



# MODEL NEWS

Edited by G. A. Cavanagh and Harry Schultz



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### The White Canard Type Monoplane

During the past few years considerable interest has been manifested in the development of small low powered machines. Perhaps one of the most interesting types of small machines yet to be developed in America is the Baby White Monoplane designed and constructed by Mr. George D. White, of Los Angeles, Cal. This machine is one of the smallest and lowest powered aeroplanes in the world. It is of the tail first or canard type, with all controlling planes in front and the motor in the rear.

It is interesting to note that the design of this machine is similar to that of the A type model.

The White monoplane is powered with an ordinary stock motorcycle engine which drives a 5-foot 3-inch propeller 1,500 r.p.m., and gives an approximate speed of 50 miles an hour in the air. The machine was not intended for any extraordinary flights, but is the forerunner of several refined models of White aeroplanes, with larger motors and corresponding higher speed and superior flying ability, which will shortly be placed upon the market.



### General Dimensions

Span, 18 feet; length, 16 feet; chord, 5 feet; area main planes, 90 square feet; stabilizer span, 8 feet; area of elevators, 12 square feet; area of rudder, 4 square feet; weight complete, 230 pounds; lift per square foot of surface when loaded, 4½ pounds.

### Main Planes

The main supporting surface is constructed in two sections or wings, each exactly 9 feet in chord. The sections are built entirely of silver spruce of two main beams and 8 secondary beams with solid web type ribs 18 inches apart and battens or false ribs 9 inches apart with short ribs 34 inches long over the nose, 4½ inches apart to retain the efficient curve. Though rather unusual in monoplane practice, the wings have square ends and have 4½ feet of the trailing edge cut away where the ailerons are hinged. Each section is internally wire braced and coated with a moisture proof solution before being covered. Each wing, covered and with the aileron attached, weighs 17 pounds.

### Fuselage

The fuselage is 16 feet long and of uniform width the entire length. It is constructed of 6 main spruce members and strutted and cross braced in the usual manner. The two lower longitudinals are laminated with hickory in the rear and bent up to form light skids, while two other members are fitted to continue the rear of the fuselage. The pilot's seat is located just under the entering edge of the main planes, and owing to its low position, the fuselage is not

enclosed. The two-cylinder V type motor is located at the extreme rear of the fuselage with the fuel tank just above. The oil tank is fitted with a force pump at the pilot's seat.

### Landing Gear

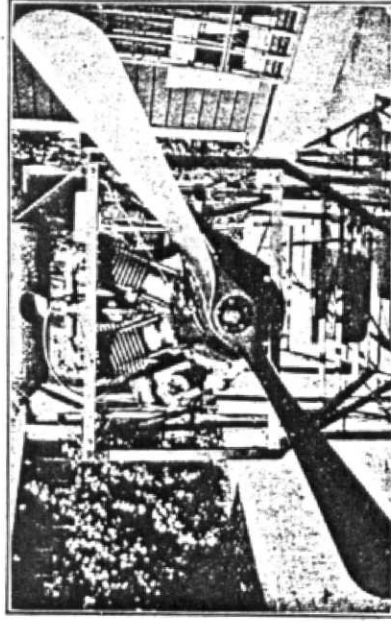
The landing gear consists of three 20-inch wheels, two being attached direct to the bottom of the fuselage with the aid of rubber shock absorbers, and the other located midway between the skids beneath the motor in the rear. The skids are steel shod and, though small in size, have proven themselves invaluable in taking the load without breakage when the rear wheel collapses in a rough landing.

### Controls

The method of control is of the semi-Deperdussin type, with ailerons operated with a sidewise movement of the steering wheel and the elevators operated by a fore and aft movement. The rudder is operated by a pivoted foot bar. The elevators consist of hinged extensions to the rear of the stabilizer which is located at the extreme front of the fuselage. The rudder is located just behind the elevators in the center of the fuselage. The motor controls are on a quadrant at the left of the pilot.

