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## WHAT GUNS ARE BEST.

It is no doubt the desire of every army and nation to possess the best implements of war, but great uncertainty prevails as to which are the most efficient. The principles of operation and the principles of mechanical construction embraced in the variety of weapons now brought before the public, are so different, and the opinions are so numerous respecting their merits, that it is very difficult to arrive at proper conclusions respecting them. A few words on this subject, to bring the matter intelligently before those in authority and the public, may be of some service.

Rifled cannon are now held to be the most efficient for artillery purposes. Their aim is more accurate and their range much greater than the old smooth-bored cannon, hence they are most destructive. It now seems to be the object of military authorities everywhere to bring them into general use, and if one army is provided with rifled cannon, its adversary must obtain similar guns or fight at a great disadvantage. For close engagements smooth-bored cannon must always be employed for firing grape and canister; therefore, although rifled cannon are the most effective at long ranges, smooth-bored guns must form a large portion of the effective artillery belonging to an army for action at close quarters.

There are two special classes of rifled cannon, respecting which there are divided opinions among military men and others. The one has a movable breech and is loaded at the rear; the other has a close cylinder behind, and is loaded at the muzzle. It is claimed for the breech-loaders that they can be loaded with less labor, are more convenient for receiving shot and shells, and that expanding shot are not required for them. The objections to them are, that they are more complicated and expensive in construction than muzzle-loaders, and they are more liable to get injured and become inoperative in action.

The greater simplicity of muzzle-loading cannon is admitted, but either winged shot or expanding shot is required for them. If muzzle-loading rifled cannon are equally as good as breech-loaders, all the sound old smooth-bored guns in our arsenals, forts and navy yards can be converted into serviceable and efficient rifled guns by simply grooving their insides, and this can be effected at a very small expense. This is, therefore, the important subject for consideration, as it now divides the opinions of very able military authorities.

The English and the Prussian governments have given their countenance to the adoption of breech-loading rifled cannon, and the Belgian government has recently proposed to expend about \$3,000,000 for the re-construction of its artillery, adopting the Prussian screw-breech guns, which are said to be less dangerous in loading, more accurate in aim, and easier loaded than those which are charged at the muzzle. On the other hand, the French, Russian, Dutch and Swedish governments have adopted muzzle-loading rifled cannon, the Hollanders having converted a number of their old worn-out pieces into good rifled guns by a process which exhibits genuine economy and considerable ingenuity. In the arsenals of Holland there were a number of six-pounder bronze guns which had become so defective by use that they were condemned to be re-melted and re-cast. A happy

thought struck one of the engineers. He proposed to clean out the bores and partially fill them in with a re-casting of bronze metal and then rifle them. This suggestion was carried out, and the old six-pounder defective smooth-bored cannon have been converted into rifled guns. By this simple process the Dutch have obtained from their old condemned bronze guns as efficient light field pieces as those of France and Russia, at the expense of only seven dollars for each.

Those who have advocated the muzzle-loaders and condemned those which are charged at the rear, say that the latter have been tried and condemned long ago—that they were the earliest class of guns made, therefore they should not receive that attention which is now bestowed upon them. Such a charge as this should receive but little consideration, for revolving firearms were really among the most early that were tried, and in the Tower of London there is a firearm nearly two hundred years old, which has a revolving charge chamber operated on the same principle as the most approved modern revolvers; and yet such weapons became lost to the public until revived by the improved Colt pistol.

Every firearm should be judged upon a consideration of its own merits, after repeated trials, and not by the prejudices and interests of any man or party. This is the only way to arrive at right conclusions respecting the merits of any piece of mechanism.

Having paid considerable attention to various kinds of guns, we believe that every sound gun in our country may be converted, at a trifling expense, into a good and efficient rifled cannon by the simple operation of rifling. We consider it folly to expend large sums in obtaining new rifled cannon while old ones can be rendered nearly as good as the best that are made from new materials.

The public has read accounts of the Sawyer, and James and the Hotchkiss cannon, but the guns which have received such names are common rifled cannon. The names of the inventors of the peculiar shot which were fired with rifled cannon, have been transferred to the guns by correspondents of papers unacquainted with the inventions.

In the construction of new rifled cannon for loading at the muzzle, we believe it will be found advantageous to employ a screw-breech piece, to remain fixed in firing, but which, if a shot should get fast in loading, may be removed for the purpose of getting out the charge easily. This method of making muzzle-loading cannon would be an improvement, we believe, and the same principles of construction may also be applied with advantage to small arms.

## MON. JOSEPH HOLT ON THE SUPREME BENCH.

It is stated that Hon. Joseph Holt will be nominated to the seat on the Supreme Bench vacated by Judge Campbell, of Alabama. The name of Mr. Holt is familiar to all our readers, as having been formerly Commissioner of Patents, but a few more words about this noble citizen will be interesting to our readers.

