

full time, and we are glad to hear that several private firms have been given large contracts for the rifles, and for especial parts which will be put together afterwards at the Government factories. Large orders for the necessary ammunition have also been given, so that it really looks as if the arming of the First Army Corps with the new magazine rifle will soon become an accomplished fact.

TROUBLE ABOUT THE POWDER.

A London correspondent of *Shooting and Fishing* says that the British military authorities are in rather a hole as regards the smokeless powder which has been worked out for them by Professor Sir Frederick Abel, K.C.B. Says the correspondent: "This article, which is called Cordite, is reported to be composed of gun cotton, nitro glycerine and gelatine, and gives a muzzle velocity of 2,200 feet per second, or thereabouts, in the new .303 Metford barrel, but produces some very remarkable results. The fumes given off are very offensive to the smell, and the gases are poisonous. If used with the Rubin bullet, in which the copper or nickel skin is not soldered to the inside lead core, the latter is sometimes driven clean through the hard metal skin which remains behind, and the next shot bursts or bulges the barrel. If the Lorenz bullet is used, in which the hard metal skin is soldered to the lead core and forms one solid homogeneous mass consolidated by hydraulic pressure, the gummy fibre left by the powder on the inside of the barrel causes such a degree of friction, and consequent heat, as sometimes to melt the solder and the lead core, and occasionally the nickel skin itself; so that, in their despair, the authorities are experimenting with solid copper bullets, to meet the terrible conditions of the Cordite, which they regard as their master. In the meantime, the new British magazine rifle with the improved (?) Lee breech action, Metford barrel and Lewes sights, is being turned out at Enfield and Birmingham at the rate of several thousand a week, and the sights are scaled for the angle of this terrible Cordite with lead bullets; so, whatever may be the ultimate results, a change in the sights seems inevitable.

Gleanings.

There have been any number of gaieties provided for the West Pointers lately, ostensibly for the cadets, but enjoyed to the full by the garrison and their many guests. A sister of a member of the corps of cadets, who is a wonderful violinist, was prevailed upon to give a violin recital in the post library recently and made a charming picture standing there, lovingly holding her instrument and facing a spellbound audience of officers and cadets, conspicuous among whom was her proud and delighted brother, exchanging congratulatory glances with someone who is not a brother—and thanks Providence for it.

The course of military science and tactics which is to be established in the Sheffield scientific school at Yale is not yet completed, but Lieut. C. A. L. Totten, U.S.A., expects to commence his lectures early in January. The course will consist of probably twelve lectures, which will be delivered weekly. Lieut. Totten is hard at work on about fifty different topics, and from these the course will be selected. Lieut. Totten is a very interesting and companionable gentleman, and his personal influence among the students will aid largely in establishing a thorough and valuable course of military instruction in the scientific school.

Writing of the German manœuvres, the special correspondent of the *Morning Post*, in a letter dated Hanover, Sept. 17, says: "The events of the last two days are eminently significant, as showing the belief of the best tacticians in Europe that a new era has dawned for cavalry, owing to the new cautious tactics of infantry which forbid the near approach of hostile armies owing to the deadly destructiveness of the repeating rifles and the treacherous fire where the smoke of the new powder is scarcely visible. Military opinion is at present divided as to whether in close encounters of cavalry against cavalry the spear or the sabre is the most efficient. At present the German opinion inclines in favor of the spear, but one object of the manœuvres of the last two days is to settle this question, and their result may shortly be expected to bear practical fruit."

The Austrians would seem to have got hold of a new and valuable explosive called ecrasite. It is the invention of two engineers, by name Siersch and Kubin. It is impervious to damp, shock or fire. Its power is to dynamite as 100 to 70, and it can be carried from place to place with the utmost safety. It is not smokeless, but emits a thick black smoke, and the detonating noise is louder than that of gunpowder, but shorter, sharper and clearer. It can be used for rifle cartridges or as priming for cannon, and a bomb-shell loaded with it explodes with such terrific results that experiments against palisades representing 100, 250 and 500 men at ranges of 300, 750 and 1,200 metres recorded marks on every division of the palisade standing for a soldier. The Austrian military authorities are of course keeping the invention a close secret.

Smokeless powders promise to be as numerous as explosives of the nitro-glycerine group. Every new moon brings into being a new smokeless powder; and, if we may believe the accounts of it, that now invented by Herr Schwab, of the Stein powder factory in Austria, beats everything of the kind in point of efficiency. It burns slowly in the open air, giving off so slight a smoke that it resembles the haze above an ordinary chamber lamp. It has scarcely any smell, but it ignites with extraordinary rapidity, giving to a projectile an initial velocity of 630 metres (693 yards) instead of 530 metres (583 yards). The invention of another smokeless powder by Herr Siersch is reported from Preshurg, in Hungary. It is described as a "slate-coloured triple azotate" (nitrate), and "most powerful."

The Delagoa Bay railroad war, says the *Railroad Gazette*, is not a large one, but it presents several interesting features. Some four years ago Portugal granted a charter to an Anglo-American company authorizing it to build a railroad fifty-eight miles long, connecting Delagoa, in Portugese Africa, with the Transvaal gold fields. Fifty-four miles were completed more than a year ago, and have been open for traffic ever since; but the remaining four miles lay in an extremely difficult country, and could not be finished within the time limit contemplated by the charter. On this account the Portuguese Government declared the concession forfeited, and apparently attempted to take possession of the road without regard for the rights of the company. But this was not so easy. England took the matter seriously, and promptly arranged to send a gunboat to the point threatened. We seemed to be on the eve of a railroad war between England and Portugal. But more peaceful counsels prevailed. The gunboat frightened the Portuguese more effectively than a general freight agent could have done. This is not because a gunboat is in itself more dangerous than a general freight agent. On the contrary, we are convinced that more property has been destroyed in the last ten years by general freight agents than by gunboats. But a gunboat, armed with modern weapons of precision, usually hits what it aims at, while a general freight agent, armed with irresponsible authority, does not. We commend the study of this distinction to presidents who think of engaging in railroad wars.

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