### General

All wire bracing is with Roebling cable and plated wire and the wing covering is No. 6A Naiad. The motor has been tested both direct to the crankshaft and with gear reduction. When geared, the motor runs at double the speed and develops more power, but a per cent of the increased power is lost in the chain transmission. Propellers ranging in size from 4 feet to 5 feet 6 inches have been used, but the 5 foot 3 inch by 4 foot 9 inch is apparently the correct size. The monoplane was first assembled and tested at Ascot Speedway in Los Angeles, where on the second attempt the machine left the ground quite easily, but was later slightly wrecked by colliding with the rail fence which surrounds the track. When the repairs were completed the machine was taken to Dominguez Aviation Field and later to a private field of 45 acres inside the city limits of Los Angeles, where all later flights were made and where the machine is now located.



Rear view of the fuselage of the Baby White monoplane showing the ordinary stock motorcycle engine propeller and gasoline tank. This engine is capable of driving a 5' 3" propeller 1,500 R. P. M.

# SPECIFICATIONS AND GENERAL PARTICULARS

## OF THE WHITE MONOPLANE

Length over all	16 feet
Spread of wings	18 "
Chord or width of wings	5 "
Weight of entire machine without motor	150 pounds
Useful load	190 "
Control System	Lever or Dep

### MOTOR

The monoplane is designed to use a motorcycle engine or similar low powered motor of two or four cylinders and from 10 to 20 horsepower. With these motors the machine lifts and flies approximately 190 pounds which is more than the average adult weighs, giving reserve power. The more prominent makes of twin cylinder motors are available and the Hamilton Four has given satisfying results.

### PROPELLER

The propeller should turn about 1000 revolutions per minute. If your motor develops its greatest power at this speed, couple it direct but if your motor turns faster, gear the propeller accordingly. The propeller should be bought, though the other parts of the machine can be made by the amateur. We can supply the correct propeller for \$35. It will be 5 feet in diameter and have a 4 foot pitch.

### WING COVERING

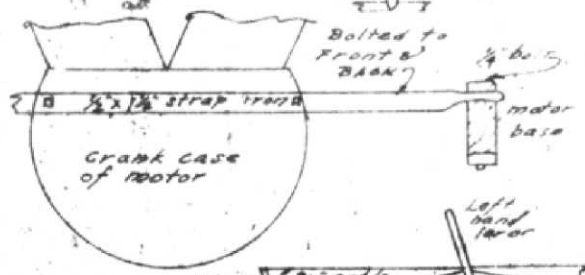
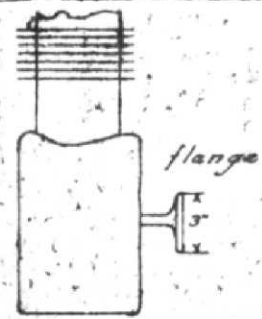
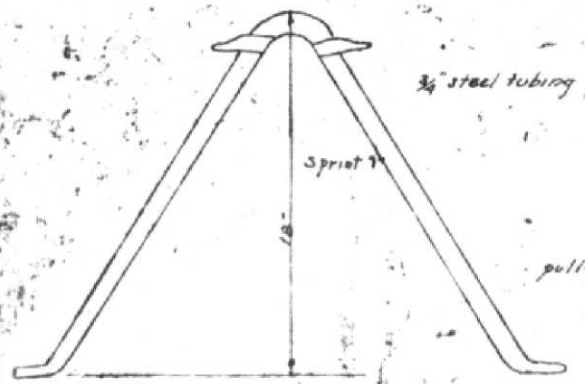
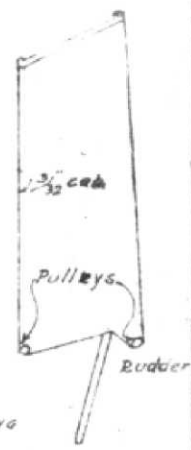
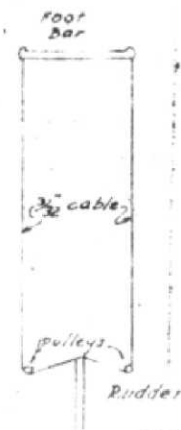
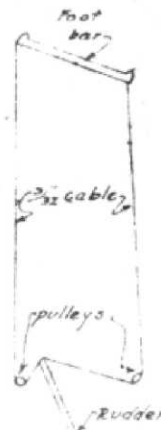
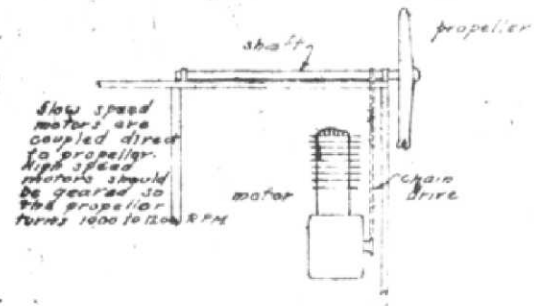
The wings and other planes should be covered with unbleached linen on both sides and then doped with spar or aero varnish. Attach the cloth by tacking it along the front and rear and along the ribs with tacks about half the size of carpet tacks.

