

SPEED HAS CHANGED AIR TACTICS

(by "23/762")

MODERN air fighting tactics are vastly different from those of 1914-18. The combined speed of two enemy machines approaching each other in conflict at the end of the last war would be anything from 150 to 250 miles in the fastest machines; to-day their combined speed would be nearer 500 to 600 miles an hour. Such terrific speed, then, demands different methods of approach. Air

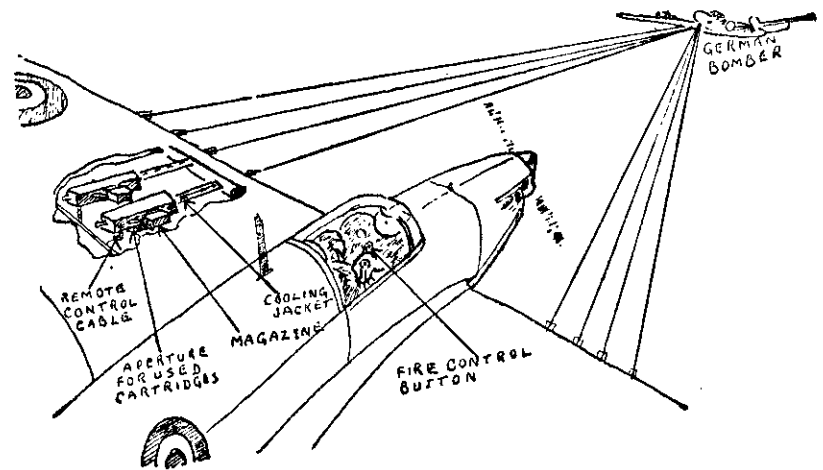
war. Dog fights, that is, 'plane against individual 'plane wheeling in the blue of heaven, have proved the ability of the British airman. But the recognised air fighting unit is three machines, known as a section. How such a section approaches an enemy raider is shown in one of the diagrams reproduced on the opposite page.

The Airman's Problems

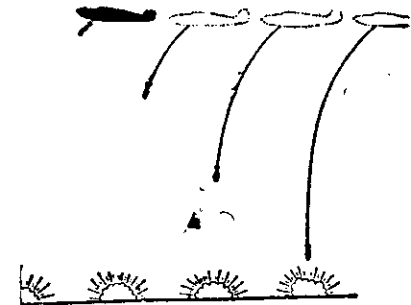
The real problems facing a fighting airman are (1) view, (2) fields of fire. The leader of the fighter patrol must make his approach as difficult for the enemy as possible and he must make his actual attack so that return fire from the enemy will be as ineffectual as possible. Remember that decisions must be made in split seconds.

The rate of fire of guns must also be considered. To-day it is so rapid that a single-seater fighter can deliver all its ammunition in a few minutes. That must be guarded against. The vicious stream of bullets must be released only when it can spell destruction of the enemy, with some remaining for emergencies.

During the last war, when a fighter pilot had found his quarry, he dived towards it at his greatest speed. That is no longer possible. A modern machine gathers speed so rapidly that in a power dive it may reach 400 miles an hour and may overhaul the enemy too quickly. Now a fighter must approach with such a sensitive judgment of speed that he is able to remain in effective range while he fires his guns to their best advantage. That, at best, will be a matter of seconds.



BY pressing a button, the pilot of a British "Spitfire" releases a stream of 200 bullets a second from the 'plane's 8 Browning guns. Incendiary bullets are mixed with armour-piercing bullets. These all converge to one withering point—the enemy 'plane if possible



THIS diagram shows the British method of bombing an enemy objective, such as an air-field, dock, or oil tanks. The bombs are released in quick succession, so that they burst in a line and close together on their mark

battles, fought out thousands of feet above the earth, are decided in a flash. Frequently the swiftly moving mind of the men in command of the machines is the deciding factor between life and death; success or failure.

To-day, then, fighting tactics are almost the opposite of those of the last

Delicate Handling Needed

Modern tactics teach the pilot to approach at the correct speed. Although the modern fighter has eight guns, they cannot be accurately sighted without sufficient time, and that time depends on the pilot's judgment. All this means swift but delicate handling of a machine—the pilot must judge his own speed and also that of the enemy to obtain the best results. When three of our machines are attacking one of the enemy bombers, the pilots, in their attack, must guard against the possibility of collision. Signalling, then, must also be accurate, though the plan is evolved beforehand. Such an attack is worked out mathematically. One fighter approaches from immediately behind, another from above and to one side, and the third from below and to the other side.

Fighter pilots of the last war attacked enemy aircraft from below and in front if they were fitted with movable rear guns. They would zoom down from one side and up under the enemy's wing tips. This bewildered the enemy, who

was unable to see what was going on. The increase in speed now makes this method impossible and the fighter must approach his quarry from behind and not so fast that his ammunition will miss its target.

Quick Turning

In dog-fighting tactics, which are much as they were in the last war, the object of each pilot is to get on to his opponent's tail. This is summed up in one word, "turning"; consequently, when two pilots meet in mid-air they immediately sweep into a turn. Each tries to circle faster than the other and so deliver a death blow by "getting in on the tail." Naturally the one who is able to turn in the smaller radius is invariably the victor. So far reports indicate that the new British fighters have been most successful in this manoeuvre, the Germans having sacrificed quick turning for greater speed in some of their machines. In order to escape, one or the other must make some sudden movement. Usually he goes into a spin, but he must not lose height, for height is of great tactical value. Pilots always try to keep and increase their heights during a dog fight, for there is always the possibility of escape into cloud. When a bomber has been attacked by fighters and is getting the worst of it, he has another means of escape, and that is to get as close to the earth or the sea as possible, so that fighters may not attack him from below. That explains why so many German 'planes are reported to have escaped by scudding away close to the ground. And it is the only excuse for losing height.

The armament of the modern 'plane has also changed tactics. During the last war all firing guns were forward, and pilots had to manoeuvre their 'planes into good firing positions. Now we have the turret fighters, and in those machines the pilot has to manoeuvre so that his gunners will have the best possible field of fire, rather like ships at sea.

(Continued on next page)

NAMES AND PLACES

A Plan Frustrated

Italy's actual preparations for entry into the war were made long before the actual day, and there is some reason to believe that the date was altered. One Italian ship, the *Umbria*, filled with high explosive and cement, was to have been used to block the Suez Canal, but that plan was frustrated when the ship scuttled herself outside Port Sudan in the Red Sea as she was overhauled by British destroyers. This ship had passed through the Canal and had been loitering about in such a way that the suspicion of the authorities was roused. They kept a close watch on her and hustled her through to the Red Sea. But for an apparent change of date on either Hitler's or Mussolini's part, the Suez Canal might have been blocked for some months.

General John Pershing

General John Pershing, G.C.B., who has suggested that the United States sell many of her old destroyers to Britain as soon as possible, is America's best-known soldier. He commanded the American Expeditionary Force in France from June 1917 to September 1919, and later became Chief of Staff of the United States Army until 1924. General Pershing spent a great deal of his early

military life in the Philippines, and was with Kuroki's army in Manchuria. In 1916 he commanded the American troops which were sent to Mexico in pursuit of Villa. While he was in command of the Border Districts of the United States in 1915, his wife and three of his daughters lost their lives when the Presidio was burned. He is now 80 years of age.

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