



BECAUSE of the extensive employment of machinery in the world war, the inventor has the opportunity as never before to serve his country in his own favorite way. For the struggle in which we are now engaged has long been recognized as a contest between the great minds of the Central Powers and the Allied Powers—between inventors of both camps.

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Typical of the inventions which the war has developed are those shown in the illustrations herewith. The first example is a shell for cutting barbed-wire entanglements, which is designed to travel through the air with the ease of the ordinary shrapnel or high explosive shell until it reaches the target. Most wire-cutting shells have never proved practical for the reason that their wire-cutting members are actuated when the shell leaves the cannon, with the result that the added wind resistance of these members greatly limits the range and interferes materially with the accuracy of the projectile. In the present case the two hook-shaped wire-cutting members are hinged as shown, and normally fit into slots in the shell case, where they are held by a soft metal band. The time fuse in the nose of the shell is set for any given distance, and serves to detonate a small charge just back of it. The explosive charge, in turn, pushes down a cone-shaped plunger which spreads out the wire-cutting arms. The cutting members are held in place by other members as indicated.

