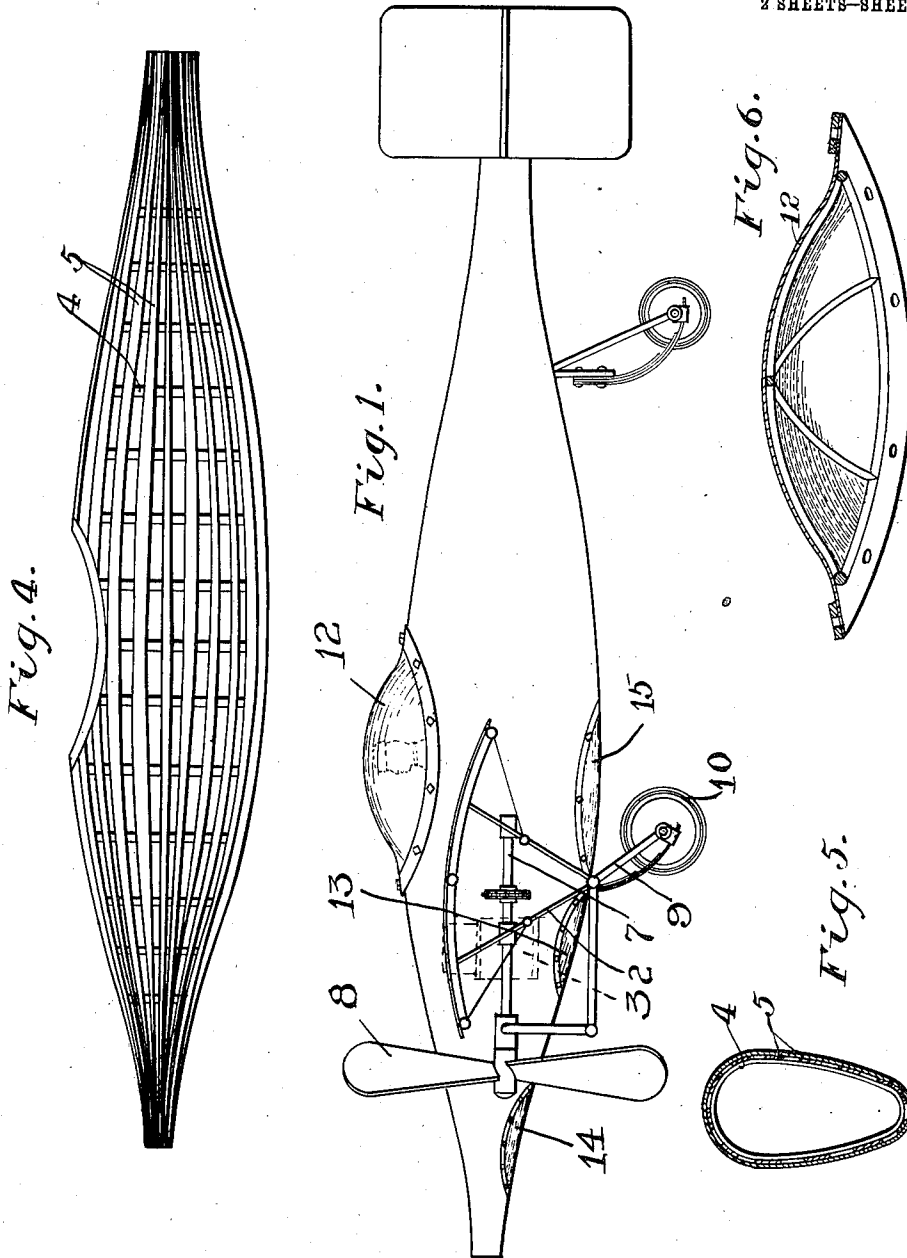


E. H. KELSEY.
 FLYING MACHINE.
 APPLICATION FILED MAY 12, 1910.

1,045,152.

Patented Nov. 26, 1912.

2 SHEETS—SHEET 1.



WITNESSES
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 Charles H. Hildreth

