

means of training are limited, are highly expensive, and often produce discouraging results, as have been experienced the past 3 years. The present year, however, sees all the great powers appropriating large sums in their estimates for this purpose. The German Government has planned very large expenditures, and it is now unofficially announced that eleven German universities will, during the summer of 1911, institute lectures on aeronautics and the mechanical principles underlying the flying machine and its operation. The United States has authorized very considerable expenditures in training, and the news just comes that the



GERMAN 3-INCH GUN FOR ATTACKING AIRSHIPS

Courtesy Croshy, Lockwood & Son, from "The Art of Aviation," *Brewer*.

National Guard of California has authorized the formation of an aerial corps in connection with the Coast Artillery. It is interesting to notice that the British Army estimates for 1911 include a half-million dollars for new dirigibles and aeroplanes and for the expenses of an aeronautic staff. It is stated in newspaper despatches that the British Army will have five dirigible balloons and five aeroplanes available for use the coming summer.

As to training, especially in aeroplane operation, the work of Mr. Curtiss at San Francisco for the U. S. Army and Navy is of special note, as indicating how he instructs novices to handle