

# FOKKER C.XIW

## FLOATPLANE

*Fokker C.XIw with registry W-4 is prepared on the catapult of HNLMS De Ruyter, shortly after arrival in the Netherlands Indies. (Collection: Navy Museum Den Helder)*



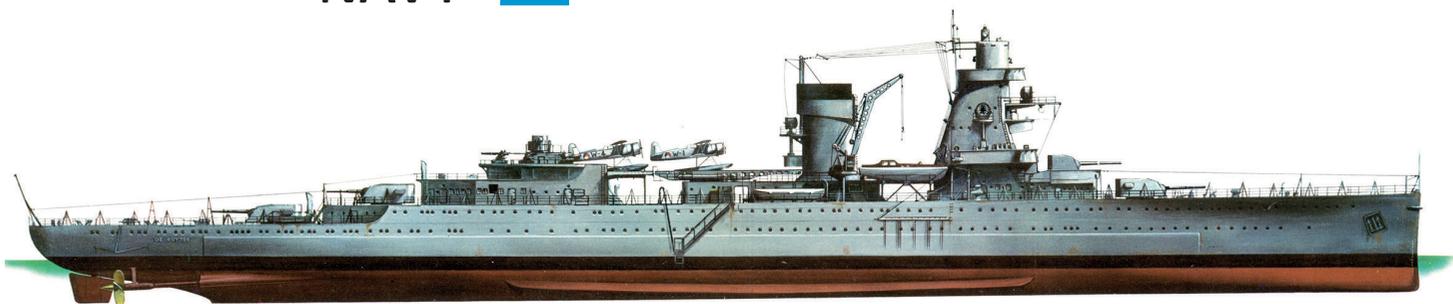
*The W-1 prototype is ready for a test flight. During testing, some edges of the fuselage panelling were taped over as a precautionary measure. The prototype featured a Scarff ring in the rear cockpit. (Collection: N. Braas)*

## A FOKKER CATAPULT PLANE FOR THE ROYAL NETHERLANDS NAVY

### INTRODUCTION

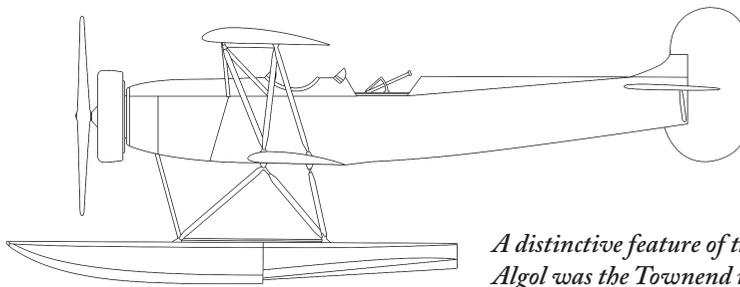
In the pre-WWII years, a new generation of warships were built for the Royal Netherlands Navy. At first cruiser *De Ruyter* was built, followed by two larger cruisers (laid down in 1939) and even battlecruisers were considered.

Reconnaissance seaplanes designed to operate from these warships were needed. Aircraft that were suitable for use on the ship's catapult. Despite the availability of foreign aircraft, a plane designed and built by the national industry was preferred. Fokker, located in Amsterdam, was contacted.

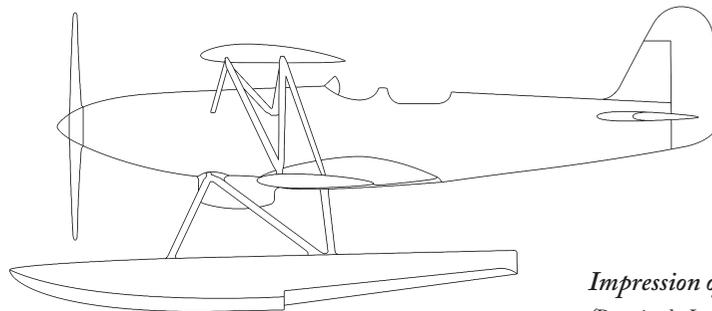


*De Ruyter was laid down on 16 September 1933 at the Wilton-Fijenoord dockyard in Schiedam and commissioned on 3 October 1936. She was sunk in the Battle of the Java Sea in 1942.*