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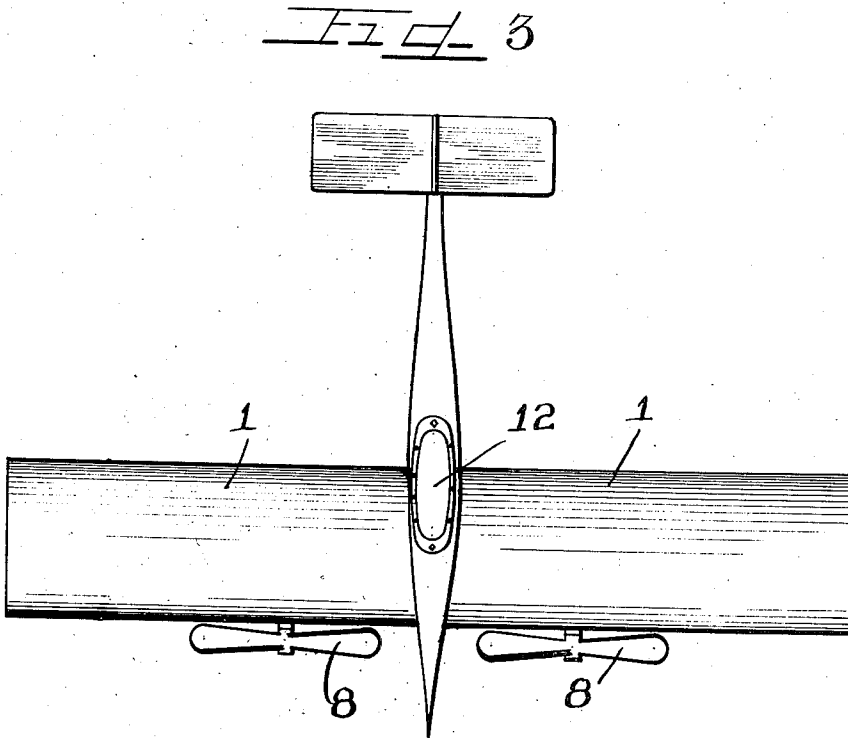
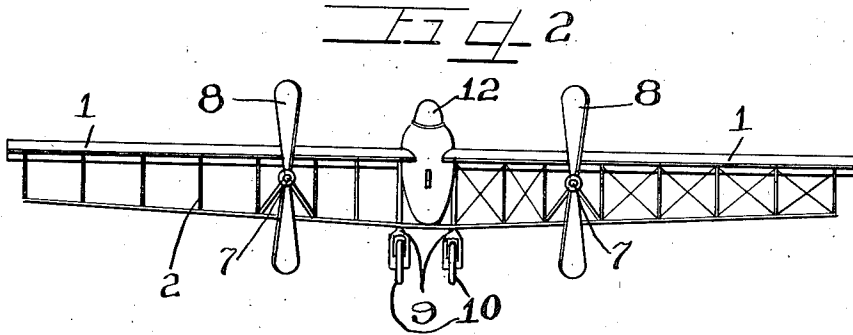
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WITNESSES

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UNITED STATES PATENT OFFICE.

EARL H. KELSEY, OF BAWLF, ALBERTA, CANADA.

FLYING-MACHINE.

1,045,152.

Specification of Letters Patent.

Patented Nov. 26, 1912.

Application filed May 12, 1910. Serial No. 560,898.

To all whom it may concern:

Be it known that I, EARL H. KELSEY, a subject of the King of England, and a resident of the city of Bawlf, in the Province of Alberta, Canada, have invented certain new and useful Improvements in Flying-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numbers of reference marked thereon, which form a part of this specification.

Heretofore in the various constructions of flying machines of the aeroplane type, but slight, if any attempt has been made to reduce the resistance afforded by the motor, the operator and the operating mechanism of the machine in its passage through the air by a construction minimizing such resistance. Ordinarily, the motor and operator and all the operating mechanism are wholly exposed to wind and air resistance and in consequence, speed is undoubtedly reduced thereby to a considerable extent. Furthermore, the operator during cold weather is exposed to all the inclemencies of the weather and is subjected to much discomfort thereby.

The object of this invention is to afford a construction whereby the actuating mechanism and the operator or operators are inclosed in a suitable housing of extremely light weight but so constructed as to present but very slight resistance to passage through the air.

It is also an object of the invention to provide in connection with a device of the kind, a housing for the actuating mechanism and operator provided with one or more transparent sections through which the operation of the mechanism can at all times be inspected and the machine thus operated with precision and safety.

The invention consists in the matters hereinafter described and more fully pointed out and defined in the appended claims.

In the drawings: Figure 1 is a side elevation of a device embodying my invention. Fig. 2 is a reduced front elevation thereof. Fig. 3 is a top plan view of the same. Fig. 4 is a side elevation of the skeleton for the housing. Fig. 5 is a transverse section thereof. Fig. 6 is an enlarged detail section of the removable transparent dome or covering for the head of the operator.

