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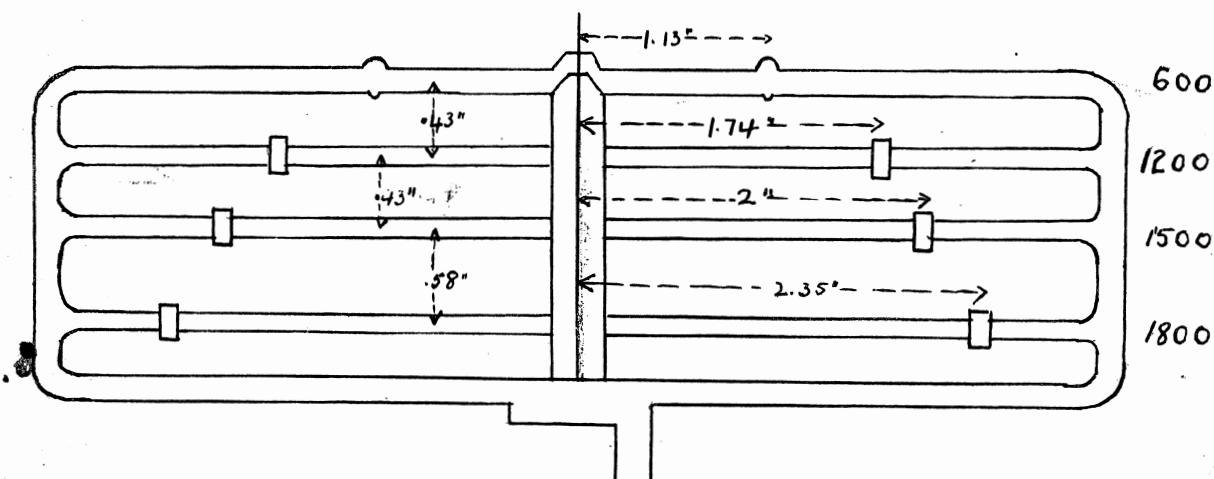
87/637²/₂.

C.R.F.C. 1708/G.

D.D.M.A.

War Office. -----'

On the machine gun mounted in the Albatross aeroplane brought down in our lines on the 15th instant, was a rectangular foresight of the following design and measurements :-



The figures on the right were engraved on the side.

The distance between the fore and back sights was 25.5 inches.

It is believed that the figures on the right are the ranges in metres and that the gun was originally intended for use in firing at aeroplanes from the ground.

The horizontal bars are believed to give the necessary elevation and the various knobs on these bars, the deflection necessary to hit an aeroplane crossing the line of fire at right angles.

The backsight was a plain V and the elevating side had been removed.

160 H.P. ALBATROSS AEROPLANE C/60.

GOOD POINTS.

General. This aeroplane is built for the gun, with plenty of room for the gunner.

Gun mounting. Excellent.

Engine. Method of obtaining hot air for carburetter appears good. An adaption of this might be very useful on RAF engines.

Ailerons. The method of fitting the ailerons and their king posts has many advantages and might be copied with advantage.

Strut Sockets & Undercarriage bracing wire fittings.
Very good standard design.

Compass. Hung overhead on top plane well away from moving metal parts.

Undercarriage. Simple & strong. The axle is of necessity heavy in order to take the strain of the land brake.

BAD POINTS.

General. No attention paid to reduction of weight.

Gun mounting. Its weight might be reduced.

Engine. Large area of vulnerable radiator surface.

Strut Sockets & Undercarriage bracing wire fittings.
May be excessively heavy.

Compass. Compass card is not clear. This instrument is also unnecessarily heavy.

Fuselage. Relies upon 3 ply for bracing. This is not good as it is unnecessarily heavy and deteriorates rapidly under damp conditions.

Aneroid. This instrument may be very accurate, but it is far too heavy. Mounted as it was between the V struts supporting centre of top plane it offered quite unnecessary head resistance.

(Sd.) W.D.Beattyz

C-R.F.C.1599/1 (Q).

A.D.M.A.

War Office.

The attached reports and inventory of the Albatross aeroplane recently captured are forwarded for your information.

The aeroplane has been forwarded to England in a B.E. packing case.

The accessories are being forwarded separately.

Report on the Cameras has already been sent to you.

W.D.Beatty.

In the Field,
22/9/15.

Major,
D.A.Q.M.G.
for Commanding Royal Flying Corps.
British Army in the Field.

Assuming that the time taken by the bullet to travel over the different ranges is as follows :-

600 metres	.88 secs.
1200 "	2.7 "
1500 "	3.9 "
1800 "	5.5 "

the deflection on the foresight would allow for an aeroplane speed of 30 metres a second or about 67 miles an hour.

