

## Gunning for Aircraft—How the Italians Do It

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WHILE it is true that no European strategist foresaw the important part that aircraft were destined to play in the present bloody conflict, it was at least realized that a man in the air had reconnoitering possibilities. Krupp even developed anti-aircraft guns to be carried on automobiles—weapons so clumsily mounted that they were of not much avail against a swiftly moving flying-machine.

One of Germany's pioneer advocates of the military flying machine was Colonel Moedebeck. As far back as 1909, he predicted that only shrapnel could be effectively used against a prying air scout—a prediction which has been amply fulfilled in the war.

How astonishingly anti-aircraft artillery has developed is evidenced by the accompanying photograph, taken on the Italian front. The earlier anti-aircraft weapons were rather small and were provided with elaborate range-finding devices. In a few months it was found that the pieces must be very much heavier than had been anticipated, and that they must fire at their targets, point-blank, just as a duck hunter fires at birds on the wing; there is no time for range finding.

As our photograph shows, the caliber has been increased enormously. The English and French have mounted heavy

naval guns on field-carriages. Here we see an Italian anti-aircraft gun heavier than the piece which Krupp in 1910 designed exclusively for naval use, boldly mounted on an automobile truck. It is evident the truck is built for speed—evident because of the mud-guards.

The heavy shell fired by this Italian piece scatters a cloud of deadly bullets. Because of its power, the velocity of

the projectile is maintained better than would have been possible with the feebler pieces with which Europe entered the war. Indeed, high power is necessary because of the altitude at which battle planes now fly for safety.

Such a heavy gun has a practically straight path at high

angle fire; the projectile reaches its target quickly. It is hard at best to judge the point at which an airplane will have arrived to be annihilated by a shell fired from below. Hence it is of paramount importance to reach that point as quickly as possible.

A good pilot can avoid being hit by suddenly turning and twisting as soon as he sees an anti-aircraft battery open on him. Established batteries, whose location can hardly escape detection, are therefore at a disadvantage. But a gun like that here shown, mounted as it is on a swift automobile, has a better chance.



How They Gun for Airplanes in Italy

Before the war no military engineer would have dreamt of mounting so heavy a piece on an automobile. Indeed, it would have been considered almost an engineering impossibility. But the necessity of attacking prying air scouts from constantly changing locations has made it absolutely necessary to achieve what seemed to be the impossible