As shown in the drawings: A monoplane

machine for convenience, is illustrated, although, of course, the invention is applicable to heavier than air machines of any kind or type. 1, indicates the planes, which may be of any desired type or construction and supported and rigidly connected with the main frame of the machine by any suitable truss construction 2, or in any convenient manner. Inclosing the motor 3, shown in dotted lines in Fig. 1, and the operator and the operating mechanism, is a housing, which is oval in cross section, as shown in Fig. 5, and of ichthyoid or stream line form in longitudinal section, and comprises an interior frame consisting of extremely light hoops or bands 4, of bamboo or other light material and which are arranged at suitable distances apart in the length of the housing and extending longitudinally on the outer side of which are long tapered thin battens 5, as shown in Fig. 4, about which is drawn muslin, silk, or any suitable investing material which serves to draw said battens at the ends to a point, thus affording an elongated narrow housing of sufficient size in cross section to contain the motor 3, and the operator or operating crew. Said motor is connected in any suitable manner (which forms no part of this invention) with the propeller shafts 7, one on each side of the housing and on the forward end of each of which is a two bladed propeller 8, and supported below the housing, one on each side thereof at front and rear, is a downwardly and rearwardly directed standard 9, on which is yieldingly mounted the wheel 10, for supporting the machine upon the ground. The rear vertical and horizontal guiding planes are connected with any suitable main frame and operating means as is usual.

The housing is provided in its top with a central hatchway to permit ingress and egress of the operator and covering the same and secured thereto is a rounded housing or dome 12, constructed of celluloid or any suitable transparent material to permit the operator an unobstructed view while operating the machine. Said housing or dome 12, is, of course, removably secured on the main body of the housing to permit the operator to remove the same should he desire, in which instance, of course, the head of the operator is exposed to the air.

At various points in the main body of the machine are inserted transparent sections of

celluloid or other transparent material, as indicated at 13, 14, and 15, on each side and in the bottom of the body and through which the operator can view both the operation and adjustment of the mechanism below the planes and can see the surface over which he is traveling.

The operation of the device is obvious from the foregoing description. The extremely narrow and elongated pointed body cleaves the air with but very slight resistance and enables a higher speed to be attained than otherwise possible with the same expenditure of power and arrangement of planes. Furthermore, the operator is protected from discomfort occasioned by inclemencies of the weather.

Of course, many variations in the construction of the housing or body may be made, as, for example, the particular cross sectional form may be varied and any suitable frame may be employed to support the fabric covering. I therefore do not purpose limiting this application for patent otherwise than necessitated by the prior art.

I claim as my invention:

1. The combination in an aeroplane machine of a housing or body comprising a plurality of curved members laid longitudinally and adjacent one another at various distances from a longitudinal axis affording said body an outwardly concave taper at each end, a transparent dome secured on said body, and a plurality of transparent sections secured in the bottom of said body and conforming to the curvature thereof.

2. An aeroplane machine embracing in combination with the planes, the rudder, the motor and propeller, the operating connections therefor, a long narrow housing of concave, convex and concave curvature respectively, consisting of a plurality of longitudinal ribs tapered at each end, a fabric investing the same, a hatchway in the top of said housing, a transparent dome secured thereover, and a plurality of transparent sections set in the bottom and sides of the housing.

3. An aeroplane machine in combination with a protective housing of oval cross section comprising a light frame work of longitudinal members tapered toward each and arranged adjacent one another and an investment of fabric thereon, and a plurality

of convex and concave transparent sections arranged in the walls of said housing, the curvature thereof conforming to that of the walls.

4. A machine of the class described embracing a light and narrow body consisting of a series of longitudinally extended members tapered at each end to a point and containing the motor and adapted to contain the operator, a hatchway in the top of said body, a transparent dome removably secured thereon, and concave and convex transparent sections set in the lower walls of said body.

5. A device of the class described, bands of light material, long thin tapered battens rigidly connecting said bands affording a concave and convex narrow housing, a fabric investment surrounding said housing and acting to draw the ends of said battens to a point, a hatchway in the top of said housing, a removable transparent dome covering said hatchway, and a series of concave and convex transparent sections conforming to the curvature of the housing set in the bottom and sides of said housing to permit inspection of the exterior mechanisms and surface below.

6. The combination in an aeroplane of a housing comprising a plurality of tapered elements bent concavely, convexly and concavely respectively relative the axis of said housing, a series of oval rings within said body adapted to reinforce said elements, a suitable covering secured thereon and means adapted to permit vision of the exterior from within.

7. A housing for air craft embracing a plurality of elements secured in close relation to each other at the ends affording an outwardly concave taper thereby, the middle portion of said elements bent to afford an outwardly convex surface, a covering secured to said elements, oval reinforcing rings spaced along within said housing, and means for attachment to an air craft.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

EARL H. KELSEY.

Witnesses:

C. W. HILLS,

LAWRENCE REIBSTEIN.