

## SIZE AND POWER OF THE GERMAN HOWITZERS SURPRISING DEVELOPMENT OF THE WAR

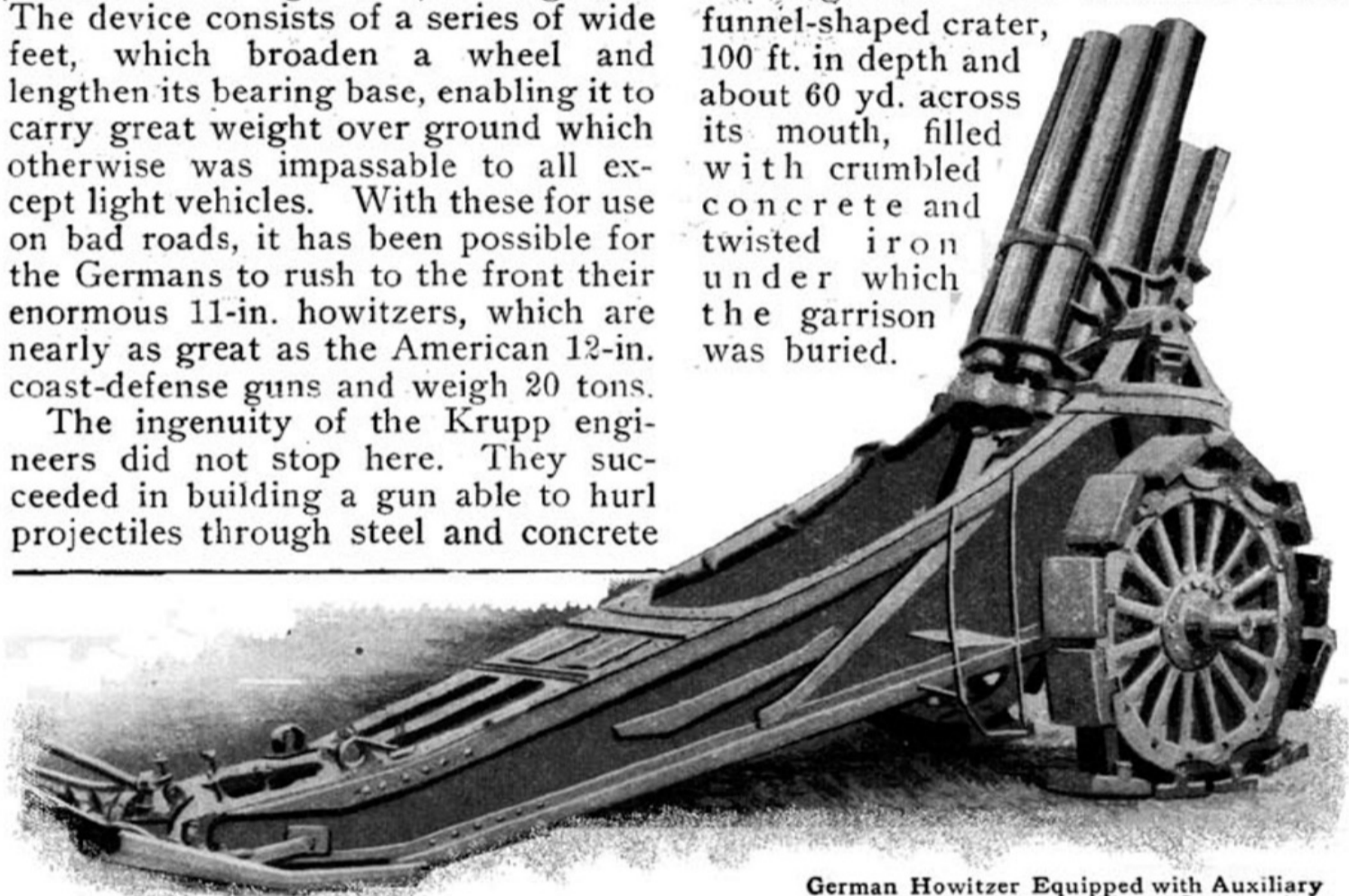
**T**HE one big surprise for military experts thus far developed in the European war is the effectiveness of the heavy guns of the German field artillery. Never before have such terrible engines of annihilation been carried by an invading army as those used in the assaults upon the forts at Liege.

It had long been realized that more powerful guns would be needed in the field if modern inland fortifications were to be made to fall before an army, but there was apparent security in the fact that guns large enough for such a purpose would be too large to be transported from point to point. Even were motive power available, the enormous weight of the guns would make all but the hardest of paved highways impassable for them. But the development of the internal-combustion tractor solved the transportation problem, while that of hauling heavy weights over soft ground was solved by the invention of a detachable tread for the rims of gun-carriage wheels, described some months ago in this magazine. The device consists of a series of wide feet, which broaden a wheel and lengthen its bearing base, enabling it to carry great weight over ground which otherwise was impassable to all except light vehicles. With these for use on bad roads, it has been possible for the Germans to rush to the front their enormous 11-in. howitzers, which are nearly as great as the American 12-in. coast-defense guns and weigh 20 tons.

