



## Steel and Concrete Forts of Today Evolved from Cave Man's Hedge of Thorn

By John A. Menaugh

FRANCE'S vast system of border defenses, embodying magazines and quarters for troops hundreds of feet underground, is merely today's step in the evolution of fortifications—an evolution marked in its earliest stages by the most primitive of makeshifts. France's protective lines of concrete and steel, hundreds of miles long, are the pattern for other invasion-fearing countries and the last-minute development in the science and art of fortification.

Largely a history of wars is the story of mankind. First records as handed down through the centuries reveal man

● Throughout Europe hordes of workmen toil incessantly at the building of fortifications. Nations literally ring themselves with steel and concrete.

● Along France's 1,246 mile eastern frontier is being planted a new system of defenses the like of which never before has been seen. In the north the scheme involves three colossal sections: 1—Along the Belgian border; 2—A center section from Belgium to the Rhine; 3—The frontier along which the Rhine forms a natural defense. In the center section more than 153 million dollars already has been spent on iron, steel, and reinforced concrete subterranean positions that link up a vast system of parallel trenches. Elaborate main forts are placed 6 to 18 miles apart, and shellproof shelters and machine gun positions a half mile apart in between. In the whole of the defense system shelters and machine gun nests of these types will total 25,000. More than 120 million dollars goes for the Nice and Alpine border fortification system of this nation that ignores its debt to America.

● On its Polish and Rumanian frontiers Russia secretly constructs a similar system of concrete fortifications, sinking great labyrinthine defenses in the area along the River Stutch, adjacent to Rovno.

● Italy fortifies the islands of Elba and Capraia and strengthens the defenses along its borders at the north.

against man, army against army. What transpired before the dawn of history is only conjecture, though it is an assumption based upon scientific discovery that the hairy cave men battled among themselves and resisted as well the waves of other, less beastlike men (more like ourselves) who rolled into Europe from some mysterious cradle of the race ages and ages ago.

This business of making war led at an early time not only to the development of weapons and methods of assault but also to the invention of protection against attack. Protection as considered here is fortification, which, before man's in-

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