

THE PIONEERS OF THE SWISS ARMY.

BY DAY ALLEN WILLEY.

While all of the European countries whose boundaries extend to the "backbone" of Europe have divisions of their armies composed of troops trained especially for maneuvers among the mountains, the Swiss soldier probably excels all others as an Alpinist; nor is this strange, when it is remembered that practically all of this little republic is situated in the heart of the Alps, and much of it is above the cloud line.

In a country where the highway may lead over summits 10,000 feet above sea level, where glaciers may be more easily crossed than the ordinary road, special instruction in mountaineering is absolutely necessary as a branch of military tactics. Hence the Swiss soldier is as familiar with the alpenstock as he is with his rifle, and moves about on skis as quickly and skillfully as the Swede or Norwegian. While numerically the Swiss army is relatively large, consisting of over 150,000 men, including all branches of the service, its mobility as a fighting unit is really remarkable. Some of the feats which are performed by the various commands are notable, because they would be impossible for soldiers in other portions of Europe.

During winter as well as summer the Swiss soldier frequently journeys from post to post over the snow-filled passes among the higher Alps, as already stated, frequently crossing glaciers and snow fields of great extent. In descending a mountain, glissading with the aid of skis is common. Tourists in Switzerland sometimes witness the novel sight of an entire battalion sliding down an incline at great speed, yet without a man losing his balance. At the end of the glissade each soldier immediately takes his place in the ranks, ready for the march.

So much has been written and said of the prowess of the tourist guides in Switzerland, that the ability of the soldier in climbing difficult peaks is comparatively little known. In executing certain orders the men are sometimes required to climb mountain slopes

where the ice ax and the rope are absolutely necessary, but in addition to these appliances they must carry their rifles, possibly haversacks as well, thus making the ascent even more difficult and perilous.

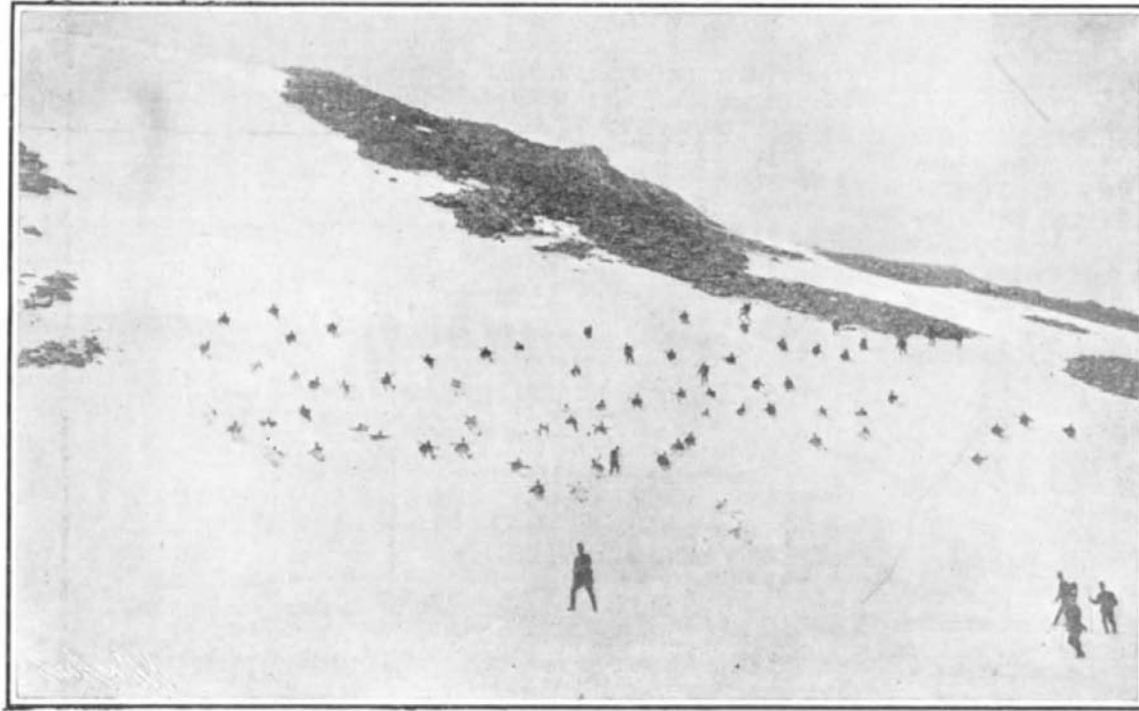
As may be imagined, engineering work from a military standpoint forms a most important part of Alpine tactics. One work of the engineer is the construction of pontoon bridges of suitable size and strength to permit the passage, not only of foot soldiers, but of cav-

