The various difficulties and dangers which have already been encountered are really at the present time increasing rather than being reduced, for as the art advances and navigators become bolder, the hazards taken are greater. For instance, at one time it was thought that navigation in wind and rain storms, fogs, etc., was impossible; now we find ascents being frequently made under such weather conditions as, for example, when Latham in 1909 went 75 miles per hour a gale at Blackpool in his Antoinette monoplane. Fires and explosions on dirigible balloons are a great menace—instance the disaster to Zeppelin IV.—possibly lightning would come also in this category. Breakdown of engine or of propellers or steering gear, etc., in aeroplanes is almost fatal, especially in high flying unless the aviator is successful in righting the machine and gliding to earth without overturning; nearly all fatal aeroplane accidents have been due to this mishap though there are several notable examples of the machine being brought down safely—instance, Curtiss at Atlantic City in 1910. Loss of fuel either by leakage, accident or use is another danger. Collision with buildings, trees or other craft is also to be reckoned with.

In the tactical and strategical employment of air craft it is as yet probably too early in the game to conjecture. The nations which have worked on these lines have been very reticent and jealous of their acquired experience. It is well known, however, that already aerial plans of operations both offensive and defensive, are perfected and filed by several of the European powers with respect to their neighbors. A glance at the map of Europe will show how reasonable it is to expect successful co-operation of aerial craft with army and navy in the case of the several great powers whose capitals, fortresses and naval bases are quite within striking distance of dirigibles and of even the shorter range aeroplanes.

Armament for and Against Airships.

It has not been a mere fanciful conception that balloons and aeroplanes having free approach and "air way" to pass over armies, fortresses, and warships can drop explosives and concentrate destructive fire upon them. It has been found, however, that, though frequently demonstrated, it is really easier said than done. That a large balloon can hover above any point sufficiently steady and sufficiently low to ensure accurate aim is asking much of its mechanism and handling to say nothing of the courage of its crew. Further, to expect a fast moving aeroplane—for it must move at least 20 miles per hour—to drop an explosive or series of them on a given point at a given time is another large order, and, though demonstrated at exhibitions in 1910, would undoubtedly be a very difficult thing to do in service when the machine is a target for various terrestrial ordnance.

It is to be reasonably expected however that the probable em-