The Royal Netherlands Navy had formulated the following requirements for the new aircraft; high level of seaworthiness, landing speed of 82 km/hr and excellent manoeuvrability on the water. Maximum weight should not exceed 2400 kg with a useful load of 730 kg, and a range at cruise speed of at least 500 km was preferred. The new type was solely to serve as a reconnaissance aircraft and therefore no offensive armament (i.e. bomb racks) was required. If Fokker was able to offer a suitable design, an order of eight aircraft would be made. Fokker started design work on an aircraft intended as a reconnaissance catapult aircraft. Fokker presented the first studies to the Navy on 14 March 1934. This was a strengthened version of the Fokker C.VIIw, fitted with a 400 HP Lorraine 9N Algol nine-cylinder radial engine. The second proposed type was a Fokker C.X variant on floats which could be fitted with either an inline Rolls Royce Kestrel or radial engine. Neither type was accepted.



*A distinctive feature of the Fokker C.VIIw Algol was the Townend ring around the engine. (Drawing by Luca Canossa)*



*Impression of Fokker C.Xw (Drawing by Luca Canossa)*



*The prototype before a flight to Germany. Its civil registry is not yet applied, but the gun ring is removed, and the rear cockpit coaming is modified. (Collection: N. Braas)*



*W-1 in its definitive form. Series production aircraft featured improved floats and a semi-enclosed cockpit.*

## FOKKER — A SHORT OVERVIEW

Dutchman Anthony Fokker learned how to build and fly aircraft while in Germany. His efforts brought great success when large amounts of aircraft were ordered by the German armed forces during the Great War. After the armistice Fokker diverted to his home country the Netherlands. His new aircraft company NV Nederlandsche Vliegtuigenfabriek (the name Fokker was at first avoided!) built several successful types during the interbellum, which were technically a continuation of the Fokker D.VII fighter. The military Fokker C.V biplane and civil transport Fokker F.VII were fundamental to the success of the company. Many new designs were careful improvements of these types.

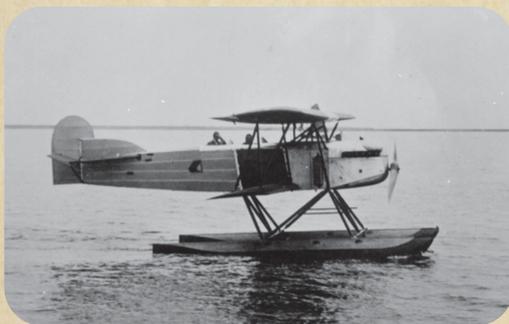
*A promotional image of W-4 flying above the Fokker works in Amsterdam.*

*(Collection: T. Postma)*

Fokker continued to use the IDFLIEG system to name the aircraft types; C for reconnaissance, D for fighter, F for civil types and T for (torpedo)bomber. The letter was followed by a Roman number. The C.XIw dealt with in this title is Fokker's 11th reconnaissance type. The additional 'W' in the designation explains the type was a float plane.