It may therefore be assumed that the enemy estimate our aeroplanes to travel at this speed.

(Sd.) for
 Brigadier General,
 Commanding Royal Flying Corps.
 British Army in the Field.

In the field,
 23/9/15.

ALBATROSS BIPLANE.

GENERAL.

The machine is a tractor biplane drawn by a 160 HP, 6 Cylinder Mercedes engine direct coupled to a Garuda 2 bladed propeller.

The span of the top planes is 43 ft.

The span of the lower planes is 36 ft.

The length overall is 21 ft. 7 ins.

A large fixed empennage is fitted and is shaped like a Vee.

The planes are not swept back, but have considerable "wash out".

The shape of the wing flaps on the top planes would probably give them a "swept back" appearance.

Only the top planes are fitted with ailerons.

The planes are not staggered.

A large Vee type undercarriage is fitted.

THE ENGINE. is a 6 cylinder 160 HP. Mercedes mounted on wooden bearers in a manner very similar to that in an F.E. It is cooled by large surface radiators on each side of the fuselages.

The two most striking small points which might possibly be adapted to our existing engines with advantage are :-

|| (1) The system of getting hot air for the intake to the carburetter.

A "false sump" is cast with the oil sump and intake holes are provided.

|| The air is taken from this to the carburetters.

This serves the dual purpose of creating a big draught round the sump and thus cooling it and at the same time provides hot air for the carburetter.

(2) The silencer and exhaust pipe.

A large exhaust box is fitted with a large hole at the leading edge. The exhaust pipes are led into this from each cylinder and swept back. The air rushing through this pipe tends to suck the exhaust gases from the cylinders.

THE PLANES. Top.

Each top plane is 21' 6" span.

There is no centre section and the two lugs on the main spars are bolted straight into the cabane.

This facilitates quick assembling and dismantling

There are 5 bays in these planes.

The spars are made in box form, of yellow pine.

The plane is well braced internally with 6 steel tubular compression struts.

No double bracing is used.

The wires and turnbuckles are lacquered and not greased and there is very little sign of rust.

The rear spar is 3 ft. in front of the trailing edge, which is of wire.

This leaves a very large flexible surface which must give the machine a large amount of lateral stability.

The plane has a considerable amount of washout.

Large 'backswept' wing flaps are fitted to the top planes which would give them a backswept appearance from the ground.

The fitting of these wing flaps is interesting in comparison with the standard British practice (See sketch)

This abolishes the necessity for a top wire and leaves the balance wire below the bottom planes where it can be easily seen and also simplifies the changing of the top plane.

In normal position the wing flap lever offers no resistance to the air - it also reduces the height over all - an advantage in housing.

THE BOTTOM PLANES are 16' 8" span and similar to the top in construction.

There are 4 bays.

The spars of the plane are fitted with the usual sockets.

No wing flaps are fitted.

There is a large amount of washout.

The cables actuating the wing flaps of the top plane pass through a composition block mounted on the rear spar of the bottomplane and not round pulleys.

All fair leads are made of vulcanite.

The fabric seems comparatively heavy and the dope used is thick.

STRUTS.

There are 2 pairs of wood filled steel struts on each side of the machine.

They fit on to lugs which are bolted through the main spar.

These hold a fitting (see sketch) which holds the turn-buckles of the bracing cables etc.

This fitting is very interesting as it seems very strong, quickly detachable, simple and safe. It is far less complicated than the ordinary fitting and absolutely interchangeable for all struts.

This seems by far the most useful detail in the whole machine, as perfect alignment of all cables is ensured and there is no confusion through a quantity of lugs and fittings of different sizes and with different part numbers.

THE FUSELAGE is built up on four ash longerons. No internal cross bracing wires are used with the exception of the partition between the pilot and observer. Here cable is used.

The fuselage is built entirely of three ply wood. A rotating gun mounting is fitted to the observers cockpit which swings round in any direction. The observers seat is also moveable like a piano stool.

THE CHASSIS is a standard Vee type, with steel struts wood filled.

The bracing wires are fitted to bolts which are in ball joints, which ensures perfect alignment of cables. A very heavy axle is fitted and carries a large claw brake on its centre. This is operated by a lever on the driver's left hand.

THE CONTROLS are of the usual type. A wheel actuates ailerons and a rudder bar, the rudder.

The whole machine seems to be built with the idea of quick assembling and dismantling. It has a minimum of small uninterchangeable parts.

No air speed indicator was fitted.

