

How Big Armies Operate on Continent Battlefields

Scientific American Explains Many Details of the Great European Conflict—Uses of the Artillery and Infantry—Object of Howitzer Guns Explained—Estimated That 16,000,000 of the Best Trained Soldiers Are Available in the Armies of the Combatants.

Articles on war, written by experts, fill the current number of The Scientific American. The subjects include army supply methods, transportation of troops in vast numbers, hospital facilities on the field, Germany's big guns and naval chances, and destructive new machine guns. The magazine contains an article on the composition of European armies. The numerical strength represented by the terms brigades, divisions, regiments, army corps, differ so widely from those in the American army that they are almost meaningless.

The European regiment in full war strength numbers about 3,300 men, under the command of a colonel. Three regiments of a brigade, amounting to 10,000 men, are commanded by a major-general. Two brigades form a division of 20,000 men, under the command of a lieutenant-general. Two divisions constitute an army corps of 40,000 men, commanded by a general, and three army corps form an independent field army, fully equipped with cavalry, artillery, commissary, engineers and medical department of a total strength of 120,000 men. There are variations from these totals as given but they are not great, and the foregoing estimate of the strength of the various units if applied to the numbers of divisions, brigades, army corps, etc., mentioned in the despatches, will give a closely accurate estimate of the number of troops engaged.

The Scientific American has another article showing the stupendous number of men already under arms or available for the conflict. The whole fighting strength of trained men in the nations involved numbers something like 16,000,000. It is shown that there are facing each other on a 250 mile battle line, reaching from Antwerp, Belgium, to Basle, Switzerland, approximately 2,500,000, about equally divided between the allied Branch, British and Belgians, and the allied Germans and Austrians. These representing the standing armies, the flower of the national troops engaged.

To the east along the borders of Germany and Austria, Germany has massed some 600,000 of her second line of reserves, and Austria is moving to her own northern frontiers, and to the assistance of Germany in Alsace Lorraine another 400,000 men.

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THE STORY OF Waitstill Baxter

By KATE DOUGLAS WIGGIN.
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started at a higher elevation, which causes the projectile to fall to the ground in a much more nearly vertical path, and enables it to be dropped back of the embankment. The object of the field artillery is to support the infantry in its advances or its retreats. It aims to hit the part of the enemy which is most dangerous to the friendly infantry, and which would hinder its success. Since the enemy's artillery would do modern battle will generally begin with an artillery duel, and that whichever side is able to silence the other side's artillery will have a tremendous advantage. In fact, until the enemy's field artillery is silenced, an advance of the infantry would be practically impossible.

As the infantry advances, the field artillery must be in readiness to fire over the advancing lines and attack parts of the enemy's troops, or must be able to move with lightning rapidity to any other position where it is needed or is more effective. A battery of field artillery is a tactical unit composed of from four to eight guns, and ammunition wagons, loaded with shell and shrapnel. While it is probable the success of a battle will depend to a large extent on the support of the field artillery, it is certain that the principal arm of the infantry, which in practically every case must decide the final issue. The cavalry may be the first to be drawn into a battle, and the artillery, but a battle is never won until the infantry has driven back the enemy's lines.

Mode of Advancing.

The usual mode of advancing for the infantry is to deploy them in a line with a long interval between each soldier. This, naturally, is for the purpose of offering a smaller target for the enemy. It makes it more difficult, however, for the enemy to keep as good control over the men, and for that reason one of the objects of field artillery is to make the enemy's troops deploy early.

The infantry soldier is armed in all the countries with a rifle and bayonet. The rifle is the weapon upon which reliance is placed, the bayonet being used only as a last means of battle, and the hand-to-hand encounter with the enemy.

Probably every country has developed, or is developing, a semi-automatic rifle, which differs from the once used in every army by the fact that part of the powder gases are used to open the breech lock, eject the empty cartridge, and reload the rifle, all of which operations are now performed by hand. With a semi-automatic rifle the magazine can be emptied without moving the gun from the shoulder, and a great increase in the rate of fire can be accomplished.

The opening fire from the infantry will generally be delayed until accurate aiming is possible, unless it is desired to cause the enemy to deploy its forces earlier, and although the bullets are effective at 1,500 to 2,000 yards range, the real fighting will not begin until at much closer ranges.

BASEBALL

International League. Clubs. Won. Lost. Pct. Providence 92 58 .613 Rochester 88 60 .593 Buffalo 72 68 .514 Toronto 72 68 .514 Baltimore 72 73 .497 Newark 69 87 .441 Montreal 46 103 .309

National League. Clubs. Won. Lost. Pct. Boston 80 61 .565 New York 76 61 .555 Chicago 72 66 .522 Philadelphia 67 73 .479 Brooklyn 67 73 .479 Pittsburgh 62 76 .452 Cincinnati 58 82 .416

American League. Clubs. Won. Lost. Pct. Philadelphia 81 59 .576 Boston 80 61 .565 Washington 74 68 .522 Chicago 66 76 .465 New York 63 87 .420 Cleveland 45 96 .319

Federal League. Clubs. Won. Lost. Pct. Indianapolis 80 61 .567 Chicago 74 68 .522 Brooklyn 67 73 .479 Kansas City 65 75 .464 St. Louis 61 81 .431

St. Louis at Philadelphia. Chicago at Philadelphia. Philadelphia at St. Louis. Chicago at St. Louis.

