Correspondence

Business at the Patent Office.

MESSRS. MUNN & Co :—I see by the papers that the Patent Office at Washington is being fitted up for a hospital. Is no business done now in that department? H. H. C.

Jefferson Co., N. Y., Sept. 15, 1862.

In reply to the above we would state that a portion of the Patent Office is fitted up for the reception of wounded soldiers, but the arrangements are such that the regular business of the department is not interfered with. Cots have been placed in the passage ways, between the cabinets, in two of the large model halls, and accommodations for nearly 800 patients are thus provided. The cots are however so arranged that access may be easily had to the glass cases containing the models, and the examination of inventions is not prevented. None of the examiners' rooms on the first floor are given up, nor are the regular operations of the bureau at all interrupted. Indeed so far as facilities for doing business are concerned, the Patent Office was never in a better condition. The amount of unfinished work now on hand is small, and in most of the classes the examiners are able to act promptly upon new applications.

In this connection we would remind our readers that now is the time, above all others, when the mind can be most advantageously applied to the discovery of new inventions. Just in proportion as the population is drawn off for service in the war, is the necessity for labor-saving inventions increased.—EDS.

Flint Glass.

MESSRS. EDITORS :—In your issue of September 20th, you notice an improvement in the manufacture of glass at Clichy, France, and other places by the substitution for red lead of the oxide of zinc with a small quantity of the oxide of nickel as a decolorizer and that this new combination is found to produce a new a cheap and purer glass, which is also capable of withstanding a higher degree of heat &c. This improvement has been patented in this country by Horace Trumbull, of New Jersey, as to the use of oxide of zinc and by Samuel Wetherill, of Penn., as to the use of oxide of nickel. In 1860, through your agency, a patent was taken in England in my name, combining both the American patents.

The successful adoption of the improvement in France ought to direct the attention of our glass manufacturers to the substitution of oxide zinc for red lead. The difference in the prices here being greater than in France or England the advantage will be correspondingly in their favor. R. H. MANNING.

New York, Sept. 23, 1862.

How to Treat Nervous Horses.

MESSRS. EDITORS :—I have read in the "Miscellaneous Summary" of your last number a bit of sound and excellent advice to horsemen, who should never, of course, "shy" themselves, whenever their horse is becoming nervous, nor notice it in their horses, and far less punish him.

Allow me, having had a great deal of experience in managing horses, to add another bit of advice to nervous horsemen. Whenever they notice their horse directing his ears to any point whatever or indicating the slightest disposition to become afraid, let them, instead of pulling the rein to bring the horse toward the object causing its nervousness, pull it on the other side. This will instantly divert the attention of the horse from the object which is exciting its suspicion, and in ninety-nine cases out of a hundred the horse will pay no more attention to the object from which he will fly away if forcibly driven to it by pulling the wrong rein. L. A. D.

Montreal, C. E., Sept. 22, 1862.

Sound Doctrine.

The following remarks we extract from a business letter received at this office a few days since. We recommend manufacturers everywhere to read what one of their craft says about placing good reading matter in the hands of his workmen :—

As to being a subscriber to your paper, I would say that for years I have had it every week, and in the two years past have obtained among my men in the shop some twenty names, and handed them to our newspaper agent, in order to secure our SCIENTIFIC AMERICAN at the lowest price. This I have done, not for the purpose of cheating you out of fifty cents each, but because I know that if my men can be induced to take such kind of papers, they are better men for me to have in the shop. One reading, thinking man, is worth more to me than two who live and die like the brute. If I have a man who reads your paper, I am sure to have a good man, and have never failed yet to find him of value to me by the fund of ideas he has in store, which helps him to good wages, and me in my business. So you see it is for my interest in a pecuniary point to have your valuable paper, and I hope I shall always have the means to take it, and eyes to read it, as the disposition is good I assure you.

Please accept my best thanks for the promptness and ability which has been manifested by you in obtaining my last two patents, as well as for all the business you have done for me heretofore.

W. B. B.

Waterbury, Conn., September 17, 1862.

WHERE AND HOW AUSTRIA MAKES HER MILITARY ENGINEERS.

MESSRS. EDITORS :—Fearing lest the second letter of Dr. Kennedy, on the subject of "Military Education," might not reach you through your exchanges, I hereby place a copy of it at your disposal. It will, if I mistake not, be found even more interesting than its predecessor. DWIGHT D. WILLARD.

Philadelphia, Sept. 22, 1862.

ZNAIM, MORAVIA, Aug. 14, 1862.

