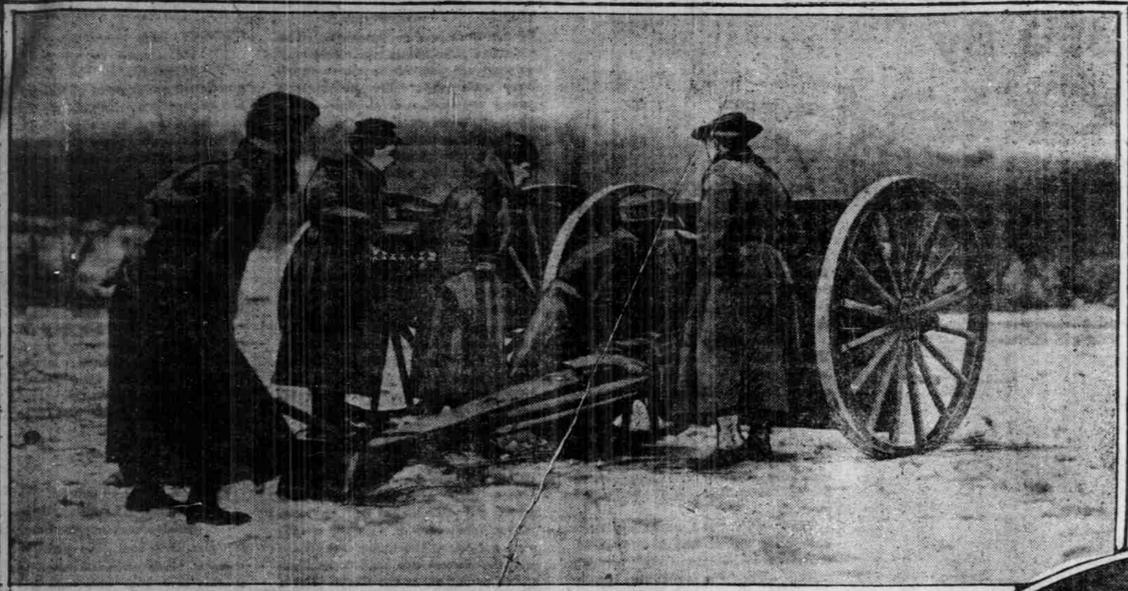


WAR WOULD FIND OUR SPLENDID FIELD ARTILLERY USELESS



A Modern Three-inch Field Gun in Action.

RESERVE SUPPLY OF FIELD ARTILLERY GUNS AND AMMUNITION.

Our supply of field artillery material continues to be so far short of what it should be that I again call attention to this condition. Such material cannot be extemporized. It requires months and even years to manufacture it, and in time of war it cannot be purchased abroad. The amount which we have been permitted to accumulate would be insufficient for a single engagement of the character of the engagements in either the Russo-Japanese or the present Balkan war.—(From the Annual Report of the Hon. Henry L. Stimson, Secretary of War, 1912.)

By Burgoyne Hamilton.

HOW many American citizens have given serious thought to recent reports of high military officials regarding our defensive conditions? How many of these same citizens doubt that in the event of war we could raise a million men, arm and equip them, and turn them into the field, trained soldiers, in the course of a few months? Who is there who dares suppose that with our enormous manufacturing facilities we cannot supply sufficient ammunition at short notice for the various types of guns? Is it reasonable to believe that patriotic manufacturers would not in time of war cast aside ordinary business and put their energy into supplying field guns and ammunition for the Government? Is not an American the best average rifle shot in the world?

Ask your neighbor any of these questions and, if he doesn't give you an optimistic answer, the author is greatly mistaken. It is well, perhaps, to look on the bright side of even the worst situation; but in the case of our National defense it is sometimes difficult to find the bright side. In the matter of ability to copy, to improve upon, or even to create mechanically, we are probably second to none as a Nation. Our field artillery materiel is copied from that of France, our Springfield rifle is a composite copy of many foreign weapons, and is an improvement over any one. Our coast defense armament is an example of our creative quality, for this is purely American.

What do we lack, then? may be reasonably asked. The answer is: The establishment of an effective military policy in keeping with modern times and the provisions of our Constitution, and its systematic development, particularly in the training of a sufficient number of men successfully to repel possible invasion.

We lack field artillery. That is, more specifically, mobile guns of from three inch to six inch. We lack ammunition for such guns, and we have not enough factory equipment in the whole United States to manufacture at the beginning of a war material and ammunition which could be used in that war, unless it be a long drawn out affair. Modern wars are short, however, as statistics prove.