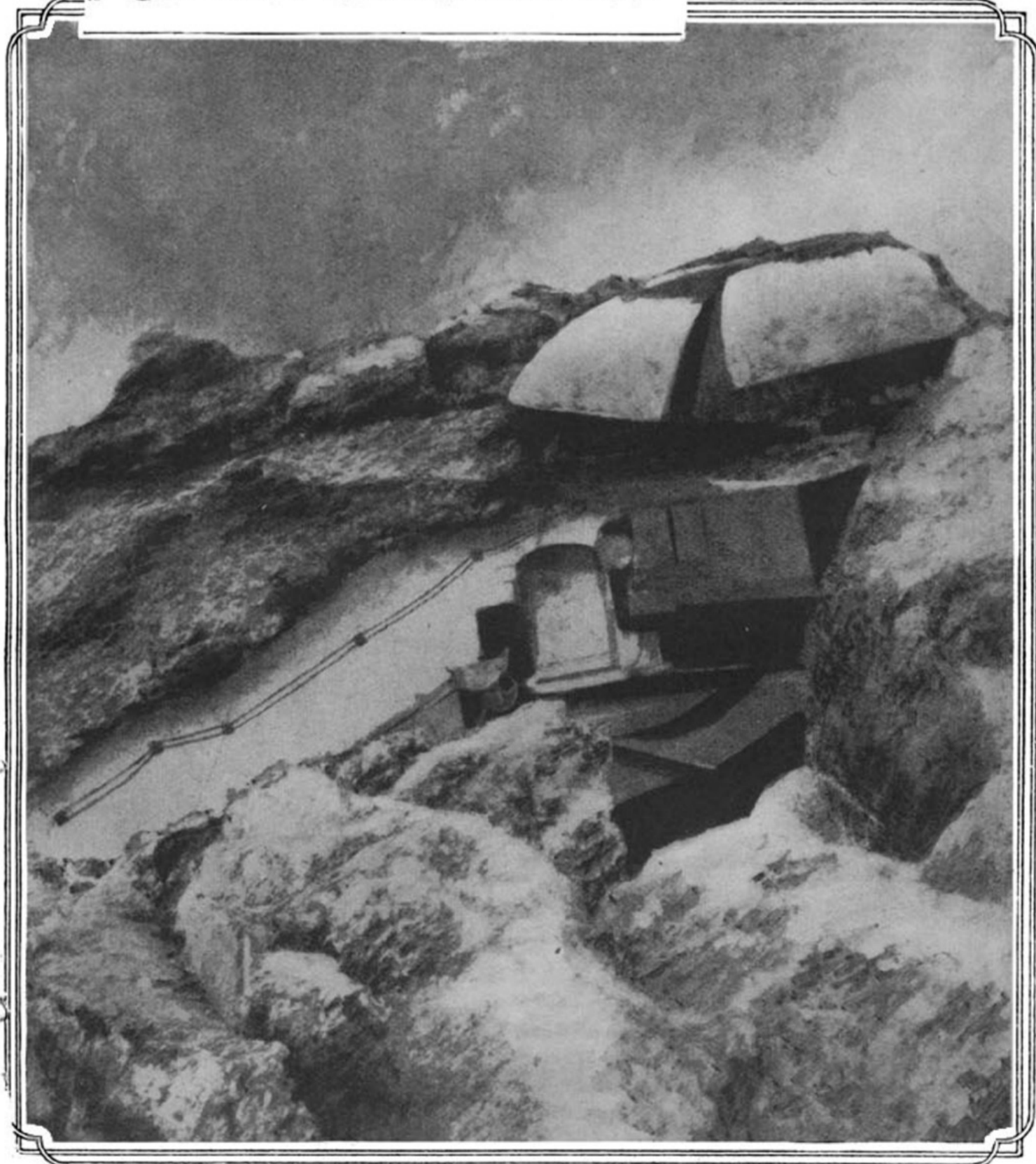
The ingenuity of the Krupp engineers did not stop here. They succeeded in building a gun able to hurl projectiles through steel and concrete

walls, such as those at Liege, almost as easily as if the works were of lath and plaster. The story of carnage and destruction wrought by a single shell from this masterpiece burdens the imagination. Profound secrecy has clothed the details of the construction of the machine, which was invented some eight years ago, tested and for obvious reasons subsequently pronounced a failure. It fires a 16.5-in projectile, and when used at Liege against Fort Loncin was mounted on a base of concrete having a 100-ft. radius. A tunnel leading to a subterranean chamber was excavated some distance at the rear, from which the gun was fired by electricity.

A single shot from this immense German gun destroyed the principal defense of Liege. What happened is shown by the accompanying photograph. The projectile crashed through a ventilation shaft and bored its way into the bowels of the subterranean works, then burst, exploding the powder magazine. What remained was a funnel-shaped crater, 100 ft. in depth and about 60 yd. across its mouth, filled with crumbled concrete and twisted iron under which the garrison was buried.



German Howitzer Equipped with Auxiliary Treads, Enabling the Huge Gun to be Hauled Wherever an Army can March



Photograph Shows Fort Loncin, One of the Fortresses Guarding Liege, After It was Struck by a Single Shell Fired from the 16.5-Inch Krupp Siege Gun of the German Artillery. The Fortification was Almost Entirely Subterranean and of Unusual Strength. Above is Illustrated the Method Used in Mounting This Huge Engine of Destruction