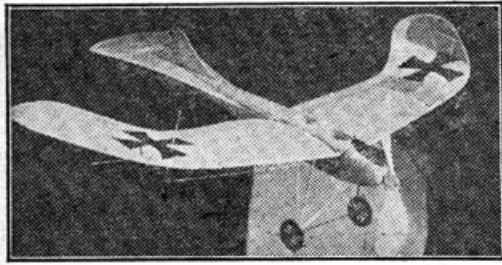


Hovering in mid-air like a soaring bird, our model Taube, as pictured below, offers an excellent view of the fundamental features of its esthetic design. And modelers, note particularly the fascinating sweep-back of the wing-tips and the definite similarity of the tail of our Taube to the tail of a dove.



## MOST GRACEFUL FIGHTING SHIP!

Taube is the German name for the Dove—the age-old symbol of Peace! But this deceiving dove-ship of the War proved to be a veritable vulture of Mars! For the Taube blazed a trail of death through the war-slashed skies. So in building this model of the Taube, prepared especially for you by Henry Struck, you'll be adding to your model collection the most bird-like plane ever to take the air.

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# “Dove of War”—The Taube

## TRAIL BLAZERS OF THE AIR—No. 6

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**A**T the outset of the World War, military aviation was confined mainly to scouting, artillery spotting, and haphazard bombing operations. The airplane was still a comparatively frail structure, and required the greater part of the pilot's efforts to keep her under control.

It didn't take long for the warring nations to realize that the airplane, further developed than it was at the time, held great possibilities as a war machine. And Germany in particular, began to look around for machines worthy of further work.

A design created in 1910 by Igo Etrich, an Austrian experimenter, was selected as the basis of the German Air Service, in view of the fine performance the ship had given as a sport plane. The wings—of what was known as the “Zanonia” type—were swept back as seen from the top, and incorporated a considerable amount of “washout” in the tips.

A unique girder-like system was used on the underside of the wing, in addition to several regulation brace wires running to the top of a pylon above the cockpits. A long graceful tail was mounted between the divided rudders.

These features, emphasizing the trend of the day to make the airplane as birdlike in design as possible, made it most appropriate to call Herr Etrich's design the “Taube,” which in English means the “dove.” The new air service ships were built by several different factories, and the “Tauben” from the respective plants embodied various changes in motor, landing gear or fuselage that distinguished them from one another, both in appearance and performance. The earliest types made about 65 m.p.h., while the best did almost 100 m.p.h. and were fully the equal of such Allied ships as the Nieuports, Moranes and B.E.'s.

The first months of the war saw no actual combats in

By Henry Struck

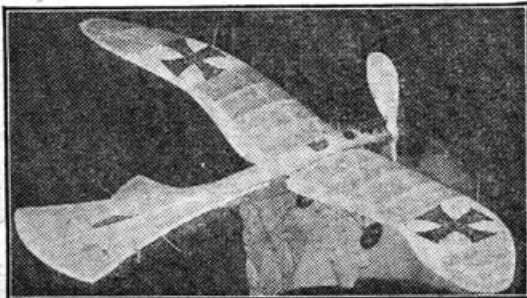
the air. And enemy airmen passed each other with a smile and informal salutes as they carried out observation assignments. A more serious minded Taube pilot, however, is said to have heaved a half-brick over the side at a Frenchman one day. Perhaps his breakfast coffee hadn't agreed with him! Anyway, that ended the brotherhood of the airmen.

For the next day the Allied pilot returned with a pistol, and took a pot shot at the wielder of the Irish confetti. Soon, rifles, and hand grenades and other ground weapons, were blasting away. And the brass-hats behind the lines suddenly woke up to the fact that the airplane had more to do than just spy upon the enemy—it also had to keep the enemy from spying in return. So feverish activity lightened the machine gun for aerial use, and the bloody struggle was “officially” carried into the air.

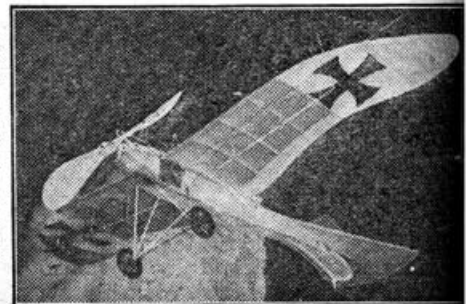
These early days saw some of the great German “aces-to-be,” flying the bird-like Taubes. Max Immelman—later to evolve the “Immelman turn”—“bombed” Paris in 1914 with propaganda, warning the French to surrender before the German Army swept into the capital! And many were the later air raids that sent the Parisians rushing in terror down into the dugouts to be safe from crashing bombs.