Before showing exactly what our resources are it is necessary to point out certain facts regarding the proper balance of a well-organized field army. By balance, in this instance, is meant the apportionment of field artillery to so many infantry and cavalry combined. It must be borne in mind that an army without the proper percentage of field guns is at a great disadvantage. For argument's sake, let us imagine that two hostile forces, each composed of 100,000 men, are in position, ready to commence action. These two forces are physically, mentally, and mechanically equal, except that one has four field guns to every thousand of combined infantry and cavalry, and the other has only two field guns to every

thousand of combined infantry and cavalry. Everything else being equal, the army with four guns per thousand is bound to triumph. In England the regulations call for approximately six guns per thousand; in Germany 4.90, in France 4.20, and in the United States 3.16. Not only do our regulations call for fewer guns than any of these other nations, but we have actually failed to supply our forces, now organized according to our own regulations, by 34 per cent.

The war strength of our regular infantry and cavalry combined is 65,115, and that of our organized militia for the same branches 227,000. Total war strength of infantry and cavalry of both regular army and militia is 292,115 men. Accordingly, to protect and support this army with the necessary field artillery we must supply them at the rate of 3.16 guns per thousand men, and we must also provide extra guns to the number of 34 to be included in the field ammunition trains. These extra guns are to be used in replacing those put out of action. We need 900 guns for the existing regular and militia mobile army at war strength. The number of guns of approved types now on hand is 632, or about 66 per cent. of the quantity actually needed at once.

The above figures are startling enough, but when we take into consideration that in the event of actual hostilities with a first-class power it would be absolutely necessary to rush into the field a large force, and at the same time call for from 100,000 to 200,000 volunteers, our position as regards artillery is clearly shown. Field guns, carriages, caissons, and limbers cannot be thrown together over night. It is estimated that the Watervliet Arsenal at Watervliet, N. Y., can turn out 560 guns in a year, running twenty-four hours a day. It is also estimated that the Rock Island Arsenal at Rock Island, Ill., can turn out carriages, caissons, and limbers at the rate of nineteen batteries a year, running twenty-four hours a day. This would provide enough carriages, &c., for seventy-six guns, there being four guns to a battery. Inasmuch as field guns are worthless without running gear, ammunition chests, and the various other accessories supplied by the Rock Island Arsenal, we find that our total yearly product of complete guns, carriages, limbers, and caissons would be seventy-six. Outside of the arsenals there are two or three private manufacturers qualified to produce gun carriages, caissons, and limbers; but it is probable that some months would elapse before they could get together the necessary materials with which to even start work.

In the event of such trouble as would require an army of 470,000, plus volunteers to the extent of 100,000 or 200,000, the field guns needed to properly protect and support this force, with a small percentage in reserve, would be 1,292. Of this number we still have but 632, and at the rate these can be manufactured with our present facilities it will be easily seen that a number of years would be consumed to acquiring a proper supply.

In compiling these data, reference to models other than the latest approved 3-inch field gun has purposely been omitted. Among the omitted types are the 3-inch mountain howitzer, 3.8-inch field howitzer, 4.7-inch field howitzer, 4.7-inch field gun, and the 6-inch field howitzer. If we were to attempt to bring our artillery up to the 1,292-gun mark, each of these types would be included in proportion, and the rapidity of manufacture would be lessened materially.

Inasmuch as years would be required to give our army the necessary backbone of artillery it behooves us to set the wheels in motion now. Our infantry and cavalry can be increased speedily as compared with artillery. As regards rifles and ammunition for these two branches, we are reasonably well prepared. Gen. Crozier, Chief of Ordnance, at a recent hearing before the Military Committee stated that he expected to have on hand by Dec. 31, 1912, 689,000 of the latest model rifles. We have considerable ammunition on hand for such rifles. During the year 1911 the Frankford Arsenal at Philadelphia

Firing a Coast Defense Mortar Battery



A Coast Defense Mortar Battery.

manufactured 71,000,000 rounds of ball cartridges. Outside of this arsenal we have four or five commercial firms now manufacturing just such ammunition for the Government. These firms have each been awarded a contract calling for 2,000,000 rounds, and in time of necessity their total capacity would probably be from 500,000 to 600,000 rounds per day. Among these firms are the Remington Arms-Union Metallic Cartridge Company, Winchester Repeating Arms Company, United States Cartridge Company, and the Peters Cartridge Company.