St. Louis at New York. Cincinnati at Boston. Pittsburgh at Chicago. Chicago at Philadelphia.

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CHAPTER XXII. A Wedding Ring.

THE snow had come. It had begun to fall softly and steadily at the beginning of the week, and now for days it had covered the ground under and between the trees in a delicate foliage made every pane of glass a leafy bower, while a dazzling crust bediamonded the hillsides, so that no eye could rest on them long without becoming snow-blinded.

There had been two cold, still nights; the windows were covered with silvery frost, and the delicate foliage made every pane of glass a leafy bower, while a dazzling crust bediamonded the hillsides, so that no eye could rest on them long without becoming snow-blinded.

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delicate topic to be alluded to as soon as possible. Waitstill certainly would never have examined Patty closely as she was with her sister's thoughts and opinions about life. She simply blurted her time until Patty should confide in her and then she had wished now and then that Patty's capricious fancy might settle on Philip Perry, although, indeed, when she considered it seriously, it seemed like an alliance between a butterfly and an owl. Gephos Cole she regarded as quite beneath the rank of her ambitions, and, as for Patty's right-hand man, she had grown up in the belief, held in the village generally, that he would marry money and position and drift out of Riverboro into a gay, larger world. Her devotion to her step-son was so ardent that she could not think my way through them just to show "how wrong I feel."

"There'll be lions enough," smiled Patty through her tears, "though they won't have manes and tails. But I can imagine how fatter will roar and how my courage will ooze out of the heels of my boots!"

"Just let me catch the deacon roaring at my wife!" exclaimed Mark, with a swelling chest. "Now, run along home, Patty, dear, for I don't want you scolded on my account. I'll sound Ellen and see if she'll have any more of one of the eloping party. Good night! Good night!"

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BETTER FEELING IN THE TRADE

That the feeling in the trade is very much more assured than it was four weeks ago is the opinion of Mr. R. D. Fairbairn, president of R. D. Fairbairn Company Limited, manufacturers of ladies' outer garments and fancy dry goods. Mr. Fairbairn believes the manufacturers of Canada as a class have largely in their own hands the matter of whether there will be good business in the future. "The business is there," said Mr. Fairbairn, "if the manufacturers will only get after it. The depression in trade which was in force before the war began, and, on the whole, manufacturers can be assured of good business, provided they do two things—advertise and push the selling department to the limit."

Referring to his own business, Mr. Fairbairn said he did not anticipate cutting down one hour of labor or dismissing one employe or reducing wages as a result of the war. On the contrary, the present staff of upwards of 200 is being slightly increased. This continued activity is not due to any removal of competition, but to the continued demand throughout the country.

"We are absolutely confident," said Mr. Fairbairn, "that with the business to be done at home there is absolutely no excuse for any manufacturer of garments curtailing his output. People have to be clothed; our farmers are getting big money for their produce, and the \$450,000,000 represented by our export business for this year must be circulated. The general trade of the country must of necessity not only hold its own, but advance."

member of the National Commission. President Johnson asserted to-day there was no truth in the report that October 10th had been decided on as the date for starting the series. "It is our aim to start and finish the series as early as possible," Johnson said. "I believe we can arrange to play the first game on October 8th. There is no reason for delay."

In the event that Boston Nationals and Philadelphia club of the American League are contenders for the world's title, two games will be played consecutively in each city instead of alternating each day as was the case between New York and Philadelphia. The place for the opening game, it was announced, will be decided by a flip of a coin.

MONTREAL, Sept. 23.—By winning the first game 15 to 6 and tying the second 2 to 2 yesterday, Toronto made an even break on the farewell series with the Royals, as the Howleyites had performed a like feat on Sunday. A game was scheduled to take place to-day, but was advanced a day, while neither of the games that resulted in ties will be played off, as they would have no bearing on the championship.

WORLD'S SERIES OPENS ON OCTOBER 8TH, SAYS NATIONAL COMMISSION. CHICAGO, Sept. 23.—Play in the world's championship series probably will start on October 8th, one day after the American and National League seasons are brought to a close, according to President B. B. Johnson of the American League, and

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Joseph Petrosino, the New York man who saved his life to a fellow countryman in America.

When the power of the Mafia was just beginning to be felt, United States this detective in the urgent need of an Italian spy detective in New York city said United States has become the ground for the criminals and has Stelly, Saralino and Calabrese decided to rid the Italian quarter city of the band of cutthroats that ran it. Murders were so frequent the better element of those there were in terror of their lives. They were then ten thousand Italians, poorly ventured forth alone. The Mafia, the great majority of criminal exiles came straight United States and Uncle Sam's then with open arms: Such laxity of our immigration laws, complaisant and negligent Congress.

Persecutions of the Mafia. Prior to the wholesale dumping Italian outlaws in Tunis Italy Sam's lay the limbs of able Southern Italy included. For that, those who fled to the United States to free themselves of the persecutions of the Mafia. They were robbed and attacked at home, tormenting persistence that had only in flight. But they without their loss. For many blackmailers had preceded the more followed.

Arriving in New York with capital the fugitives sought the quarter of the city to settle in.

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