Mr. Holt is still in the prime of life. He was born in 1807 in Breckinridge county, Kentucky. His parents were poor; but, like many western youth, he managed, by industry and economy, to secure to himself as good an education as Kentucky colleges afforded. He commenced to practice law at Elizabethtown, Kentucky, in 1828; removed to Louisville in 1831; and the following year, as delegate to a State Democratic Convention held at Harrodsburg, made a speech which at once gave him the reputation of an eloquent orator among a people who are proverbially fond of public speaking.

In 1833 Mr. Holt was appointed State's Attorney for Louisville and Jefferson counties, where he added greatly to his reputation both as a shrewd, clear-headed and very industrious lawyer and a fine speaker.

An honored merchant of Louisville, who was a member of the first grand jury that assembled under the Attorney Generalship of Mr. Holt, remarked to us not long ago, that his address to the jury on that occasion was a model of ability and eloquence, and furthermore that "he was a perfect terror to evil doers."

In 1835 he removed to Port Gibson, Mississippi, and thence in 1836 to Vicksburg, where he soon secured a very large practice, which brought him an ample fortune. In 1842 he returned to Louisville; travelled in Europe in 1848, and in 1856 removed to Washing-

ton. In 1857 he was appointed Commissioner of Patents, in which office he gave great satisfaction to inventors. On the death of Postmaster-General Brown, in 1859, he was placed at the head of that Department, which he managed until, in January of the present year, he was called to the head of the War Department, from which John B. Floyd had just been driven by the discovery of his treachery. How faithfully, energetically and wisely he fulfilled the duties of that important post during the short time he held it, the whole country knows. Since his retirement he has devoted himself to the establishment of a sound Union sentiment in Kentucky; and many of our readers will remember his admirable letter to James B. Clay on the powers of the government and the duties of citizens.

Mr. Holt is now in Kentucky, his native State. On Saturday, the 13th inst., he addressed an audience in Louisville, densely packing the largest hall in the city, in an unconditional Union speech, which was received with rapturous applause.

We have the pleasure of knowing Mr. Holt well, and we regard him as one of the most thoroughly upright public men in the country. He is, moreover, clear-headed, loyal-hearted, an able jurist, and an honest man. His appointment to a vacancy on the Supreme Bench would be a convincing proof of the conservative views of the Administration.

## THE KETCHUM REAPER PATENT EXTENSION.

The Commissioner of Patents has decided not to extend the reaper patent for the machine known as Ketchum's Reaper, on the ground that Ketchum's assignees have achieved a sufficient reward out of the patent itself, for the value of the invention to the public, and because the proper showing as to Ketchum's emoluments from the patent was not made. It was in evidence, we hear, that a million and a quarter had been made by some party or parties out of the patent in issue.

We find the above announcement as a special dispatch to the daily press from Washington. There must be some mistake about it. Commissioner Holloway has certainly rendered no such decision. He may have denied the extension, but we cannot think the reasons for such denial are as stated. We will say, however, that we know nothing about the merits of the case, having had no connection with it; but the premises are wrong, and if Mr. Ketchum has suffered defeat on grounds such as are alleged, there is either a gross official mistake about it, or his attorneys were incompetent to manage the case. Mr. Ketchum doubtless appeared before the Commissioner and prayed for the extension of his patent on the ground that he had not been adequately remunerated. No matter how much his assignees had made out of it, they were not ostensibly parties to the extension, and should have been kept out of the way entirely. The law had nothing to do with them unless, indeed, Ketchum had sold out to them his right to the extended term, and was to derive no benefit from the extension. If the assignees had achieved a sufficient reward, and some party or parties had made a million and a quarter out of the patent, it would not make a particle of difference to Ketchum, provided he could show that, as inventor and patentee, he had not been sufficiently rewarded for his invention.

It is not an uncommon thing that assignees get all the fat and marrow out of a patent during the first term of its existence, while the inventor gets nothing but bone and gristle. Under such circumstances the law of 1836 clearly contemplates an extension of the patent for the benefit of the inventor, upon proper proof. If Ketchum's emoluments were jumbled up into an undiscoverable mass, it shows bad management; but to report that the Commissioner of Patents decided against him on the ground of somebody else having made a fortune out of the patent, is more than we can believe; therefore we look with interest for the official report.

We have no facts before us upon which to base an intelligent opinion of the merits of the decision, but this much we venture to say, that Ketchum is an honest inventor, a little past the prime of life, and, unfortunately, others have made more out of his inventions than he has. The fact is, we believe he is a poor man, which makes his case seem to be a hard one.

One of the Rogers locomotives lately drew, on the Illinois Central Railroad, into Chicago 58 loaded cars, the entire weight being 631 tons.