## FOKKER SHIPBORNE AIRCRAFT



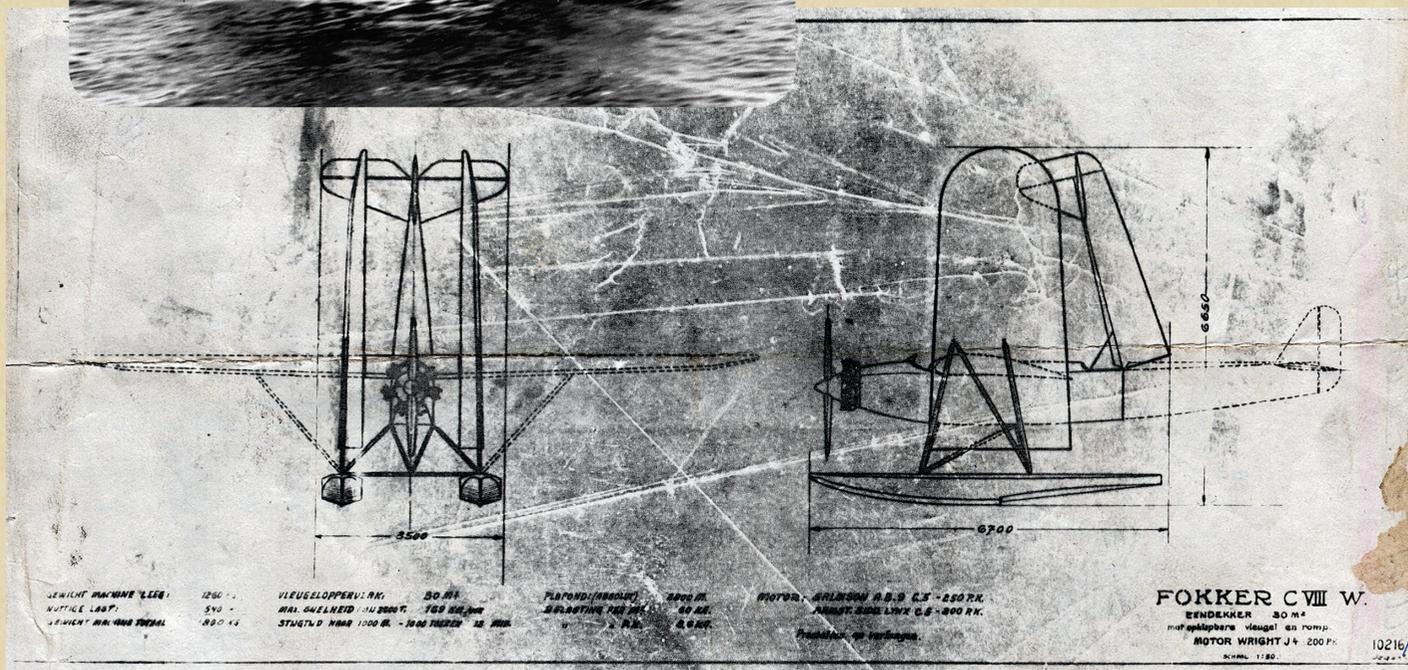
*During the early 1920s the Marineluchtvaartdienst (Netherlands Fleet Air Arm) could muster an outdated fleet of about 15 floatplanes for sea reconnaissance. Discussions about the purchase of new aircraft started in 1922. Fokker responded with a variant of his successful Fokker C.IV fitted on floats, which turned out to be a failure.*



*A significantly more ambitious project was the B.II amphibian. It featured a metal flying boat hull housing a crew of three. The sesquiplane was powered by a 360 HP Rolls Royce Eagle IX engine. It was designed to be used from projected navy cruisers. After completing its test flights, it was offered to the navy for trials, but it did not meet expectations and was rejected.*



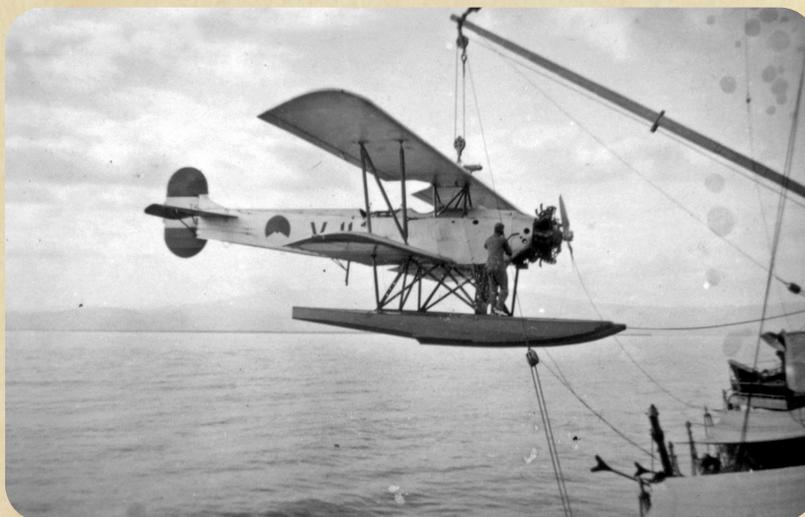
Following the B.II, Fokker reverted to modifying the successful Fokker C.V reconnaissance plane. It featured a revised and strengthened float gear yet suffered structural issues leading to cancellation of the project.

