

Science and Art.

Improvements in Fire-Arms.

We shall look with some anxiety at the coming (or present) war in Europe, to note the effect which the inventor's genius and the discoverer's toil has had upon military tactics and the certainty of death in battle; for during late years, fire-arms of all descriptions have been so improved as to almost make war mean annihilation, if the improvements are adopted by the contending armies. America, perhaps more than any other nation, has produced inventions in weapons of offense and defense, and they will no doubt be largely used in the European struggle.

We have to chronicle two important inventions of J. Rupertus, of Philadelphia, Pa., of which he has assigned half to John Krider and J. T. Siner. The first was patented April 19, 1859, and is an automatic primer for fire-arms. In it a magazine is provided for percussion caps or pellets within the hammer of a fire-arm. A feeding slide is applied to the hammer and its contained magazine, which is operated as the hammer falls, causing a cap or pellet to be delivered from the magazine in front of the face of the hammer, and so interposed between the hammer and nipple as to be exploded by being driven by the hammer into contact with the nipple or surface surrounding the vent. In the invention there is also a mode of operating and applying a piston to push forward the caps remaining in the magazine after every delivery made by the feeding slide, whereby the inventor is enabled to obtain the greatest length of magazine that the size of the hammer admits of.

The second was patented last week, and the claim will be found on another page of this paper. It relates to that description of revolving fire-arms which have the many-chambered cylinder rotating on an axis parallel with the bore of the barrel, and consists in what the inventor terms a "safety tube," that serves to convey the fire from the priming to the several chambers, to prevent any escape of fire in a lateral direction from the vent of one chamber to that of the next, and the consequent accidental discharge of any of the chambers, and to lock the cylinder with its chambers in line with the barrel. There is also a certain means whereby the necessary movements of the safety tube are effected by the movements of the hammer; and there is a new method of supplying percussion caps or priming from a magazine or stock to the point where it is required to be exploded to fire the charges in the chambers.

Hobbs' London Lock Factory.

The celebrated lock-picker, Mr. Hobbs, who astonished our English friends during the Great Exhibition in 1851, by picking Chubb's and all the other celebrated London locks, has found it a profitable business, we understand, to carry on the manufacture of American locks in London, where he has resided for the past eight years. He has a large factory in operation, and has introduced machinery for making various parts of locks which have heretofore been made by hand. This has given him a great advantage over those who pursue the old jog-trot hand labor system. In introducing his machinery for this purpose, Hobbs had to proceed very cautiously, so as not to raise the ire of the dusky operatives; he therefore enclosed his factory, and got all his machinery in order before he commenced operations, and then went along like a streak of American lightning. His locks have acquired a high reputation, and he appears to be on the high road to fortune.

FRUIT PIES.—The acid in fruit pies may be neutralized by adding to each as much carbonate of soda as will cover a twenty-five cent piece. This simple precaution, which does not affect the flavor of the fruit, will prevent much sickness, and save much sugar, otherwise needed to render the sour sweet.

The New Commissioner of Patents.

In our last issue we announced the appointment of Hon. W. D. Bishop, of Bridgeport, Conn., to the office of Commissioner of Patents. We now have the pleasure to present to our readers an admirable likeness of this distinguished gentleman. This likeness was photographed on wood by the patented process described on page 117, Vol. XIII., of the SCIENTIFIC AMERICAN, and which has now become an extensive business, as practiced by Messrs. Waters & Tilton, at No 90 Fulton street, this city.

Mr. Bishop was born at Bloomfield, N. J., on the 14th of September, 1827, and is therefore but 31 years of age. At the age of 7 years he removed with his father's family to the State in which he now resides. He



W. D. Bishop

early exhibited a great fondness for mechanics and sciences generally, so much so, that his father at one time seriously entertained the idea of educating him for some scientific pursuit. He entered Yale College in 1845, graduated in 1849, and afterwards engaged in the study of law, but never practiced it, in consequence of the sudden death of his father, whereby he became one of the executors of his father's large estate, and the duties of this executorship occupied his time for the succeeding three years. These duties were of an arduous character, owing to the fact that the completion of the N. Y. & New Haven, Washington & Saratoga and Naugatuck Railroads (of which Mr. Bishop, Senr., had been the contractor) devolved upon the executors. Upon the completion of these important pub-

lic works, Commissioner Bishop devoted his entire attention to railroad interests, in the several capacities of contractor, chief engineer, superintendent and president, which latter position he now holds, in relation to one of the best managed railroads in Connecticut. Mr. Bishop has acquired the reputation of a practical and thorough man of business, and has an ambition which might work the destruction of any one if uncontrolled by a calm and well-balanced judgment.