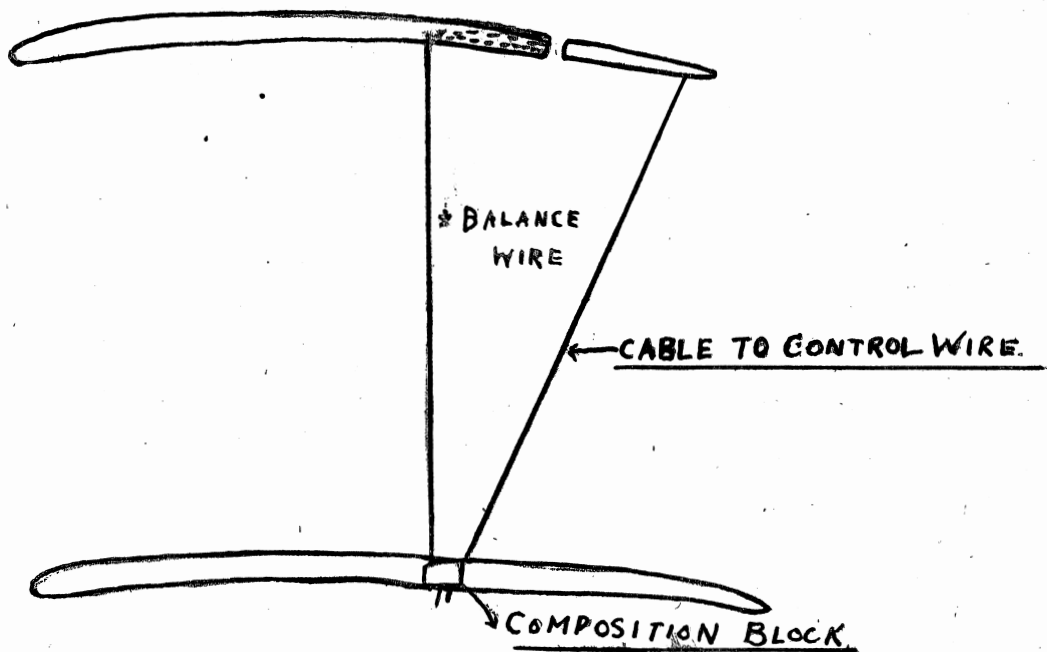
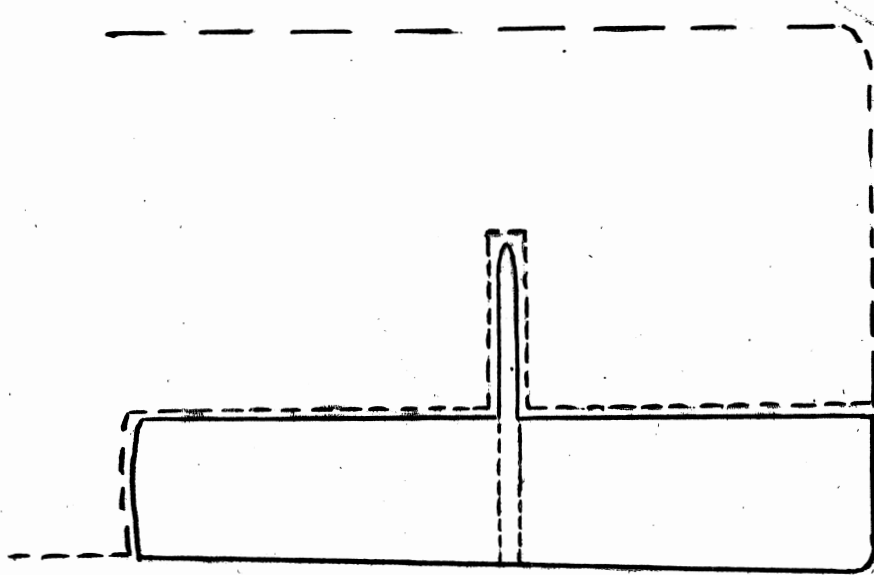
Large fuel capacity - 218 litres of petrol in the main tank 27 litres in the service tank, and 25 litres of oil.

All the capacities of tanks were clearly marked on the top where they could be easily seen.