As we are assured of enough infantry and cavalry rifles, and the ammunition with which to fight them, our next thought is of our supply of ammunition for artillery. Of such ammunition we have not enough for the few field guns on hand, proportionately less for those that should be on hand, no possible way of manufacturing enough in the entire country if called on to do so quickly, and no ammunition field trains with which to carry it to the guns in action if we had it.

Could anything be more hopeless? Not enough field guns to back up our

army, and not nearly enough ammunition for those guns which we now have. Ammunition of this kind is manufactured at Frankford Arsenal. The estimated capacity of that arsenal is 1,000 rounds per day, running every hour out of the twenty-four. There are one or two commercial firms outside of the Bethlehem Steel Company which supplies the Government with small quantities, who could equip themselves in time so as to augment this amount. The American and British Manufacturing Company has furnished a limited number of shrapnel, and could probably be relied upon for assistance. The Remington Arms-Union Metallic Cartridge Company is authority for the statement that, given a few months' time, they could equip themselves to turn out 200 brass cases a day, doubling that capacity in four months. These cases would have to be assembled with the necessary projectiles and powder by the Government.

If we could be assured of 1,000 rounds from Frankford Arsenal, and 1,000 rounds from private firms per day, the total would amount to 2,000 rounds. One field gun in an average action will

Reserve Supply of Ammunition for It, Would Be Insufficient for One Big Engagement and We Could Neither Manufacture It in Time Nor Buy It— Secretary of War Sounds Warning.

(From The New York Times.)

fire from 300 to 500 shots per day. In Manchuria one gun was credited with over 600 shots in a day. If, to be conservative, we figure an average of only 200 rounds per gun in action per day, it would take only 10 guns to shoot away our daily output, and if we were to attempt to supply 1,200 guns in action with our present facilities, each gun would receive approximately 1.8 rounds of ammunition per day. The following table, based upon the requirements in field guns of different types by both regulars and militia, will give a clear insight as to the stock of ammunition now on hand and what should be on hand. This table calls for only 901

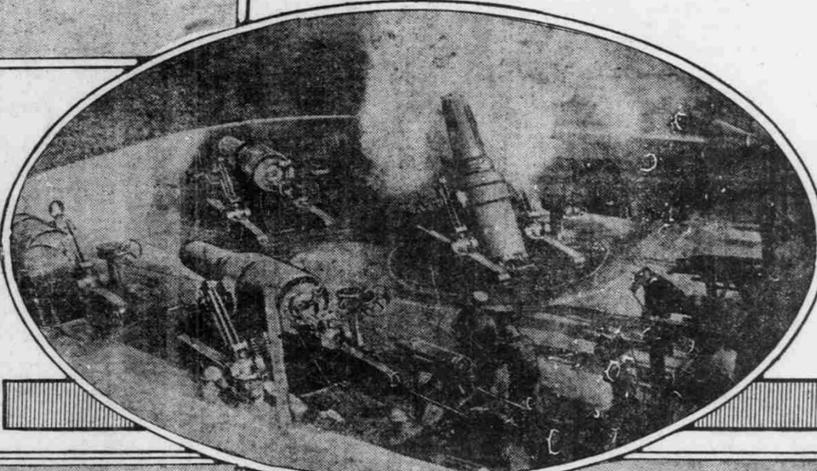
they could do damage to cities of importance. Some fortifications are so situated as to give secure rendezvous to our navy. In the event of hostilities, with a first-class power, we should, of course, rely upon our navy to meet the enemy on the sea. But a country with a more powerful navy than ours would have us at a great disadvantage. If our entire sea force was engaged at sea or had been destroyed, what would prevent a hostile power from landing an army of invasion? Surely not our coast fortifications. These are just the points an enemy would steer clear of. Admitting that the enemy could land in the neighborhood of Boston, where it would have a well-provisioned community upon which to subsist; when and how, with our present methods, could we hope to

can do the same again with anybody on earth." The so-called facts of history are sometimes misleading. As to the war of the Revolution, it took 885,258 regulars, volunteers, and militia to defeat England's 150,000 soldiers. England had another war on her hands at the same time, and found it necessary to hire some of her troops. Cannon in those days amounted to little as compared with modern field gun, and the many different kinds of destruction they now inflict. It is true, however, that America did well to defeat anybody of any size at that time.

