

Nov. 18, 1930.

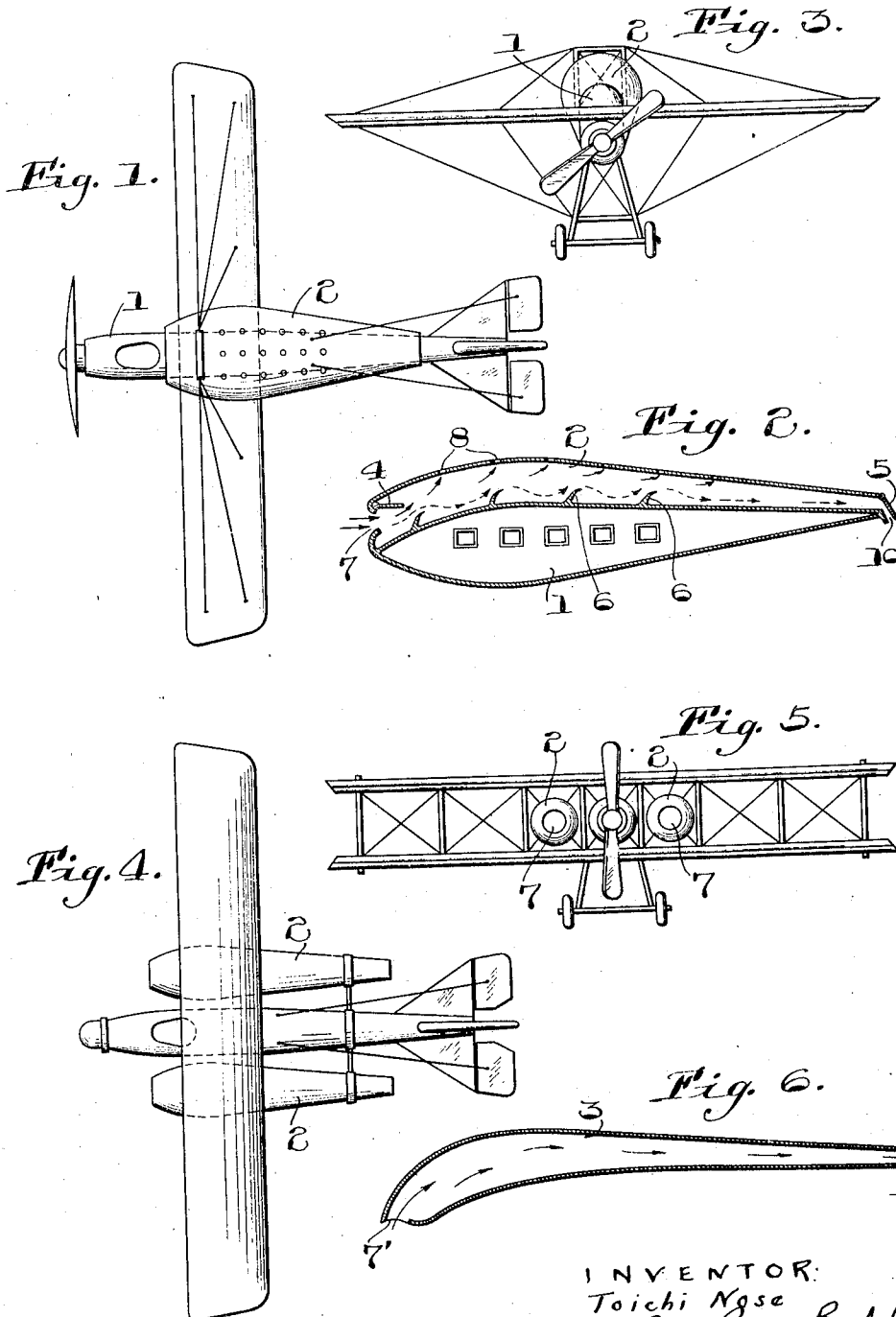
T. NOSE

1,782,210

AEROPLANE

Filed July 6, 1929

2 Sheets-Sheet 1



INVENTOR:
Toichi Nose
BY: Rugg, Boyer & Bakelar
ATTORNEYS

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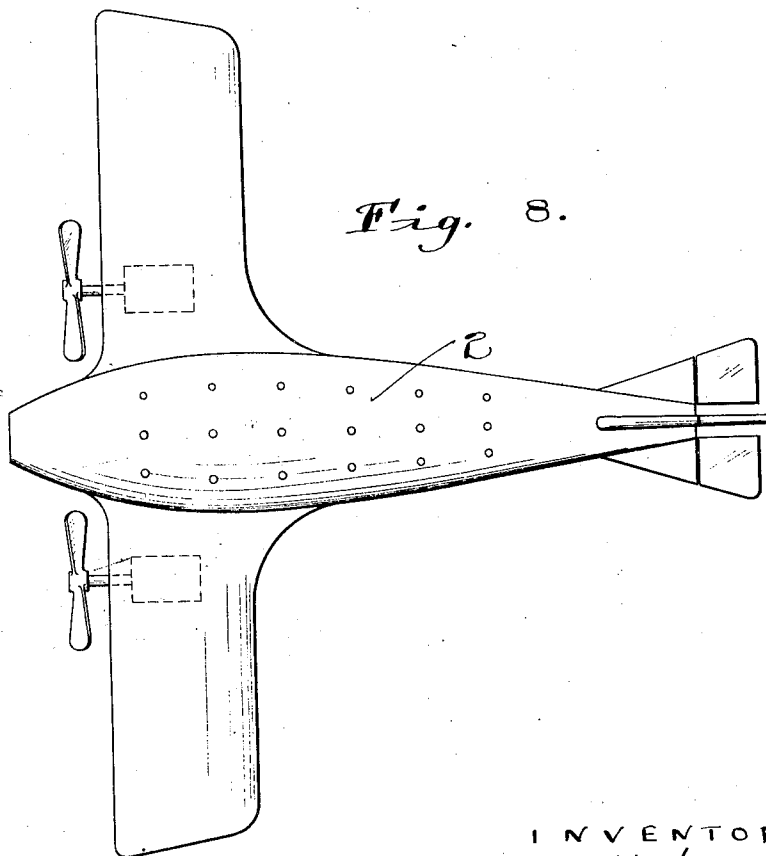
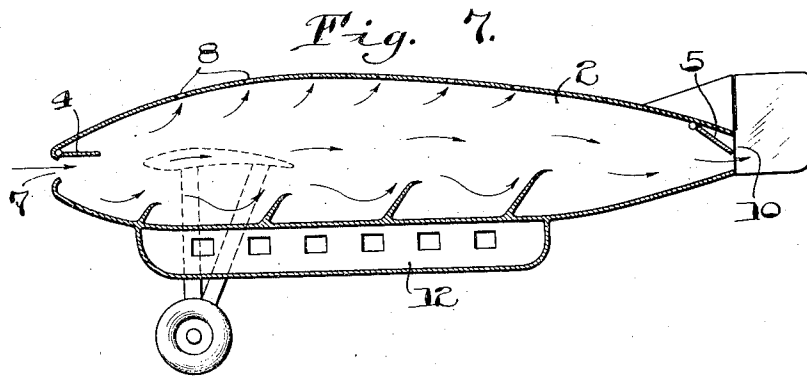
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INVENTOR:
Toichi Nose
BY: Rugg, Bayne & Bakelar
ATTORNEYS

UNITED STATES PATENT OFFICE

TOICHI NOSE, OF KAMAKURA MACHI, KANAGAWA KEN, JAPAN

AEROPLANE

Application filed July 6, 1929, Serial No. 376,322, and in Japan October 24, 1928.

This invention relates to an aeroplane provided with a lifting device, and the object thereof is to obtain at small cost an aeroplane of simple construction without reducing its speed and having big lifting power and carrying capacity and able to land safely. There are many kinds of aircraft now in use, but they may be roughly divided into the airship and the aeroplane. The airship has big carrying capacity, can stop freely in the air and is safe in landing. However, it is expensive and is difficult to handle and keep. Especially, as it utilizes gas, there is a great danger of unexpected explosion caused by electric shock in the air and other causes. As regards the aeroplane, it has greater speed and is less expensive than the airship. Moreover, it is easier to control and is more convenient to handle. However, it has comparatively small carrying capacity and cannot stop in the air. Also, it is hard to keep its body stable and especially there is a great danger in descending and landing. The primary object of this invention is to obtain at small cost a safe aeroplane of big carrying capacity with little danger of explosion and falling by combining the above merits of the airship and the aeroplane and providing a kind of compartment to make good their defects so that the lifting power may be increased by the influence of air currents upon the upper wall of the compartment.