To their Excellencies Governor Curtin, of Pennsylvania, and Governor Olden, of New Jersey :

GENTLEMEN—It was with no slight satisfaction that I yesterday received, by order of Major-General Degenfeld, the Austrian Minister of War, a letter to General Petrosck, the Director of the Royal Imperial School of Engineers at this place. The reorganization of the military system of Austria in 1852, in the light of the experience of all other civilized nations, the bitter lessons taught her in the late Italian war, and the necessity of rigid economy in the administration of her public affairs, imposed as an effect of that war, all unite to give to her military schools more interest and value than attaches to those of any other great European Power. Under the military system of Austria the sons of soldiers are entitled to receive support and an elementary education at the expense of the government, and to preferment, based on merit, to the highest office in the army. From the elementary schools the best pupils pass at the age of twelve to the cadet schools, in which they remain four years, receiving a good education in mathematics as far as algebra and geometry, inclusive. The best of these pupils are, in turn, promoted to the School of Engineers, of Artillery, or of Cavalry and Infantry, in numbers and in proportion dependent on the wants of the service. When Austria wisely decided to separate her school of engineering and of artillery from that of cavalry and infantry, the fine old monastery of Kloster Bruck, in the environs of the ancient capital of Moravia, was vacant. Of the beauty of its situation, in the midst of luxuriant vineyards and commanding one of the loveliest of landscapes, I need say nothing to those who know what men of taste these old monks were. The spacious saloons, corridors and chambers of the monastery afforded ample accommodations to students; riding schools, stables and swimming school and parade ground were added, and the institution was opened here, distant about one hundred miles northwest of Vienna, most of which is traveled by diligence. This very remoteness of the town made it more pleasant, upon entering the building, to observe among the pictures upon the wall of the porter's room, the likeness of our own youthful Commander-in-Chief, McClellan. (The God of armies prosper him!) Not only are the dormitories and study, class and lecture rooms, commodious and well furnished, but the chemical laboratory is excellent, and the cabinets of architecture, of machines and of models are beautifully filled. The library, the nucleus of which was that of Maria Theresa, is increased as well by purchase as by the law which makes the libraries and military manuscripts of all deceased officers the property of the government. A student having entered the school remains four years, paying each year 660 florins, and receiving board, lodging, clothing and education. During the first year his studies are general on mathematical, natural and experimental science, German literature and history, and on design. During the second year descriptive and analytical geometry are completed, and military style in correspondence and reports, theory of projectiles, rules and exercises of the service, and topographical drawing are, among other studies, pursued. In the third year, mechanics, civil architecture, fortifications and ornamental drawing, and on the fourth and last, service of sappers and miners, military jurisprudence, tactics, permanent fortifications, construction of furnaces, boilers and machines, ornamental architecture, history of sieges. It was gratifying to observe that upon several of the above subjects the same text books were employed, which in translation are used in the Polytechnic College of Pennsylvania. For practice in the construction of gabions and earthworks, and pontoon and framed bridges the most ample provision is made. Proficiency in the art of design is especially insisted upon, and not only during the last term of his college life, but also for several years after he enters the service, the young officer is required to present annually an original working drawing of a fortification, machine or public work, tastefully executed and accompanied with descriptive text. These graduates constitute the engineer officers of the Austrian army, but in case the demands of the service require, the government does not hesitate to take engineers from civil life, and during the Italian war graduates of the Polytechnic School of Vienna—an institution not designed for military instruction, and not connected with the military system of the empire—were given commands in the engineer corps. Would it not be well for our own government to profit by the example, especially as many of our disasters on land may, unless I greatly err, be traced to a deficient engineer corps?

As General Petrosck, the Director, is regarded as one of the first engineers in Europe, I was anxious to learn the views of so experienced and earnest an officer on the question of the expediency of separating engineering and artillery schools from those of infantry and cavalry, and I found him decided and emphatic in the declaration that under no circumstances should they ever be united. He, and every other European officer of distinction with whom I conversed on the subject, agreed in condemning the plan of organization adopted for West Point as calculated to destroy the *esprit* of any army—a plan which might at one time have been approved, but which no European government would now for a moment continue. Moreover, while schools of infantry and cavalry may be located in rural districts, those of artillery and of engineers must be placed convenient to foundries, machine shops and arsenals. As soon as practicable, therefore, the school at Znaim would be removed to a large manufacturing city, where the students, brought into daily contact with practical men, would be taught to respect the artisan and his art, and learn the application with the theory of science. Was it not alike gratifying and suggestive thus to be told, in effect, that had Austria a Philadelphia she would make it the seat of her great school of military engineering?

With great respect, sirs, your obedient servant,

ALFRED L. KENNEDY.

President Polytechnic College of Pennsylvania.

THE Senecca Falls (N. Y.) *Courier* says that the Seneca Knitting Mills established in that village has recently contracted with the United States Government to furnish 700,000 pairs of stockings for the army, and daily turn out 8,000 pairs toward fulfilling the contract. About 300 persons are employed as operatives, and from 3,000 to 4,000 women and girls are furnished with work at their homes in the surrounding country and in distant places.

CAPTAIN COLES is employed by the British Admiralty at the rate of $15 per day to superintend the construction of his shields on war vessels. Besides this he receives $500 for each shield, and he is to receive $25,000 additional as a remuneration for the expenses incurred by him in bringing his invention into public use. We like to see governments displaying a liberal spirit toward inventors whose inventions have been of service to their country.