### CONSTRUCTION MATERIALS

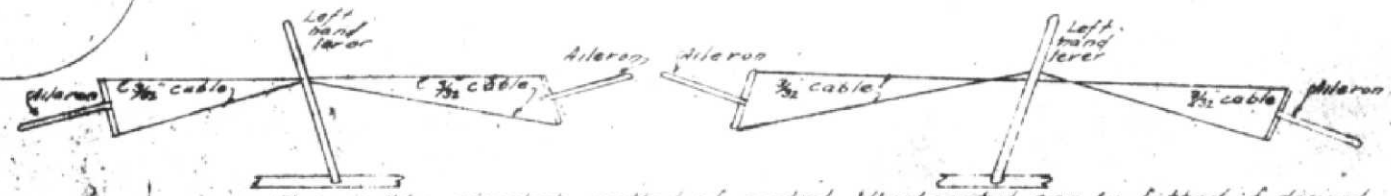
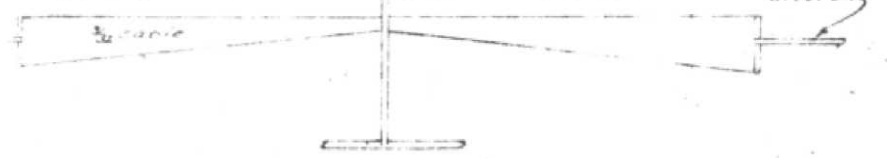
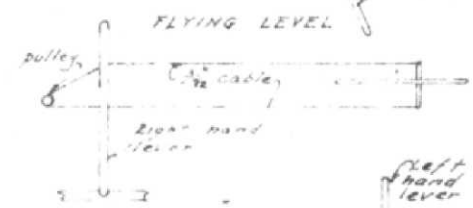
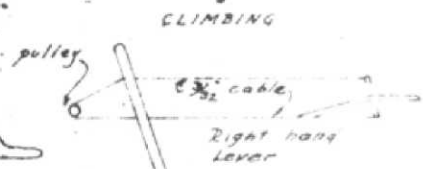
All woodwork of the machine should be made of silver spruce if it can be obtained or a good grade of white pine if it is straight grain and free from knots and imperfections. The metal fittings should be made of cold rolled flat steel, .050 thick. This can be bought at a hardware store. The tubing of various sizes specified should be 18 gauge and can be bought at any bicycle store. The wire used in the machine is plated aviator wire #12, the cable being 3/32 inch stranded aviation cable. Such parts as you cannot buy in your town, such as turnbuckles, etc. can be obtained cheaply from the AERO MFG. & ACCESSORIES CO. 18 - 20 Dunham Place, Brooklyn, N.Y.

### GENERAL INFORMATION

The sizes of all parts are given in the blue prints. The size of all struts are given along the side. The main frame or fuselage 16 feet long is 24 inches wide and in the same width the entire length. The wheels should be 20 X 2 inch but other sizes can be used if they can be obtained more easily or cheaply.