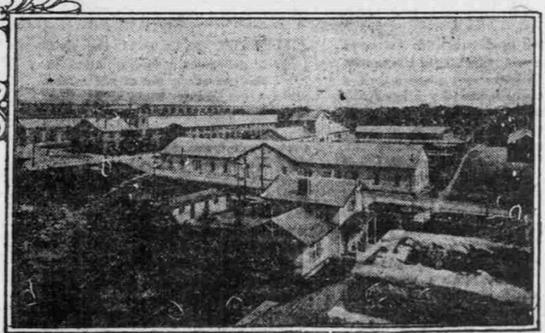
In the war of 1812 we employed 527,654 regulars and militia against English and Canadian forces amounting to about 65,000, or about ten to one. During the Mexican war our regulars and militia numbered 104,556, against Mexico's 48,000. Our more recent war, that with Spain, cannot be taken seriously as an indication of what we could accomplish against a first-class power.

To return to the present, it might be consistent to say a word or two about the marksmen of this country. Just because a rifle team of twelve or fifteen members outshoots, year after year, the teams of other nations, we must not think that the average American has mastered the gun. It has been proved that game hunters and other sportsmen are at first not at all proficient in the use of the military rifle. We have hundreds of thousands of men who have never shot a rifle in their lives.

In England there are over 3,000 rifle clubs, civilian as well as military. Shooting is becoming a great sport in that country, and in the event of war it is doubtful if an enemy would ever conquer by superior rifle fire. Australia and other British colonies are taking pattern after the mother country and are developing rifle shooting even among the very young boys. Other nations are making rapid strides in marksmanship, but are not necessarily turning out experts.



Firing a Big Gun at Fort Wadsworth.



Gun Shop at Watervliet, N. Y.

guns, almost 400 less than would be needed in our defense against a first-class power:

Type of gun.	3" Mountain Howitzer.	3.8" Field Gun.	4.7" Field Howitzer.	4.7" Field Gun.	6" Field Howitzer.
Number of guns.	84	509	104	108	48
Number of rounds required for guns considered.	71,400	944,704	129,792	116,640	64,512
Number of rounds manufactured or for which appropriation has been made.	1,912	166,865	2,514	7,280	9,591
Number of rounds deficient	69,488	777,839	127,278	109,360	54,921
Total deficiency in ammunition for all types of guns.	1,182,075 rounds.				

Running twenty-four hours a day, our arsenals and commercial firms would take 501 working days to make up this deficiency if they turned out 2,000 rounds per day. Our coast fortifications, as far as guns are concerned, are pretty well supplied. Ammunition for this branch of the service is, however, woefully lacking in quantity. The citizens of this country must not imagine that because our seacoast bristles with forts, these alone will prevent an invader from landing troops. Fortifications are primarily to stop hostile warships from entering waters where

dislodge or even prevent an invading army from ravaging that section of the country? It is all very well to cry that

a million, yes, five million Americans would rise to the occasion and drive out an army of invaders; but how are these five millions of men to make any showing against an organized body of trained soldiers, if they are not supplied with field guns and ammunition? Our forces would unquestionably suffer utter rout at the hands of the enemy's artillery alone. The citizen who reads this may exclaim "Bosh! Look at what we have done in past wars. We licked the English twice, vanquished the Mexicans, and finished Spain up in no time. We

In America there are probably fewer than 200 rifle clubs. We are not, in a true sense, a shooting nation, although the National Rifle Association is doing everything to make us one. It is gratifying to learn, however, that rifle practice is on the increase. Although England for some years has been unable to defeat our teams of eight, ten or twelve men, it would be safe to wager that an English rifle team, composed of 10,000 or more, could easily outshoot an American team of equal numbers.

Congress is fully aware of the situation as it is to-day. That body has been informed time and time again by high officials in the army of our deficiencies down to the smallest detail. In the event of serious trouble the War Department must not be censured for military disasters brought about by any lack of preparedness. The officers of that Department have begged and implored for appropriations and the authority to do things, but their efforts have produced but little.

War is a terrible calamity, one of the most awful things a nation may experience. It costs lives, money, and prosperity, and yet the average American citizen believes this country immune from it. Our position may well be compared to that of a house owner who carries too little fire insurance. He saves big premiums for years, but when a fire does come and wipes him out, it is too late to place more insurance, and he suffers in consequence.

Americans must realize that if war ever comes to us and finds us in our present condition, it will be too late for Congress to make appropriations, too late for the arsenals and commercial firms to start manufacturing field guns and ammunition. Then all our wealth, our resources, our intelligence, will count for naught; and the invading enemy upon whom we may look down now as being ineffective and not comparable with ourselves, will walk into the United States just because he has a full equipment of guns, a sufficient supply of ammunition, and a trained body of artillerymen to do the firing. Ought we not to begin paying our peace insurance premiums now?