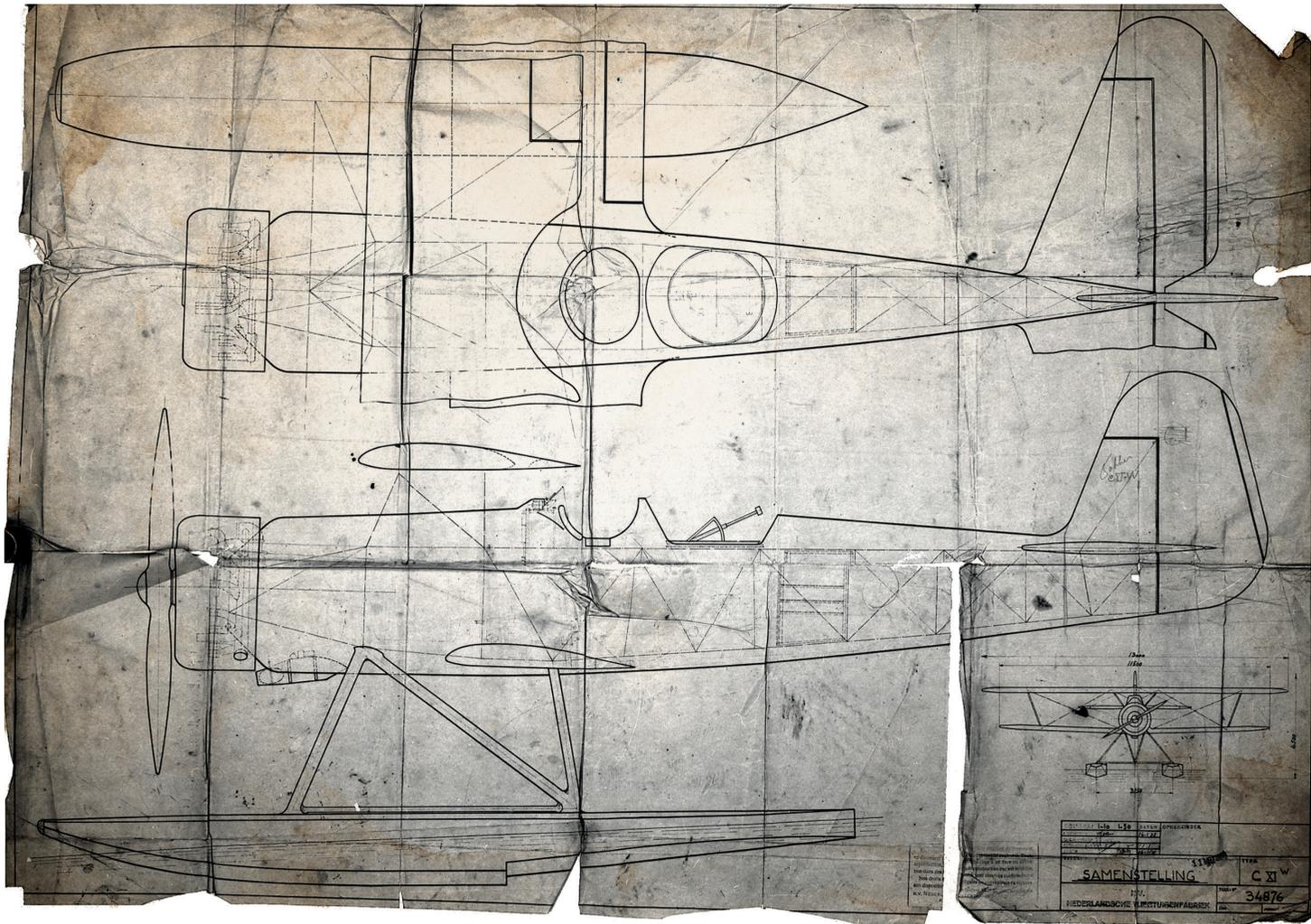


Following the failed Fokker bids to deliver suitable aircraft, the Dutch Navy purchased four Fairey III D float planes for service aboard its new light cruisers. Another Fokker project, a variant of the Fokker C.VIIIw with radial engine and foldable wings, emerged in January 1927, but it never progressed beyond the drawing board.

Fokker received an order for delivery of 30 C.VIIIw floatplanes, which were intended for service in the Netherlands and Netherlands Indies. The planes were primarily used as trainer aircraft, but due to a lack of alternatives, they were operated from ships as well. They were not suitable for catapult starts and had to be hoisted overboard by crane. Deliveries started in 1928. In April 1930 a C.VIIIw was the first Dutch floatplane capable of performing a looping: quite a sight to behold for the surprised onlookers! Ten machines were still in service when war broke out in Europe. All were lost during strafing attacks by German aircraft. None of the Netherlands Indies machines remained in service before the start of the Japanese attacks.

