

or Ladle use is the only

lloy that does not conoft ductile steel castings. shipped for trial to any From the Durango Iron and Manganese under

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er, exclusive sole agents Durango, Mexico. right is for sale.

we said, what is the fact, that the weight of the shell is about fity pounds. There A Good showing astle, though they have large factor-Mr. J. S. Currie, the manager of the ies elsewhere-in Italy, for instance. A is a possibility that yet more powerful naval guns are being used, namely 6-inch. tustion Department of the Currie Busi-Maxim' gun means, as far as its name is concerned, that it is the invention of Mr. as University, is meeting with great suc-Invargume are being used, namely o-inch. They would throw a shell of over one hundred pounds weight. We are told that the heavy Boer gun called 'Long Tom' is a '94-pounder.' That would mean that it throws a shell ninety-four pounds ss in placing students in good situations Maxim, an American, many of whose pa-tents have been bought by Messrs. Vickers & Co. A 'Maxim-Nordenfeldt' is a comhe following is a list of positions recenthe following is a list of positions recent-filled, the majority of which were se-red through the Situation Department. Miss Mabel Lingley of Westfield, with G. Higgins & Co., wholesale Boot & oes. Monoton. E L. MacDonald of Alma, with Sydney tel, Sydney, C. B. GEN. LORD KITCHENER, bined product of the inventions of Mr. Chief of Staff to Lord Roberts, the New Commander in the South African Campaign. Maxim and of those that were brought to this country by Mr. Nordenfelt, a Swede, in weight. It is of much the same charas the 6 inch, not easily movable. A 'Shrapnel' is the name given to a partica Surspace in the lates its name position during its jurney on which we from a Gen. Shrapnel, who during the Penfield, it was made very much shorter th n The shells are made to burst by means of the gun, and this would have caused a two kinds of 'fuses.' A fuse is an inde-The shells are made to burst by means of from a Gen. Shrspnel, who during the z on insular War invented a form in which it was applicaple to the spherical shells which on, and this pace as it leaves the muzzle we call its 'initial velocity.' The effect to be we call its 'initial velocity.' There was also another form of projectile, then called 'Canister' and now 'Case, pendent body put into the shell and travel-ling with it through the air. One kind, the 'percussion fuse,' is filled with a comgreat recoil from the reaction when the without any serious difference in their esshot was discharged, the howitz r, instead of being laid, like the gun, approximately horizontal, was only fired at high angles, so that it shells travelled in very high curves, coming down on the enemy from above, while the recoil was largely downsential characteristic. This was and is the great defensive wespon of artillery. The position and mechanical arrangement, such that when the shell strikes any object When, by the force of gunpowder or other explosive fired behind it, a bedy, which we have placed in a space like the was met with by the round shot on the case or canister very soon breaks to pieces after leaving the muzzle of the gun, scattersufficient to bring it to a stop, the shell is expleded by the fact of impact. The other kind, known as a 'time fuse,' is a much which we have placed in a space like the was met with by the round shot of the following one opening, that toward the muzzle, 1s from diminishing nearly as tast as it did short ranges against bodies of either caval-driven forward first through the barrel and shot get very much greater ranges with to attack them; but at these close ranges ing the bullets it contains in a great cone of dispersion. It is thus only iffective for short ranges against bodies of either cavalward and was received on a bed prepared to actack them; but at these close ranges it literally sweeps over all the ground in front of the guns, and is appalling in its destructive power. The arapuel required gun shell. To the best of my knowleder for the purpose. When shell came to be more delicate instrument. It contains a rified guns than we did with the old round shot. Furthermore, we get much greater that it meets with is due to the opposition of the sir, while it is all the time under the influence of the force by which it has accuracy because the old round shot as it been propelled and of the attraction of the earth known as gravitation. Obvious-ly, the resistance is diminished if the same went through the bore was accidentally the earth known and gravitation. Obvious-ly, the resistance is diminished if the same weight of metal can be put into an clog-ted body presenting a relatively very small surface to the air as compared with a round a smooth bore gain an elongated body, without any other precaution, the body, or, as we call it, the projectile, would at once begin spinning abant its shorter axis ac-cording to a well known law of nature which say child can verify for himself. Ex-periment has proved that when once a proset spinning in some way that we could gun shell. To the best of my knowledge not at all calculate upon, and all sorts of and belief, the man from whom all nations gun shell. To the best of my knowledge 1 tr

Annie G. Laskey, city, with Nice & ce, Gounsellors at Law, Boston, Mass. Chas. A. Seely, city, with Plusaix Foun-Chas. A. Seely, etty, with Present a char , city. Geo N. Duffy, city, with Mt. Morris ok, New York city. Laura Parker, Alyesford, N. S., with as. W. Boyer, Mechanical Engineer, merville, Mas. W. J. McGuire, city, with Alfred Heans Jertrude M Gowan, city, with A. A. Olaskey, & Son, Confectioners, city. Myrtle Waring, Amberst, with Cumbe.-d Pork Packing Co., Ltd., Amberst, N. a Pork Facking Co., Ltd., Amberst, N. Arthur Abbinetts, Hillsboro, with Duf-a hotel, city. Fred Patterson, city, with F. C. Colwell Co., Contectioners, city. Mille Williams, Kingston, with Arming-e grocary, Worcester, Maas. Thel Wheston, Norton, with Excelsion A Ins. Co., city. The Mathews, Clarendon station, with B. Chapman, barristers, City. K. I towe Cowan, city, with Confederation A Sas., Co., city. T. Gard, Hopswell Cape, with E. J. Mirrong, printer city. T. Backley, Corn Hill, with F. E. Hams, grocer city. ertrand Bookwich, Shellield Mills, N with Dufferin hotel city.