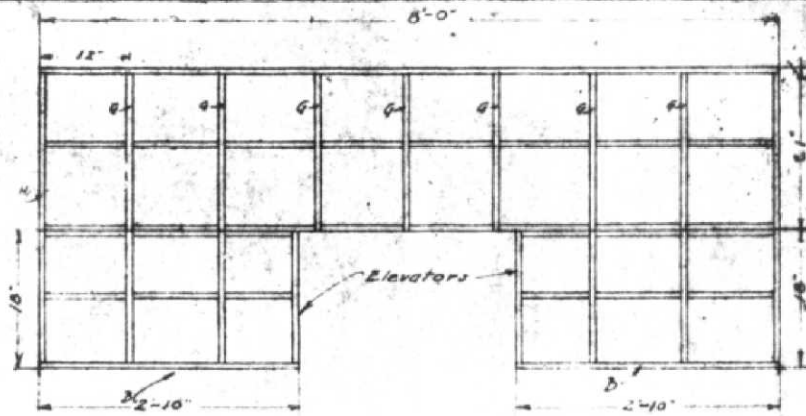
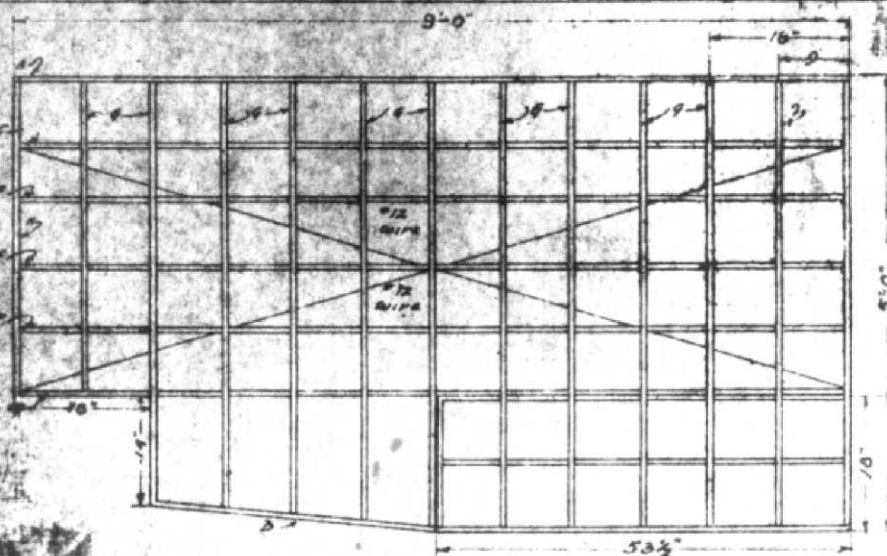


Slow speed motors can be coupled direct to propeller

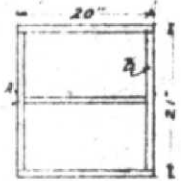


This is the simplest method of control. Wheel control can be fitted if desired.

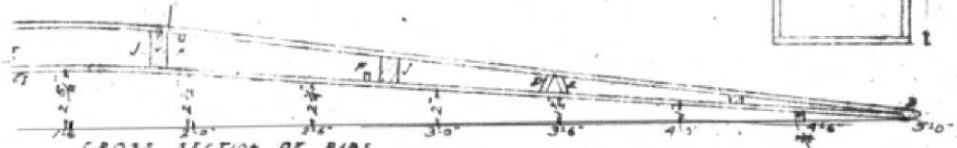
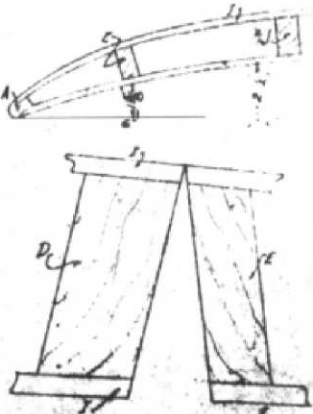
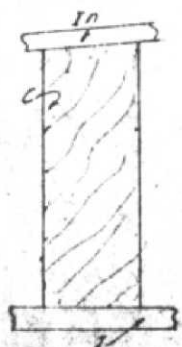
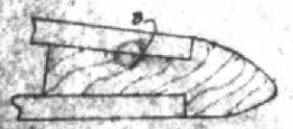
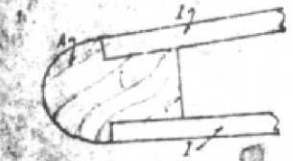
# WHITE MONOPLANE



