**Flying machines 1912: wind velocities**

Air currents near the surface of the ground are diverted by every obstruction unless the wind is blowing hard enough to remove the obstruction entirely. Take, for instance, the case of a tree or shrub, in a moderate wind of from ten to twelve miles an hour. As the wind strikes the tree it divides, part going to one side and part going to the other, while still another part is directed upward and goes over the top of the obstruction. This makes the handling of a glider on an obstructed field difficult and uncertain. To handle a glider successfully the place of operation should be clear and the wind moderate and steady. If it is gusty postpone your flight. In this connection it will be well to understand the velocity of the wind, and what it means as shown in the following table:

Miles per hour Feet per second Pressure per sq. foot

10 14.7 .492

25 36.7 3.075

50 73.3 12.300

100 146.6 49.200

Pressure of wind increases in proportion to the square of the velocity. Thus wind at 10 miles an hour has four times the pressure of wind at 5 miles an hour. The greater this pressure the large and heavier the object which can be raised. Any boy who has had experience in flying kites can testify to this, High winds, however, are almost invariably gusty and uncertain as to direction, and this makes them dangerous for aviators. It is also a self-evident fact that, beyond a certain stage, the harder the wind blows the more difficult it is to make headway against it.