

## MILITARY ARMS AT THE EXPOSITION.

THE Sportsmen's Exposition of 1896 was a very nice display from the standpoint of a sportsman, but the exhibit of military goods was not so good as last year.

By far the best display was made by the Union Metallic Cartridge Co. The military arms, etc., in this exhibit, which by the way was in charge of that well-known ballistic expert, Wm. M. Thomas, consisted of a sample rifle of each of the following powers: Germany, Austria, Belgium, Spain, Britain, and the United States. This was by far the best collection of modern military rifles that it has ever been the writer's good fortune to examine. These were not copies of the national arm of each country, made by some gunmaker, but the arm itself, made by the governments for issue to their infantry forces. It would have required several weeks time, and the means of making tests, for one to arrive at a correct estimation of the merits of each arm, while the principal features of each arm are probably well known to the readers of THE GAZETTE. The American Krag-Jorgensen, calibre .300, is without doubt the most awkward looking and most inefficient arm of the whole collection. The magazine is a permanent fixture on the gun, it lies horizontally beneath the breech bolt, and access is had thereto by a swinging spring door on the right side of the arm. There seems to be nothing to prevent the cartridges from jamming in the magazine, while if the fired cartridge case is not promptly ejected upon the withdrawal of the bolt, the returning of the bolt to its forward position will jam it and the next cartridge against the chamber and disable the arm for the time being. The writer, while the arm was loaded with blanks, several times disabled it in full view of the attending expert, although he being a patriotic American declared it impossible to do so. The English Lee, while not having anything on the score of beauty to recommend it, works much smoother and effectively than the American arm. The Austrian Mannlicher, with its large ungainly sights, came a good second, if it did not surpass the American arm in ugliness. The German Manser is a neat and symmetrical looking arm, although its permanent magazine is somewhat against it. This arm, in common with the Belgian and Spanish, has the barrel covered by a hollow steel case called a "vacuum jacket"; this increases the weight somewhat and is of doubtful efficiency, besides injuring the appearance of the arm. The Belgian 7.65 mm. is a very neat arm, and is stated to be the most accurate small bore military rifle and cartridge yet produced. Its mechanism resembles both the German and Spanish arms, with perhaps the most similarity to the Spanish. But the arm for excellence of the entire collection was the Spanish Manser, 7 mm. rimless cartridges. It is a light, neat, symmetrical arm,

the mechanism works the smoothest, and with less apparent weakness than any of the arms. Its cartridge is the smallest calibre that has yet proven efficient in actual warfare. The arm is provided with a vacuum jacket of steel and a wooden hand guard on the barrel up to the first band. This guard by the way is also provided on the Krag-Jorgensen. The magazine is loaded from a sheet metal clip which confines only the heads of the cartridges and does not go into the magazine, while the supply in the magazine can be replenished at any time by single cartridges. These essential parts of the magazine system are embodied in the new Lee "Straight Pull" magazine arm recently adopted by the United States Navy Department, and are considered to be the proper foundation upon which to build a magazine system for a military repeater. There were also samples of the cartridges used in each arm, and the clips or detachable magazines used in loading them into the arm. The U. M. C. Co. also had a 3 pdr. Hotchkiss and 1 pdr. Driggs-Schroeder rapid-fire naval guns with cage stands for deck use, but alas, they were mounted in the bronze swivel piece, which contains the trunnion beds, backwards. The writer attempted to explain things, but got laughed at by the "expert" for his trouble. Said "expert" by the way was not a military man.

The Winchester Repeating Arms Co. had on exhibition a 1-pdr. Hotchkiss rapid fire gun, mounted on a deck stand with hydraulic recoil cylinder. This gun, being in charge of a man who has seen actual service in the "late unpleasantness," was mounted in a proper manner. This company also exhibited samples of their solid drawn cases for rapid-fire guns from 1-pdr. up to 6-inch, as adopted by the Navy Department, also a sample 8-inch case, which has been developed by the company, but not adopted by the navy yet, though experimented with. Also loaded rapid-fire ammunition in both common and armor-piercing projectiles, for 1-pdr. short, 1-pdr. long, 2-pdr. 3-pdr., and 6-pdr. The 1, 3, and 6-pdr. cartridges are used in the naval guns, Hotchkiss and Driggs-Schroeder, of those calibres, while the 2-pdr. is used in the Hotchkiss 1.65-inch mountain gun, of the U.S. army. This gun has a horizontal sliding block that has to be retracted by hand when unlocked.

The Colt Fire Arms Co. had on exhibition two of their Browning automatic guns. These guns have been described before: The writer gave some explanation of their principal features in THE GAZETTE last year. One was for the navy .236 calibre cartridge; it was mounted on a cage stand for deck use. The other was for the army .300 calibre cartridge; it was mounted on a light tripod, and made a light and portable gun. The gun itself, without the mount, weighs about 40 pounds, while the tripod would weigh perhaps as much more. One

of the tripod legs is provided with a bicycle seat from which the operator can direct the fire and manipulate the elevating mechanism. This company also exhibited a model of the mechanism of their latest military revolver, which has been adopted by the U.S. army. It is the same as the model adopted by the U.S. navy, only it is provided with a safety that prevents the trigger being pulled until the cylinder is in place and locked. These arms weigh about two pounds.

The Savage Arms Co. had an exhibit of the sporting model of their repeating rifle. The magazine is of the revolving type, and is located underneath the bolt. A military model of this arm was submitted to the Army Ordnance Department at the time of the competitive tests, and one has been submitted to the New York State Board that has the selecting of a magazine rifle for the State militia. The sporting model of the Savage rifle takes a cartridge of .303 calibre, somewhat shorter and lighter than the British Service cartridge, but of the steel jacket type. The West magazine rifle, exhibited by the inventor, was of the tubular magazine type, but the inventor claims it will work with the box magazine, and we believe he has either a model or drawings before the State Board. The rifle is chiefly interesting from the fact that the mechanism is operated by a lever similar to that on the Winchester and other rifles, but it slides on the grip of the stock instead of being a true lever. The Winchester Co. had their model '95 rifle on exhibition; it is a lever arm with a box magazine, using military cartridges for sporting purposes.

About the only thing interesting in powders was the new Du Pont ordnance powder. There were two samples: For 6-inch guns it was hexagonal pieces about  $1\frac{1}{4}$  inch in length by  $\frac{3}{4}$  inch diameter, pierced longitudinally with seven small holes. That for field guns was similar, but about  $\frac{1}{4}$  by  $\frac{1}{4}$  inch in size. Heretofore their powder for such use was made in sticks of nearly the length of the chamber of the gun in which it was used.

R. H. BLAIN.

It is officially announced that from April 1 next a photographic section for use on field service is to form part of the Italian army establishment. The section will be furnished by the 3rd Regiment of Engineers.

Col. Swaine, commanding the 11th Hussars, is returning from India by way of the Canadian Pacific route. He is a brother of Col. Swaine, L.V., C.B., C.M.G., who was military attache at Berlin, and who now commands the 2nd infantry brigade at Aldershot, and is a temporary Major-General. Earl Spencer is also on the same steamer.