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ST. JOHN, N. B., SATURDAY, DECEMBER 23, 1899.

"MODERN GUNNERY TERI 1S.

re are many terms and phrases used jectile has been started with a good spin shell was charged was a mass of powder, jectile which dealt out destruction among Neverth less both Germany and France description of the war in South round its longer axis, the position taken and had two effects. It broke up into men was more effective for general pur-There are many terms and phrases used in the description of the war in South Africa which convey little or no informa-tion to many of these at home who are bappening to their loved ones engaged in the field. An immense number of people are now deeply interested in the events of the war who want simple common-sense explanations about the terms they read, such as this later passes up through the such as to is attis at to the are nound on the field. The field is the events of the war who want simple common-sense explanations about the terms they read, such as this later passes up through the such as this later passes up through the such as to is later passes up through the such as to is attis the read of the similar to the projectile the war who went simple common-sense bore of the gun, it has to turn round on such as "Crement'. "Krupp." "Shrannel." such as 'Creusot,' 'Krupp,' 'Shrapnel,' 'Common Shell,' '94 pounders.' '4.7-inch guns,' 'Mausers,' 'Lee Ecfield,' and so on We have been told that the Boers have brought up some very heavy guns to fire upon Ladysmith and on Mafeking, but there is a dispute as to whether these are but essentially it consists in the modificat-'Krupp'guns or 'Creusot' guns, and I want first to explain what the discussion means. Creusot or 'Le Creusot' is a place in the

which has lorg been famous for its extensive iron works. It does not follow, however, that a 'Creusot' gun was applied Creusot, because that name is now applied the great French firm of Schneider & Co.. who in 1835 became possessed of the works at Creusof, which, after being em ployed by the State under the Revolutionary Government for the manufactu of guns, were under the Empire handed back to private owners. In 1867 Messre. Schneider made themselves famous by being the first firm fully to apply and adapt to the manufacture of both plates for armored ships and guns various inventions, chiefly Eoglish, notably the great inven-tion of Bessemer for the cheap manufac-ture of steel. From that time onward beir works have been steadily developed. They have applied new processes to manu facture, including the use of various alloys --notably nickel, of which in its raw state the British Empire possesses almost a monopoly-to the improvement of the quality of the steel of which they make guns. They have become the owners of a vast area of ground in the neighbor hood of Havre, and have there created gigantic workshops almost on as large a scale as their works at Creusot. Thus, when we speak of a 'Creusot' gun, we mean a gun of whatever size made by the great French firm of Schneider & Co., bether it has in fact been made at Greurot or at Havre.

We call these guns 4 7 inch because the On the other hand, a 'Krupp' gun mean measurement of the diameter or length taken across the mouth of the gun is four that the gun has been made by the great KS, Howard Station, St. Louis, Mo., U. S. A Prussian firm of Herren Krupp, whose inches and seven-tenths of an irch. It is works are at Essen. An 'Armstrong' gun evident that for a projectile of given length nears that the gun has been produced by this diameter represents the weight of the shell which the gun can throw as well as if firm of Sir William Armstrong & Co., chief seat of whose work is near New-

an imparted tendency to spin round at the same rate with which it had to spin during the briet time it was in the gun. 'B fling' but essentially it consists in the modification of the shape of the gun or projectile, or also, from the large quantity of powder both, by which we thus make it spin in the within them, produced a body of flame bore in order that it may afterward which tended to create violent cot flagrat-Department of Saone-et Loire in France, have this spin as it goes through the air, ions wherever they struck any bodies eas- be drawn easily by horses or mules in the

desirable to make a hole or breach. They

very destructive to the carrisges on which guns are carried in the fild, and even, if than replaces the common shell. During guns are carried in the n 16, and even, if they hit it isinly, damaging though not so often, to the gun itself. They were par-ticularly effective against buildings, earthworks, and against walls in which it was did not break up like a shell; but we had also another form of weapon, the 'howitzer' which was only fired with shell the solid shot of the gun. In order to reduce the weight of the piece, and to enable it to

and refilling the shells with it every year. For us, more especially for our ships, lisble always to be recalled from distant stations to form fluets at home, it was axcoptionally important to get over this dif-ficulty of rapid deterioration involving danger in storage. After long experiments a form of picrate was devised which we call 'lyddite,' because the experiments were carried out at Lydd, one of our great practice grounds. From trial in various climates and long periods it was found that, on the one hand, it was possible with this material to secure adequate permanace, and, on the other that it was not safe to make it up for small shells. Yet it was necessary, if possible, to have weapons employing these shells with us in the field-that is to say, light enough to be drawn by horses, so that they could be noved about to a reasonable extent with ther troops. It was for this purpose that ecourse was again had to the old method of the howizer. A . battery' is six of ese howi'zers, short pieces firing at high ngles of elevation, each drawn by siz prses, and able to move along roads and on good ground at a trot, but usually obliged on difficult ground to move up-into position at a walk. We have now three of these batteries, eighteen howitzers m all, on the way to the Cape. Meantime by the ingenuity of a naval officer, Capt. Scott, a substitute for them has appeared at Ladysmith. The navy have on board ip a number of guns which are not ced on carriages for moving about with rses, and being fired from the carriages on which they thus move. Though not broadside or turret guns, they are inended to be fired from fixed platforms. They, though somewhat heavier than the field howitzers, fire a shell of about the same size. These are the 4, 7 inch gunes the arrival of which at Ladysmith made at one time so great a difference in the situa-