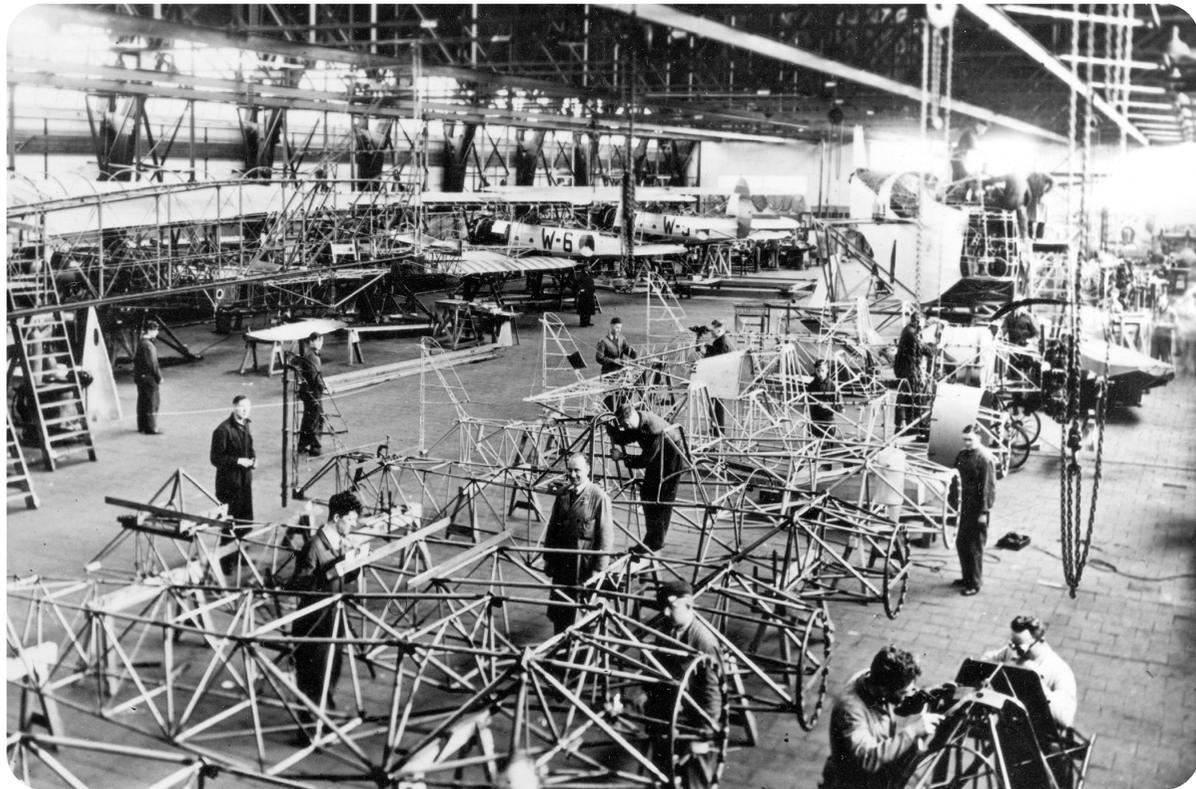
(Collection: Netherlands Institute for Military History)

