

Aerial Navigation.

There is a story to the effect that during a battle a soldier was seen moving rapidly to the rear. The captain of his company called out: "What are you moving like that for, you scoundrel?" to which query came back the answer, "Because I can't fly." For some time professors of the science of aeronautics have been investigating the possibilities of aerial navigation, and have come to the conclusion that it will always be impossible for man to fly, but there are others who believe that he will yet be able to soar in the air, just as the birds do, while one or two have succeeded in proving that a clever man can fly, and fly for considerable distances.

It must be conceded that while practical and level-headed business men have laughed at the idea of aerial navigation, considerable progress has been made during the century toward solving the problem. The experiments which have been the most successful are those which were made with wings or aeroplanes. Mr. HIRAM MAXIM, an American whose inventive genius is recognized, has invented a flying machine in which the screw propeller is the motive power, and has hazarded the prediction that inside of two years the flying of man will be an accomplished fact. But the majority of experimenters believe that the problem will be solved by the kite or aeroplane.

Professor LILIENTHAL, an inventive German, has gone to the birds for the model of his flying machine. He learned that it is the concave shape of a bird's wing that enables it to soar, rising or falling at will, without muscular exertion in the face of a high wind. Next he learned that a bird's wing bones are constructed similarly to those in a man's arm. Knowing these things, he constructed his soaring machine, making two immense cloth wings and a rudder, or tail, as nearly as possible the form of a bird's wings and tail. They were constructed so as to fold up like the wings of a bat. Next he adjusted them to his arms, took a run along a hill-top and then jumped over the side, spreading his wings as he did so. He soared some distance and alighted safely, and although he has since met with occasional mishaps, he has learned how to change directions and rise and descend at will and can fulfill most of the functions of a big bird.

The practicability of this invention has, therefore, been demonstrated, and efforts will doubtless be made to perfect the machine. The development of aeropropulsion, even for purposes other than aerial navigation, would seem to be something to which inventive skill might well devote itself. It would make communication across trackless wastes possible at any time, and would, there-

fore, be of value for governmental and scientific purposes. By this means Arctic exploration might be made more successful. Explorers, after sailing as far as the ice will permit, have no other means of further locomotion than snow shoes or dog sleds. In such a case an aero-propelled boat-sled would have a practical value.

Some of the students of the subject now go so far as to say that if we can get a machine which will automatically preserve its equilibrium, success in flying will be assured. Increased experience and our superior intelligence would enable us to surpass the birds in their own element. Every man would then be his own elevated railway. With a speed of ninety or one hundred miles an hour, which Professor LANGLEY does not think improbable, a Philadelphian could attend to his business by day and spend his nights on the crest of the Alleghenies or on the summit the Catskills.

THE TAN upon the cheek of the return.