With Mr. Bishop's political principles we have nothing to do. Our object is to show to our readers the qualifications and character of the man who has been elected to fill the office of Commissioner of Patents, as in this respect they will be deeply interested. It is unusual for a young man to attain so speedily the dignified position Mr. Bishop now occupies in the public eye. It shows what can be accomplished by assiduity, perseverance, and a well-directed ambition.

Since 1852 Mr. Bishop has been a candidate for the Connecticut Legislature, was a delegate to the Cincinnati Convention, and in 1857 was chosen to represent his district in Congress. He received upwards of 3,000 votes more than the presidential candidate of the same party; and while in Congress he was Chairman of the Committee of Manufacturers, and acquired popularity as an eloquent speaker and ready debater. His course while in Congress was that of a strict party man; and as some of the more prominent acts of that Congress did not meet the approbation of his constituents, he was, as

people sometimes say, "elected to stay at home," receiving, however, between two and three thousand more votes than he had received at the time of his election. Before he had fairly recovered from the struggle of a sharp political campaign, he was tendered the appointment to the Commissionership of Patents, as the successor to Hon. Joseph Holt, now Postmaster-General of the United States.

To fill the place thus made vacant by the removal of so gifted a man as Mr. Holt is no easy task. When we consider the important interests that center in the Patent Office, and the conflicts that often arise between the claims of one inventor and another, involving delicate questions of law and fact, and the necessity of the strictest integrity in the discharge of the duties of this position, it might at first appear somewhat presumptuous on the part of the President to select so young a man for so important a trust. But so far as the press has spoken in reference to the fitness of Mr. Bishop for the office, there has been but one opinion, so far as we have seen, and from our intimate personal knowledge of his qualifications, we believe he will address himself to the duties of his new post with a zeal and discretion worthy of an older head. Mr. Bishop is a clear thinker, has an active and well-cultivated mind, is a good disciplinarian, and is accustomed to take the lead. We are therefore of the opinion, as expressed in our last number, that his administration will be wise and prudent, and, on the whole, popular and satisfactory.

ENLARGEMENT
OF THE
"SCIENTIFIC AMERICAN."
Volume I., Number 1—New Series.

The Publishers of the SCIENTIFIC AMERICAN respectfully announce to their readers and the public generally, that, on the first day of July next (1859), their journal will be enlarged and otherwise greatly improved; and at that time will be commenced "Volume I., No. 1, New Series," which will afford a more suitable opportunity for the commencement of new subscriptions than is likely to occur again for many years.

The form of the journal will be somewhat changed from what it now is, so as to render it better adapted for binding and preservation; and instead of eight pages in each number as now, there will be sixteen and in a completed yearly volume the number of pages will be doubled to 832, or 416 more than now. By this change, also, there will be a large increase in the quantity of the reading matter: and it is the confident expectation of the publishers that they will be able to make it the most useful and instructive journal now issued from the American press.

The SCIENTIFIC AMERICAN is no new enterprise. Its character and influence have been acknowledged and felt for nearly fourteen years past. It is the only journal of the kind in the United States which has met with success; and since its commencement, no less than fifteen similar journals have been started, and have expired after a brief and unhealthy career. The SCIENTIFIC AMERICAN is published at a price which places it within the reach of all; and as a work of reference for the Workshop, Manufactory, Farm, and Household, no other journal exceeds or even equals it in the value and utility of its information. Its practical recipes alone oftentimes repay the subscription price ten-fold. The Inventor will find it, as heretofore, the mirror of the Patent Office, and the reliable record of every claim issued weekly by the Office, the list being officially reported for its columns. The Machinist, the Manufacturer, the Farmer, the Planter, the Engineer, the Architect, the Millwright, the Chemist—in fact, all who take the slightest interest in the development and progress of art, science and industry, will find its pages useful and instructive. With the enlargement of the SCIENTIFIC AMERICAN, we shall be enabled to widen the sphere of our operations, and it is our intention to devote space to a Price Current, and a column or two to the Metal and Lumber markets, and such other branches of trade as may be interesting, and these will be given as often as we may think it useful to our readers.

The value of the SCIENTIFIC AMERICAN as a work of reference is shown by the large number of volumes yearly bound by subscribers; and there is now a constant demand for all the back volumes which it is impossible for us to supply. Large sums have been offered for the complete work.

The increased outlay to carry out our design of enlargement will amount to eight thousand dollars a year on our present edition; and in view of this we appeal to our readers and friends to take hold and aid in extending our circulation. Think of getting, at our most liberal club rates, a yearly volume containing about 600 original engravings and 832 pages of useful reading matter, for less than three cents a week! Who can afford to be without it at even ten times this sum?

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