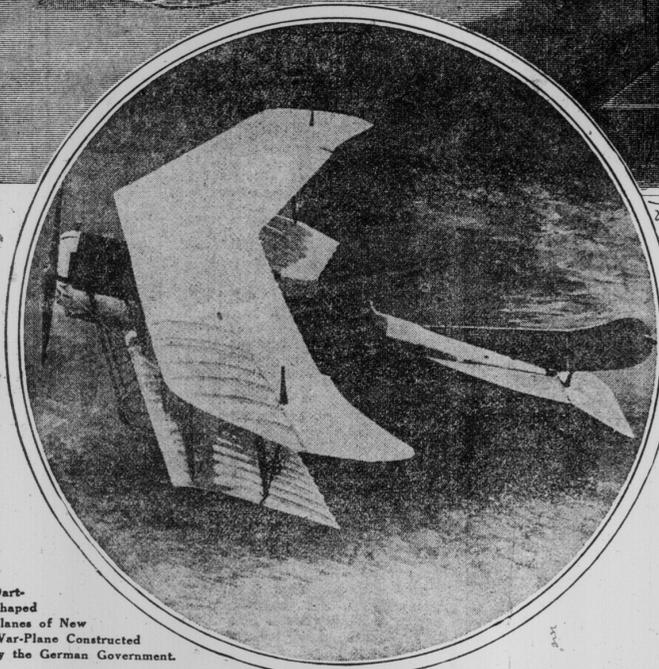


DEADLY IRONCLADS OF THE AIR

New Sky Terrors That Have Been Established by France and Germany, Proving That Winged Fighters Have Come to Stay.



Machine Gun on the New French Steel-Clad Aeroplane as Tested at Villacoublay.



Dart-Shaped Planes of New War-Plane Constructed by the German Government.

piloted one of the new armor-clads at Villacoublay during an important gun test. The machine used was a Deperdussin biplane and the gun was mounted on the fore part of the fuselage. The gunnery tests were carried out by Capt. Destouches, and the gun and shield are so placed that the gunner stands to operate the weapon. It is said that these tests were more successful than those recently made in England, when a new aerial gun was demonstrated. The armor protection of the French craft was most complete.

That the crew of a war-plane are always in double peril is obvious. With the modern long-range artillery there is a constant possibility of the men being hit—this has been shown in two striking cases in which aviators were killed. Then there is the question of motor trouble and the disablement of the engine under fire. Not long ago a flotilla of Spanish flyers, operating against the Moors, ascended out of rifle range, flew above

the newest German military war plane the wings are shaped like a dart. The new machine, which made a surprise flight recently, has a very imposing appearance and differs considerably from other machines, over which it has many advantages, the main feature being the solidity of structure. The framework is of steel struts and tubing. It carries 30 gallons of petrol and is fitted with a 100-horsepower, six-cylinder Mercedes engine and has comfortable seating capacity for both aviator and observer.

The fact that the aviator and the passenger sit so far back behind the engine gives them an uninterrupted view all around. The dual control arrangement, as well as having numerous advantages, would enable the observer, in the event of the pilot being shot in warfare, to take full control of the machine without changing seats.

Uncle Sam's Aviators.

This machine is equipped with an arrangement which fixes the elevating plane in any set position and which enables the pilot to keep the machine at a fixed altitude with little attention. All of these improvements will be adopted by Spain, the air army of which has proved of such great value in the African campaign.

At the beginning of hostilities in Mexico the United States army found itself with only 15 available aeroplanes, half of which had been rated by experts as obsolete in design. Privately owned machines available that might be rushed to the front at that time numbered 15. It was also developed that the army had only 12 men qualified as aviators, but that there were more than a score of soldiers who could fly. The British army, should it take the field tomorrow, would utilize 300 aeroplanes; the German 800, and the French 1200. These include the armor-clads.

The American craft are unprotected and at the time they were being rushed toward the Mexican border lacked every "protective coloration," an aeroplane cloth designed to make the machine look as much like the surrounding sky as possible. The Navy Aviator Corp. hydroplanes, intended for scouting purposes only, are likewise unprotected. The bat-

tered that the flyers may be launched from her decks, carried two of them with three trained pilots and 10 mechanics.

On this side of the Atlantic the armored battleships of the air must, as on the other side, follow in the wake of the reconnoitering flyer—a fragile fabric and unprotected from sudden death from below. What an epic the great battle of the future will be when the battleships of the air, the darting cruisers and destroyers, meet amid man-made thunder and lightning!

It must be a dull imagination, indeed, that is not stirred by a story of the manœuvring of the steel-shrouded warship, navigating the cloud ways with the swiftness of the wind, and, sustained there, with its rapid-fire battery and bomb-dropping device, by nothing more than the driving force of its motor.

Mr. Shipton's prophecy of iron floating on water, realized in the modern metal warship and the gigantic passenger carrier, having become accepted as a plain fact, this fresh marvel of the air is now brought forward, a thing beyond the dreams of an ancient seer, so far as the written record goes—a ship of iron floating in the air!