Referring to the accompanying drawings,

Fig. 1 is an ordinary aeroplane having an air compartment on the upper part of its body,

Fig. 2, a section of its body,

Fig. 3, an end view of the aeroplane shown in Fig. 1,

Fig. 4, a plan of a biplane provided with a pair of air compartments at both sides of its body,

Fig. 5, a front view of the same,

Fig. 6, a section of a wing embodying this invention,

Fig. 7, a section of an aeroplane of big type embodying this invention and

Fig. 8, a plan of the same.

The aeroplane according to the present invention is provided on a part of its body (1)

with one or more air compartments (2) or wings (3) formed in the shape of air bag. These air compartments (2) form a kind of wind tunnel, which has a control valve (4) at its inlet or front end and a discharge valve (5) at its outlet or rear end, these valves being controllable suitably from the pilot's seat.

The air compartment may be constructed substantially in the same manner as the body of the general airship or aeroplane, so far as its structure and the means of covering it are concerned, but is different in respect of having, as stated above, the control valve at its front end and the discharge valve at its rear end and enabling them to be controlled from the pilot's seat. In the interior of the air compartment (2) there are a number of deflecting boards (6) which curve inwardly and backwardly so that the air current passing through the body of the machine is directed upward. The upper half of the air compartment is preferably provided with a number of small perforations (8) in order to assist the upward thrusting of the air current.

Figs. 1 to 3 show an ordinary aeroplane provided with an air compartment (2) at the upper part of its body (1). During the flight of the aeroplane an air stream flows into the air compartment through the mouth (7) and passes out through the outlet 10, thus imparting to the machine lifting power as indicated by arrows in the drawing, and part of the air escapes from the small hole (8) of the compartment and assists in changing the direction of the air current which passes through the body.

Figs. 4 and 5 show an example of a biplane provided with a pair of air compartments disposed at opposite sides of the body (1), in which each compartment may be constructed in the same manner as above described. By this means it is possible to increase the carrying capacity of the machine and impart stability thereto. Although in the drawing two compartments of round section are shown, it is needless to say that various shapes of section may be used and also the number of

compartments may be increased or decreased as the case may be.

Fig. 6 is an example of the invention utilized as the wing of an aeroplane, wherein the wing is of hollow formation and is provided with an inlet (7') at its front end and an air outlet (10') at its rear end and, if necessary, may be provided with a control valve at the air inlet and a discharge valve at the air outlet so as to regulate the air current.

Figs. 7 and 8 show an aeroplane of big type having an air compartment (2) as its body to which is secured or suspended a passenger room and freight cabin (12). This increases the carrying capacity as well as the stability of the machine.

The known aeroplane flies only by wing resistance and therefore it is difficult to determine the center of gravity of the machine. Also, when there occurs such accidents as the breaking of a wing, or the engine getting out-of-order, etc., the stability of the machine is disturbed. However, an aeroplane according to this invention is not only easy to always maintain the stability of its body during its travel, but also even when it encounters an accident, it can escape rapid and fatal fall if the discharge valve is closed, leaving the control valve open. Further, when a landing place is too narrow or a sudden stop is necessary owing to some obstacle lying before it, the known aeroplane relies upon only the action of the elevating planes, but in the present invention if the discharge valve is closed, the air compartment controls the machine and enables it to land safely and without receiving any impact.

I claim:

An aeroplane provided with air compartments adapted to receive air current at their front ends and discharge it at their rear ends said air compartments being provided with deflectors for deflecting the passing air current and provided in their top walls with small perforations to assist the upward thrusting of the air current.

In testimony whereof I have affixed my signature.

TOICHI NOSE.