securely anchored by heavy weights. As fast as the pontoons are secured, longitudinal timbers are laid across them. These "balks" are secured in place by rope lashings made fast to cleats in the pontoons, sometimes by means of bolts or pins which can be quickly adjusted. The beams average about five inches in thickness and are made of seasoned timber, so that they are not affected by dampness or the weather. Upon them is placed the flooring of the bridge, consisting of planks ranging from one inch to one and one-half inches in thickness and measuring about a foot in width. It is a fact that no nails whatever are used in fastening the planking to the beams, the fastening being done by rope lashing, so that the superstructure of the bridge can be taken apart immediately after the troops have crossed. Side rails, laid along each end of the flooring and lashed directly to the pontoons, act as a reinforcement to the strength of the structure.

Such a bridge will support a weight of at least one hundred pounds to every square foot. The width depends upon the size of the stream and the number of men, but usually the Swiss bridges do not exceed ten feet in width, permitting the passage of infantry in columns of fours, as well as batteries and field pieces drawn by horses. The pontoons

are also utilized independently of bridge work for crossing the mountain streams, especially in moving artillery. The gun is detached from the carriage, and the equipment loaded aboard the boat. A squad of artillerymen then man it, and the horses for drawing the gun carriage and caisson are forced to swim across, being held by some of the men in the pontoon. Thus the Swiss soldier is drilled not only in Alpine work, but as a waterman, for it is frequently necessary to cross rivers at points where there are no permanent or temporary bridges, and the use of the oar is as essential as the use of the alpenstock.

The Canadian Pacific Railway offers a 12,000-mile trip under one flag.

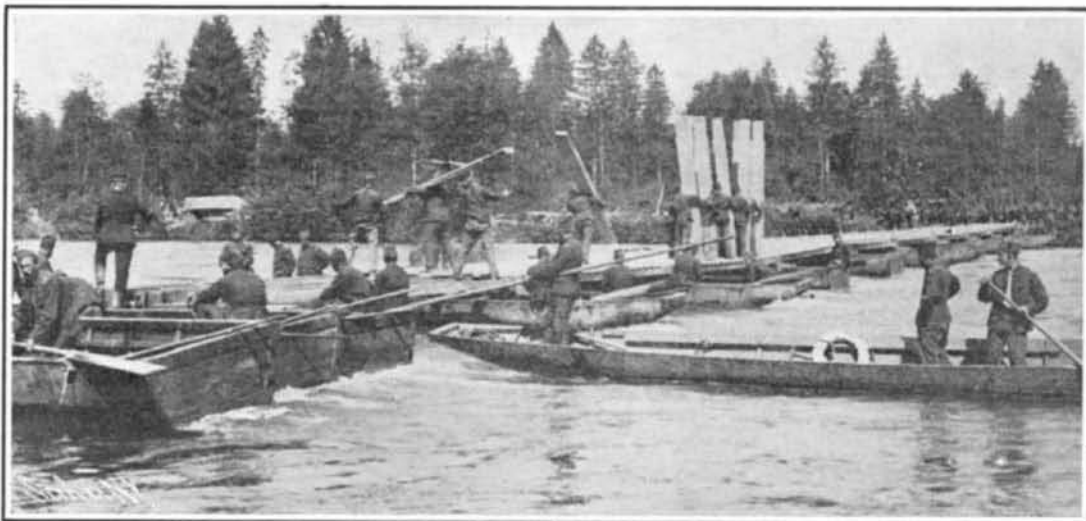


Descending a Mountain Side on Snowshoes.

ally, if necessary, and even of field artillery. When it is remembered that the mountain streams of this country are notable for their swift current and the rapid rise and fall in the volume of water, it will be recognized that the task of the engineer is far more arduous and hazardous than in the lowlands, where the streams to be crossed have comparatively little velocity. Bridge building, however, is a part of the maneuvers frequently carried out. The pontoons, mere flatboats, are arranged obviously according to the strength of the current and the depth of the water. At times it is necessary to place them but a few feet apart; but if the current is not too strong, they are anchored at distances ranging from ten to fifteen feet of each other, the bows of course pointing up stream,



Crossing a Pass in the Alps.



Assembling pontoons.



Fording a Stream.