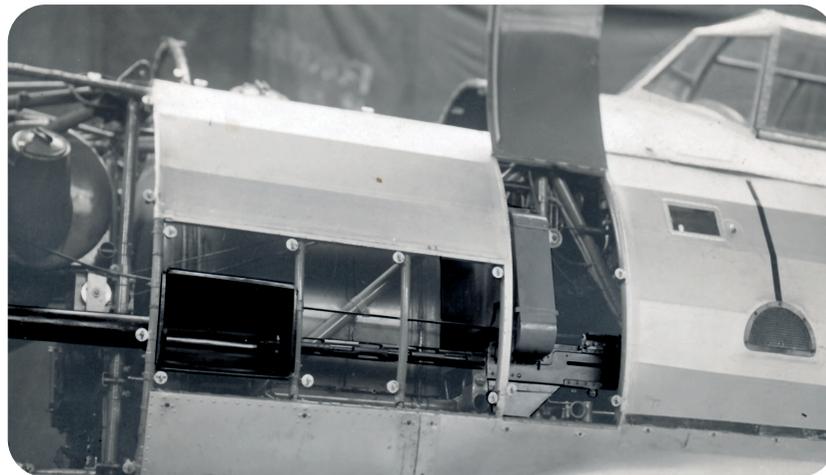
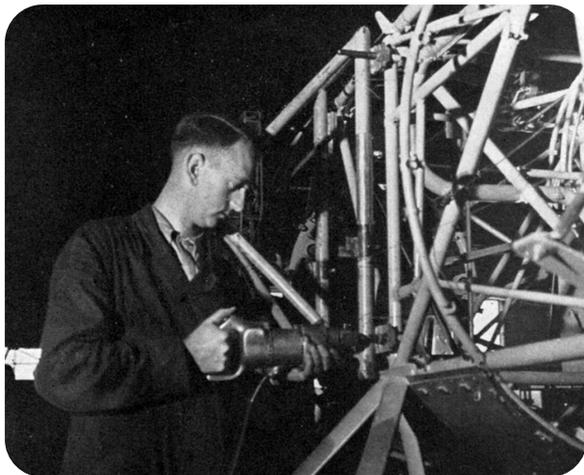




*An early study dated 26 January 1935.*

*Production of different Fokker types, with four C.XIws in various stages of assembly. In front is the first series D.XXI intended for Finland. Behind those a Fokker T.IVA fuselage is seen.*





Fokker proceeded with a completely new design, which was initially known as 'Ontwerp 120A'. This was offered as type designation C.XIw on 3 May 1934. It was designed under the supervision of chief designer Marius Beeling, who had led the D.XVII and C.X design process earlier. The C.XIw could be fitted with a Kestrel inline engine or radial engine. This new design was favoured by the Navy, and during October Fokker was ordered to build a mock-up fuselage of both engine variants, to study the layout and view from the cockpit. This resulted in selecting an aircraft fitted with a Wright Cyclone radial engine and Fokker-built aluminium floats. After negotiating the terms and price, a contract was signed on 28 December 1934 for the delivery of one aircraft, at a price of Dfl. 80,000. The engine and instruments would be purchased separately. The prototype would be fitted with a Wright Cyclone SR 1820-F2 engine of 762 HP at 800 metres. The aircraft needed to be finished before 15 July 1935.

Quickly after reaching an agreement, construction started. The Fokker C.XIw was built according to the company's usual construction methods; the fuselage was a welded tubular frame which was partially covered by aluminium panels. A 440-litre fuel tank and 42-litre oil tank were placed between the engine and crew. The Cyclone engine was covered with NACA cowls and propelled a wooden Weybridge propeller.

\* Fokker had started using *Ontwerp* numbers in 1934, which were used to distinguish design projects

*Left: A craftsman is working on the welded tubular frame fuselage. An assembly jig is still attached to the fuselage side. The float undercarriage was welded to the fuselage.*

*Right: The synchronised FN Browning machine gun was easily accessible. A small window can be seen behind the hatches.*



*In the front of the picture a pair of lower wings can be seen, with three top wings behind. In the background, Fokker T.V wings are being built, which also included the fuselage centre section.*

A fixed FN Browning 7.7 mm machine gun with 500 rounds was fitted in the port side of the fuselage.

The observer operated a movable FN Browning 7.7 mm machine gun. Five boxes with 100 rounds of ammunition were stored below the gun.

The wooden wings were built according to typical Fokker construction; they featured two spruce box spars and plywood ribs with birch capstrips. The wings were partially covered with plywood and

fully covered with linen. The top wing was constructed as a single piece and featured ailerons. The centre of the top wing contained two storage bays which held hoisting attachments. They were covered with easily closable metal hatches. The lower wings were built in halves and featured flaps. The C.XIw had a large wing surface of 40 m<sup>2</sup> and a relatively low wing loading of 60 kg m<sup>2</sup>. Interestingly, the C.XIw was not fitted with a landing light. There were no provisions to carry a bomb load or flares.

*The crew sat in a semi-open cockpit: the rear cockpit was fitted with a Fairey high-speed gun mount. When operational, the radio receiver would be mounted on the rear of the pilot's seat frame.*

*(Collection: J. Grisnich)*

