

5. The expression "when the two sides thereof offer different resistances to the air" suggests the idea that perhaps under some circumstances the two sides might not offer different resistances to the air in which case the assistance of the vertical rudder would not be required: It is only "when" they do so that it is needed.

The language of the specification is thus somewhat misleading; for a little consideration will show that the twisting of the aeroplanes to any practicable extent is incapable of producing the righting effect desired, without at the same time causing the two sides of the machine to offer different resistances to advance through the air:- The vertical rudder is an essential element in their combination. A little further discussion of the point will demonstrate this proposition.

6. The word "aeroplane", as used in the Wright specification, is defined to mean "the supporting-surface or supporting-surfaces by means of which the machine is sustained in the air"

Now it is obvious that the machine will not be sustained in the air unless the air pressure is greater below the supporting-surfaces than above. The necessary condition of support is that the upward pressure from below must exceed the downward pressure from above, by the weight of the machine; otherwise the machine will fall.

This means that the aeroplanes that sustain the machine in the air must be tilted up in front, at a positive angle to the line of advance, so as to permit of an excess of air pressure from below. Even though it might be structurally possible to depress the front edge below the line of advance,