The Taubes later found their way to German war units in Russia, Turkey and even China! Such a machine was the Rumpler version of the Taube, built at Johannisthal, Germany. It was powered with the 100 h.p. Mercedes engine, and had a top speed of 68 m.p.h. It boasted such points as radiators mounted on the sides of the fuselage; comfortable cockpits; a space between the wing root and the body to improve visibility, and a neat nose cowling.

(Continued on page 94)



Left: This is how the early Taubes must have looked to the impetuous eagles of the French escadrilles who lurked in the skies above Paris, ready to pounce upon the paradoxical “doves of war” when they approached the beloved old city on the Seine. And at the right, in an unusual under-side view of our model, we can see how stout our ship really is, in spite of the seeming fragility of its general appearance. Note the strong supports beneath its wings and the sturdiness of its landing gear.



# "Dove of War"—The Taube

(Continued from page 54)

**T**HE Rumpler Taube was also the only Taube with a decided dihedral angle. And it had a sturdy tripod landing gear, and clean fuselage design—making it especially suitable for a flying scale model.

The construction of our model Taube has been greatly simplified, by giving full-size layouts of the curved parts so that they can be easily cut from sheet balsa. The three-view assembly plan—

drawn one-half the size of the finished model and to a scale of  $\frac{1}{4}$ " to 1"—shows the ship in completed form.

The small area of the fuselage makes the building up of two sides of longerons and struts impractical. A stronger, and a quicker way, is to cut the sides from soft  $1/16$ " sheet balsa to the pattern given. Cut the formers likewise, of  $1/16$ " sheet. Join the sides, by cementing Formers 1, 2 and 3 to the top and the

through the fuselage. Short uprights F are cemented in place to complete the girder.

The cabane struts G are  $1\frac{1}{2}$ " long, and glued into the top of the body. The wing tip brace poles H are 2" long, while the stabilizer brace I is  $1\frac{1}{4}$ " long. Their ends are pointed and pushed into the outline at the proper points. The black thread braces are now run from the points marked by  $\alpha$  on the layout pages, to rig the model as shown on the three-view plan.

The propeller is carved from a block of medium balsa,  $\frac{5}{8}$ " by  $1\frac{1}{4}$ " by 6". Work carefully, as the success of your model depends to a great extent on the efficiency of the prop. Shape the blade to an airfoil section, undercambering the back about  $1/16$ ". After sanding, dope the prop to polish it.

The nose plug is made of a  $\frac{1}{4}$ " square of  $3/16$ " thick balsa, cemented, cross-grained to a  $9/16$ " diam. disc of the same thickness and shaped to match the contour of the nose. Washers, with bushings inserted, are cemented to the front and rear of the nose plug to serve as bearings. The propeller shaft is formed of .034 piano wire. After passing it through the nose plug and prop, it is bent over and cemented to the hub. Include a couple of washers between the propeller and bearing.

## FLYING

**S**IX strands of  $\frac{1}{8}$ " brown rubber, preferably lubricated, will supply plenty of power for your Taube. Before attempting to fly the model, check the wing for its proper incidence of 2 degrees. The leading edge should be  $3/16$ " higher than the trailing edge, as shown on the fuselage side view. The stabilizer is set at 0 degrees.

Glide the model gently, correcting any tendency to stall by adding a bit of clay inside the nose. Should the glide be too steep, add the ballast inside the rear of the fuselage. Set the rudder so that the model makes a gentle, circling glide to the right. For the first powered flight 100 winds will be sufficient. These can be increased to 600, by stretching, then winding with a winder.

The radiators are made from strips of  $1/32$ " by  $\frac{1}{8}$ " balsa, wound with thread and cemented to the sides of the fuselage between formers of  $1/32$ " sheet balsa. They are painted black. The earliest Taubes did not display the Iron Crosses, but these may be cut from black tissue and doped to the top of the wing between Ribs 5 and 7. The colored tissue should be removed and replaced with white, as a background for the insignia.

A word of warning when flying your model. Be sure you oil the washers to silence that chirping sound sometimes made by a dry bearing. If you don't, some one may be fooled by that bird-like outline and put a dose of buckshot in her tail feathers!

No such mistake could be made, however, on next month's Trail Blazer project, the Vickers "Gun Bus."

SEPTEMBER, 1937

$1/16$ " sq. cross-pieces to the bottom. Note that the bottom of the fuselage is narrower than the top.

