-Wulf was a first-rate fighter in every respect. A notable contribution to its performance was made by the installation of the B.M.W.801 engine in a very compact low-drag cowling, with induced fan-cooling.
Another unorthodox German engine installation was made in the Heinkel He 177 bomber (167). Although apparently twin-engined, it had, in fact, four engines, grouped in two pairs, each pair driving one airscrew. A clutch enabled either engine of a pair to be uncoupled.
In addition to standard machines we have on this page two experimental types. The Blackburn B.20, illustrated at 166, was built to exploit a patented retractable planing bottom, but though it was flown in 1940, an accident put an end to further development. A more fruitful experiment was the Vought-Sikorsky 300 helicopter (169)—a flying test-bed which provided basic data for successive—and successful—types.
Side by side we have two very famous products of the North American company—the Mustang fighter (170) and the Mitchell bomber (171). The Mustang was built to a British specification and, although initially powered with an Allison engine, achieved the zenith of its fame with the Rolls-Royce Merlin. Teamed with Lockheed Lightnings and Republic Thunderbolts, Mus-tangs undertook bomber escort duties and fighter/bomber opera-tions deep into enemy territory. The Mitchell was, perhaps, the most successful twin-engined tactical bomber available to the Allies, though hardly less famous were the Martin Marauder and Dcuglas Boston and Havoc.
Among the "heavy" bombers of the war, the laurels, in our own submission, go to the Avro Lancaster (172), designed by Roy Chadwick. Here was a machine in which British com-promise was exercised to brilliant effect. There were several versions, but typically the "Lane." had a top speed of about 275 m.p.h., was armed with eight 0.303in guns in three turrets, and carried about eight tons of bombs. A few were adapted to carry the 22,000 lb "Grand Slam" bomb or anti-dam weapons.

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167 Another in captivity—the four-engined He 177 (1940).

168 Under development during 1940 was the formidable Fw 190.

169 Igor Sikorsky's famous VS-300 helicopter of 1940.

170 Developed to a British "spec."—the N.A. Mustang of 1940. 171 An eminent tactical bomber—the N.A. Mitchell, dating from 1940.

172 Britain's most famous bomber—the Avro Lancaster (1940). Note the wide field of fire commanded by tfie powered turrets.