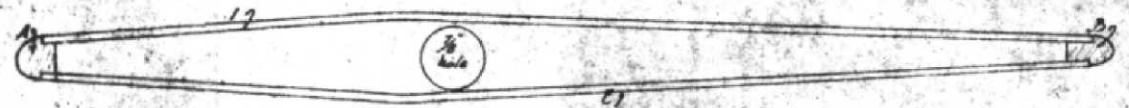
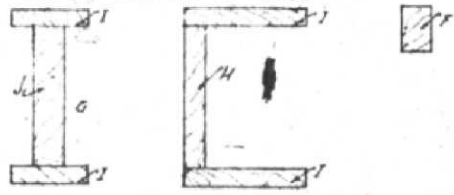
ALL WOODWORK SHOULD BE SILVER  
 SPRUCE  
 ALL WING JOINTS GLUED AND NAILED  
 WITH 3/4" NAILED



A-B-C-D-E-F-G-H ARE  
 SHOWN ACTUAL SIZE  
 BELOW



CROSS SECTION OF RIBS

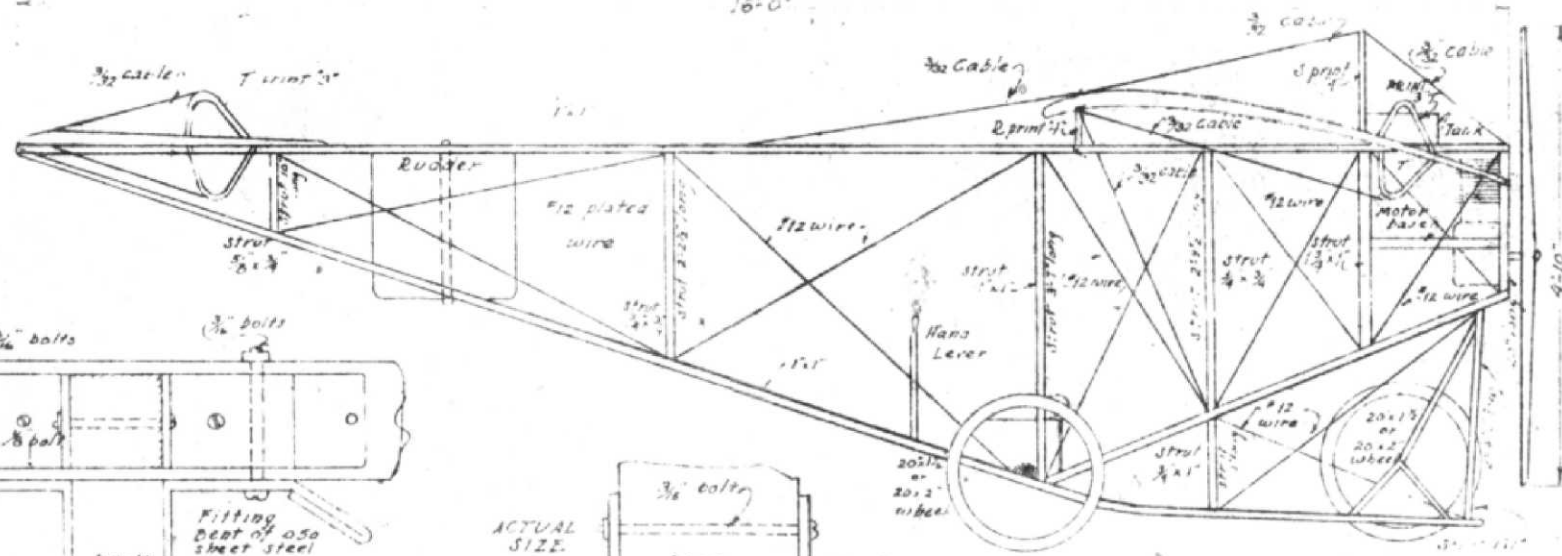


WHITE

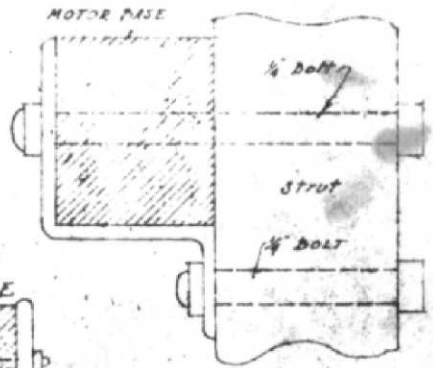