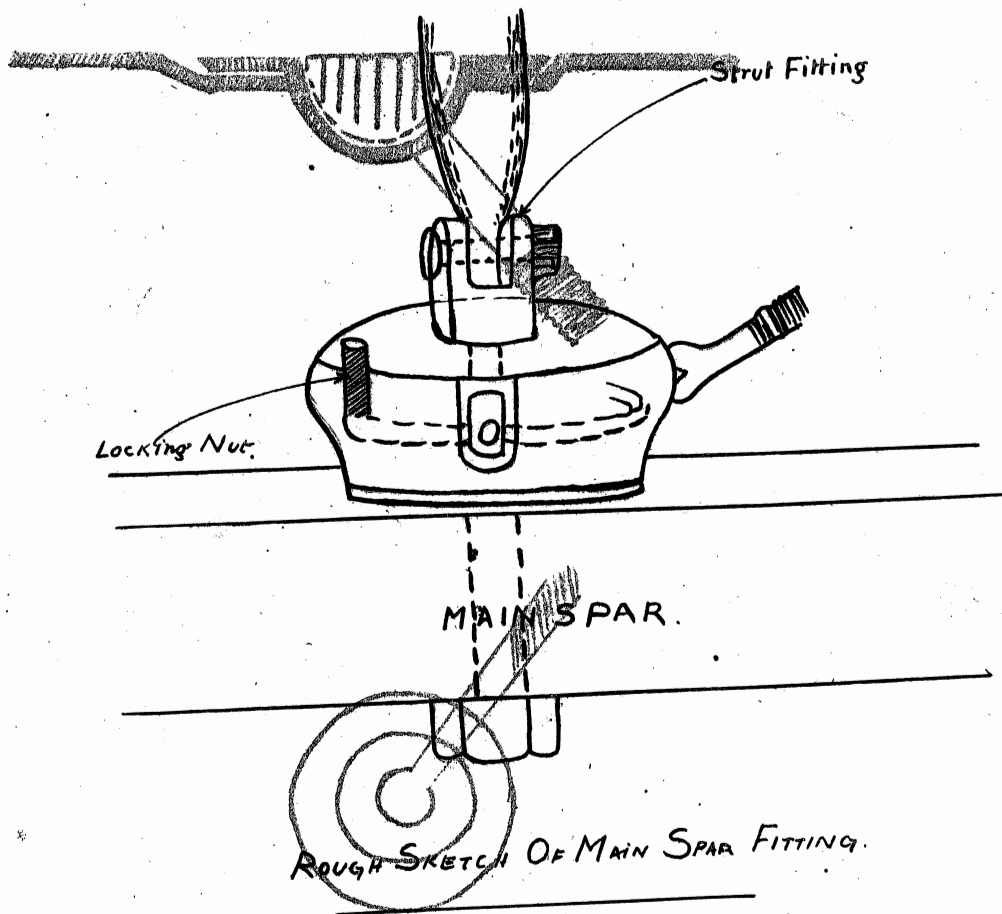
On the engine itself, on one side was a brass plate shewing all dimensions - H.P. bore, stroke, revs, etc., and on the other was a plate shewing the system of wiring to each cylinder reducing mistakes by mechanics to a minimum.

A self starting magneto was fitted.

(Sd.) C.G.Gould Capt. R.F.C.
O.C., A.R.S. 1st. A.P.



ROUGH SKETCH OF AILERON CONTROL



ROUGH SKETCH OF BALL JOINT FOR TURNBUCKLES
USED IN CHASSIS

INVENTORY OF ALBATROSS.

- 1. 160 H.P. Mercedes Engine
- 1. Garuda Propeller.
- 1. T.R. Main Plane.
(with wing flap)
- 1. B.R. Main Plane.
- 1. T.L. Main Plane
(with wing flap)
- 1. B.L. Main Plane.
- 1. Rudder
- 1. Fin.
- 2. (R & L) Tail Planes

- Engine complete with Duplex Carburetter.
- 2 Bosch Magnetos.
- 1 Bosch Sturt Magneto.
- Propeller boss.
- Silencer and Exhaust Pipe.
- 2 Water Radiators.
- 1 Oil tank.
- 1 Gravity Tank. (Petrol)
- 1 Petrol tank. main 218 litre
- Pressure Grease Cap, for water pump.
- 1 Revolution counter.

- Machine Gun
- Gun Mounting

- Pilpts seat.
- Observers seat.
- Case for field glasses.

- Fuselage.
- 2. Hand Pressure Pumps.
- 1 Rev. Counter.
- 8. Main Struts.
- 1 Centre strut.
- Undercarriage complete with 2 wheels and brake.
- Tail skid complete.

(Sd.) C.G. Gould.
Capt. R.F.G.
O.C. 1st. A.P.

20/9/15.

INVENTORY OF PARTS OF GERMAN AEROPLANE

Forwarded separately from Machine.

Parabellum Machine Gun. (Less lock and box for ammunition belt which was taken from machine by an unknown person.)

Two ammunition belts and ammunition.

Compass.

Aneroid.

Balloon Camera with two extra dark slides.

Aeroplane camera with one extra changing box.