Pull the sides together at the rear, and insert the rest of the formers and struts. Cover the section between Formers 1 and 3 with  $1/64$ " sheet balsa, cutting out the cockpits after the cement is dry. Five stringers of  $1/16$ " sq. are run from Former 3 to the rear of the fuselage.

A block of soft balsa 1" thick by  $1\frac{5}{8}$ " sq. is required for the nose block. After tracing the side view on the block, cut down to the outline with a sharp knife. Mark the top and cross-section views and carve carefully to shape. Finish with sandpaper.

Next, split the block with a razor blade and hollow out the inside to the proper thickness. Cement the halves together again, then glue them onto the front of the fuselage.

A recess is cut into the top of the nose block to accommodate six cylinders, each cut from a length of  $\frac{1}{4}$ " diam. round balsa, and painted with black India ink or dope before being glued in place. Bent pins are forced into the tops of the cylinders to simulate the valve rockers. The exhaust pipes and the water line may be formed of  $1/16$ " diam. reed, and also colored black.

The landing gear struts are A and B, of  $3/32$ " by  $1/16$ " bamboo, streamlined. They are  $2\frac{1}{2}$ " and 3" long, respectively. The ends are pointed, dipped in cement, and pushed into the nose block and the bottom of the fuselage. Strut C is of  $1/16$ " by  $\frac{1}{8}$ " bamboo, 3" long, forced into the top of the fuselage. The axle, of .034 piano wire, is attached with several coats of cement to the apex of the landing gear tripods.

The wheels of the original Taube were of the uncovered wire spoke type. The best way to reproduce them is through a balsa rim with bamboo spokes. Cement together two sheets of  $1/16$ " balsa, with their grain crossed. Cut out the rim with a pointed blade. Push a pin through the rim into a hub of  $\frac{1}{8}$ " diam. hard balsa.

Split a length of bamboo to  $1/32$ " sq. for the spokes. Sharpen one end and force it through the rim into the hub. Break off the excess, and repeat. Alternate spokes are directed to opposite sides of the hub. The dotted lines on the wheel indicate those on the far side. Cement a small washer to each side of the hub to reinforce the axle hole. (An easier, though far less realistic wheel can be made by reproducing the tires and spokes with black India ink, on a solid hard wood wheel  $1\frac{1}{8}$ " diam.)

## FLYING ACES

Slip the wheels on the axle, bending over the wire to retain them, and our Taube will have reached the stage where it can stand on its own two feet and await the addition of it—

### WINGS AND TAIL

**T**HE peculiar shape of the wing requires a different method of construction. Trace the outline of the wing onto sheet balsa. The leading edge comprises three sections, cut from  $\frac{1}{8}$ " sheet. The wide trailing edge is of  $1/16$ " sheet balsa, and is also in three pieces.

Cement the separate parts of the outline together, and pin the leading edge and the trailing edge from the center to Rib 3, to a soft board. Moisten the unpinned portion of the trailing edge, and wet thoroughly with a rag soaked in hot water. Carefully prop up the trailing edge with small blocks, as shown in the "detail sketch" on Plate 2, labelled "warping wing."

While the outlines are drying, cut out the ribs from  $1/16$ " sheet balsa. Leave the trailing edge of the ribs about  $\frac{1}{8}$ " longer than given on the plans, to allow for a snug fit if your outline should be a little "off." Glue the ribs in place, and when dry insert the spars of  $1/16$ " sq. balsa.

The stabilizer and rudder are simple to construct, as they are flat in section. The outlines are cut from  $1/16$ " soft balsa while the ribs are  $1/16$ " sq. The rear hook is bent of .034 piano wire, and cemented to the rudder post.

### ASSEMBLY

**T**HE color scheme of the Taubes varied even as much as their design. An attractive job can be done if the surfaces are covered with light blue tissue, and the fuselage with red. Cover the rudder and stabilizer and cement in place in that order. Before covering the wing, cement the short bamboo auxiliary center spars J and K, in the fuselage. Remove the wing panels from the board, and glue the leading and trailing edges to the center spars so that each tip is raised  $1\frac{1}{4}$ " to give the correct dihedral. Don't forget to leave a  $\frac{1}{8}$ " space between the center rib and the side of the fuselage. Cover the wings carefully, sticking the tissue to the top and bottom of every rib.

The girder is now built up under the wing. The mast D is of  $1/32$ " by  $1/16$ " bamboo  $2\frac{1}{2}$ " long, passed completely through Rib 6 at the intersection of the front spar. It projects  $15/16$ " from the underside of the wing. The long spar E, is also  $1/32$ " by  $1/16$ " bamboo. It is  $14\frac{1}{4}$ " in length, and runs directly