The French, however, did not go extensively into the matter until attention was called to it by two events—the experiments made at the Toulon arsenal in firing upon aeroplanes in 1912, and, most striking in its practical lessons, the use of the aeroplane in the war of the Balkans. The contest of the allies with the Turk demonstrated, by intensely thrilling adventures in the air and the death of one daredevil French airman, that all aeroplanes were vulnerable when flying below 4000 feet, and with the present system of observing a machine needs to fly as low as 2500 to 3000 feet in order to see the state of affairs on the ground. It would thus be exposed to artillery and infantry fire.

Future Aerial Fleet.

Two solutions were presented for protecting aeroplanes, first to armor the plane for the men, motor and devices, or only to protect the aeroplane guns, and in this case keep the flight very high, so as to prevent being hit. The French army decided to adopt the

first solution, that is, good protection and low flight, and from now on all the combat units will be armored.

The experiments being made with new armored aeroplanes will be kept quite secret. It is surmised that the future aerial fleet will be made up of the following types of aeroplane: First, armored single-place flyers for artillery and cavalry scouting and for short scouting trips at the speed of 70 miles an hour.

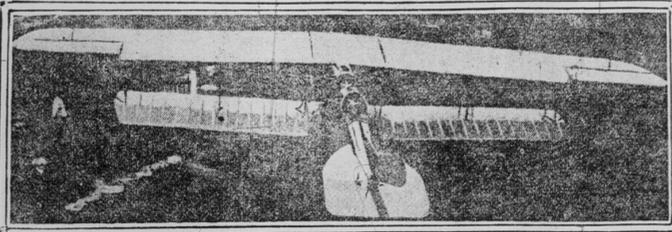
Second, the Etat-Major will make use of two-place scouting aeroplanes, also armored, and used for 60 miles an hour speeds.

The third is an armored two-place with mitrailleuses and automatic guns, intended for pursuing the enemy's aeroplanes and airships and working at the speed of 70 miles an hour. Then there will be several types of heavy weight for a great range of flight and speed of 60 miles an hour, designed for special work, like swift, armored cruisers on the water.

Cure for Neurasthenia.

Nervous persons reading of ordinary flights are apt to regard with additional fear the proposition of flying under fire, unaware that this very work might be successfully undertaken as a cure for neurasthenia and like ills. For it is a matter of common knowledge that the danger of a gun's fire so stimulates vigilance that nerves are tense with exertion and the mind is relieved from dwelling upon the ordinary dangers of keeping an aeroplane on an even keel and meeting every gust.

In other words, scouting in actual warfare seems to be a splendid cure for nervousness. The aviator must fly with the assurance of a bird, and he does so for fear of the enemy's rifle fire. A striking instance of the psychological phenomenon is the fate of Dr. Jules Constantin, a French aviator in the Bulgarian service. He was mortally wounded in the air during a flight above Tchatalja, but managed to land safely only to die before any one could reach him. His dead hand still grasped the steering lever; a bullet-hole was in his breast, and in this case keep the flight very high, so as to prevent being hit. The French army decided to adopt the



Rear View of the New German War-Plane Showing Differences in Wings.

WHEN Hudson Maxim, three years ago, visioned a battle of swift ironclads in the air, the picture was accepted only as a fascinating flight of fancy of the poet and philosopher and author of that epoch-making book "The Science of Poetry and the Philosophy of Language." Of course, Mr. Maxim's standing as an inventor, entitled him to entire credence, but the proposition was so splendidly imaginative, so far beyond anything that promised of such achievement, that it was accorded merely the appreciation due to adventurous fancy.

But in the comparatively brief space between then and now the prediction has come true. For Germany, France and England have already put the aerial armor-clad in commission, and at the present rate of construction, will soon have navies of metal warships manœuvring in the air, with batteries that can sweep the earth with a hail of death, and sure-shot bombs, like thunderbolts, to bring ruin with the thunder; fleet, pointed cylinders of steel, the safeguarding eyes of the cloud squadrons, going at more than a mile a minute; heavy armored cruisers, swift as the scouts,

that carry, not one gun, but batteries. Maxim's imaginative flight, based on exact scientific knowledge, is the accepted fact of today; tomorrow will produce new marvels. In the planning of these armor-clads of the air, all of the nations interested are providing for the great coming battle of the skies.

One of the forecasts of Maxim which fires the imagination and thrills one with the idea of power, wide-speed freedom, tense moments while swung high above the earth and moved by

the cold passion to slay and destroy, is when the aerial warriors, concealed in the dense, black, thunder-head of a cloud, sweep onward against their adversaries. Then, says the inventor, those watching from the earth, seeing the cloud rent with fire and hearing the thunder-sound, will not know whether it is man or the vast forces of the sky working there.

Striking French Demonstration.

Prevost, the Frenchman, winner of the Gordon Bennett cup, recently

the places where the tribesmen were thickest, and freed "a veritable rain of bombs."

Carl Decker, author and war correspondent, recently returned from Morocco, tells that so accurate is the marksmanship of the Moors that one of the aviators, supposed to be safely out of range and going at a speed to battle most expert marksmen, was hit four times by the enemy. He was killed and his companion slightly wounded. The Spanish are, therefore, building armor-clads for this class of work.

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