

The gyrostat consists simply of a thin metallic case enclosing a heavy wheel which can be set in rapid rotation by means of a string coiled round one end of the axis.

In order to imitate the action of the propeller of the June Bug the concealed wheel was given a left handed rotation (against the hand of a watch). I then held the gyrostat in my hand with one axis pointing forward, so that considering this end of the axis as the bow or front end of an aerodrome the wheel represented the propeller. Then to represent the forward flight of the aerodrome I walked forwards with the gyrostat in my hand. I then imitated the action of steering the aerodrome by turning to the right. Instantly the bow end of the gyrostat turned upwards with considerable force. Upon turning to the left it turned downwards. Then to represent the act of steering downwards with an aerodrome, I depressed the bow end of the gyrostat with the result that the bow tried also to move to the right or starboard side. Upon elevating the bow of the gyrostat to represent steering upwards with an aerodrome, the bow of the gyrostat was deflected to the left.

With a right handed rotation of the wheel of the gyrostat opposite effects were produced.

The effects were so marked as to indicate that the gyroscopic action of a rapidly rotating propeller in an aerodrome should be studied and allowed for in the steering of the apparatus. The following contains a summary of the observations made:-