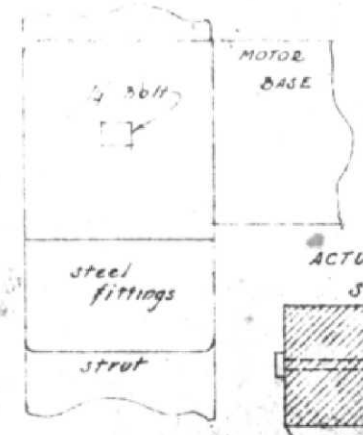
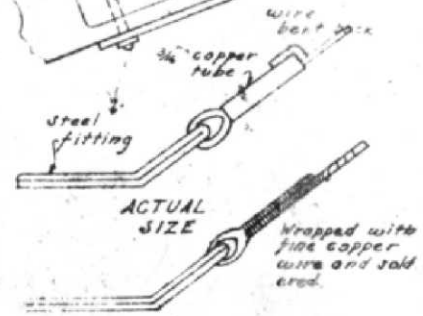
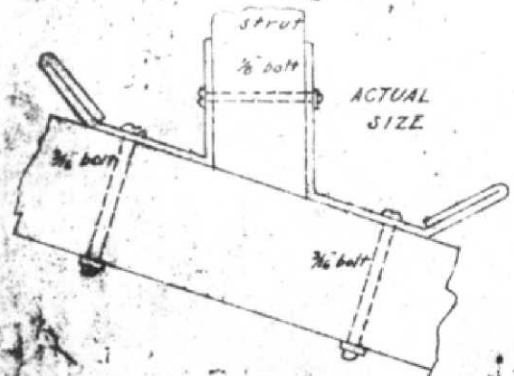
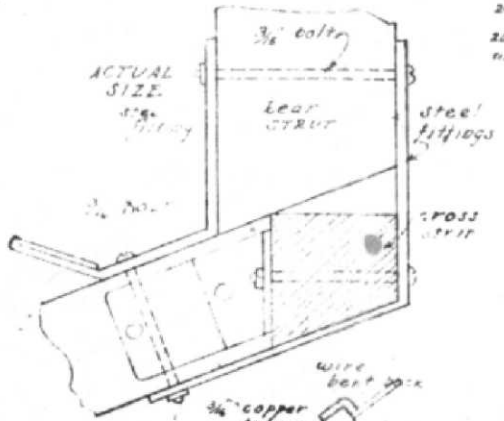
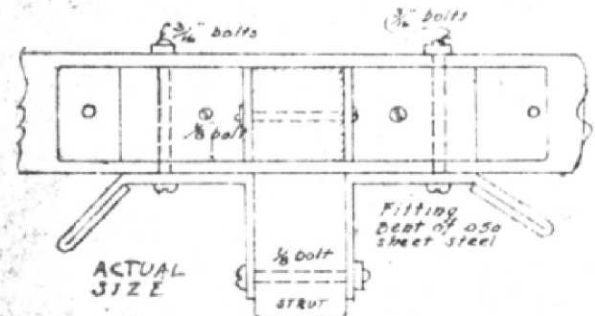
MONOPLANE

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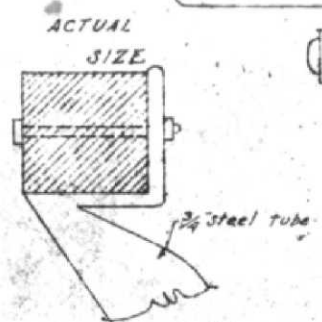




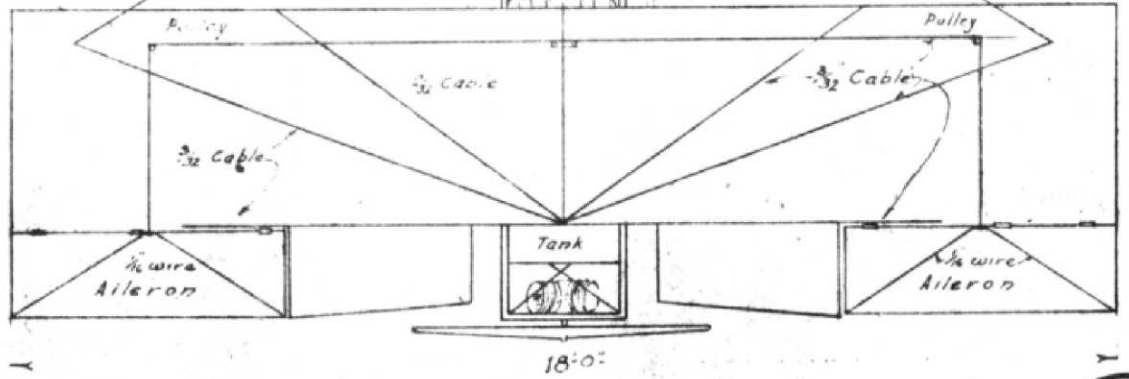
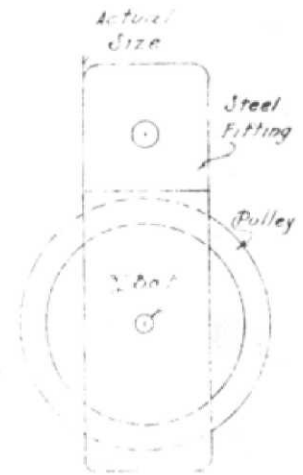
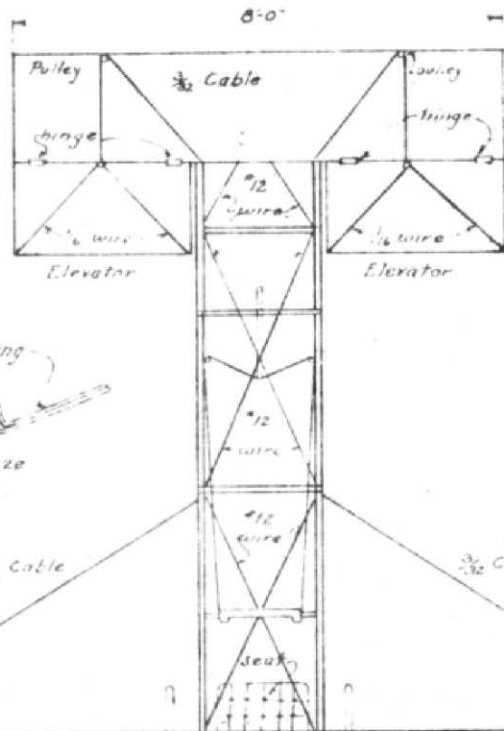
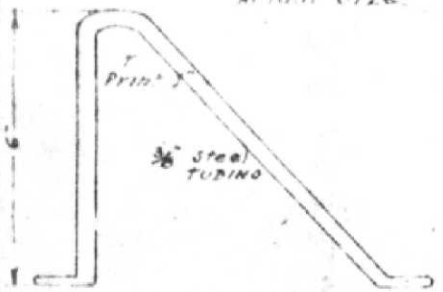
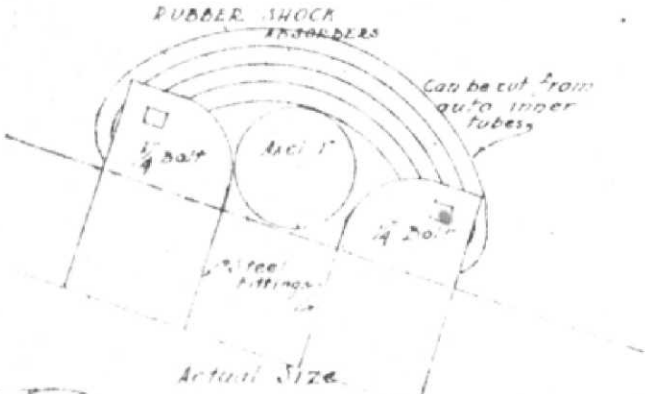
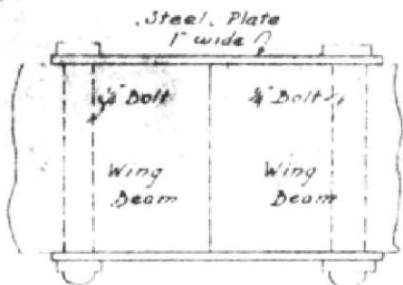
SCALE OF FEET



All wires on entire machine are fitted with one turnbuckle on each



# WHITE MONOPLANE



# WHITE MONOPLANE