

Communications.

Our Washington Correspondence.

To the Editor of the Scientific American:

The work of the Patent Office, as a result of the Commissioner's order to bring the work up to date, still continues large, the late issues being among the largest ever made, and that of the week before last being the largest that ever left the office, as it included 319 patents, 7 reissues, 13 designs, 46 trade marks, and 9 labels, or 394 in all.

As stated in a previous number of your paper, there was a proposition before Congress to reduce the salaries of the Patent Office examiners, which proposal has been defeated in the House, where it originated. It was shown that the salaries of these officers were originally fixed at the same as the judges in the United States District Courts, and that while the latter have had their salaries increased several times, the salaries of the examiners have remained the same. Although there may be a good reason for reducing salaries that were raised during the war or inflation periods, there is none for decreasing those which are at the same figure they were in 1860. In view of this the proposed reduction was voted down. The credit of the defeat of this attempt to reduce the efficiency of the Patent Office is due mainly to the Committee on Patents.

AGRICULTURAL DEPARTMENT.

The Commissioner of Agriculture recently received from Japan a shipment of silk worms, which are now being hatched for distribution in different sections of the country, where people are beginning to take an interest in this industry. In Silkville, Kansas, a French colony has been carrying on this industry for several years, shipping large quantities of eggs to foreign countries. The great difficulty in the way of this industry is the necessity of planting mulberry trees to furnish proper food for the worms. Professor Riley, however, has brought some worms from the West that thrive on the leaves of the Osage orange, used extensively in many regions for hedging purposes, and is breeding a quantity for distribution. This change of food will no doubt lead to a more extensive introduction of silk worms, as the leaves of the Osage orange can be readily obtained in almost any district, while the mulberry leaves are comparatively scarce.

The Commissioner has been for several months past devoting considerable attention to the growth of the tea plant, and a few days since had a party of gentlemen at the department to taste tea made from leaves gathered from plants grown in South Carolina. The plants were transplanted in pots from their place of growth to the hothouses in the Agricultural grounds. The leaves were plucked and dried over a slow fire in the laboratory, and then subjected to the usual steeping process, which resulted in producing excellent tea. Two gentlemen were present, representing a Baltimore tea warehouse, who had spent six years in the tea-growing district of China, and are well informed as to the cultivation of the plant and process of curing the leaves. They expressed their firm conviction that there was no doubt of the possibility of tea culture being as successful as corn growing, if the cultivation be confined to the Southern States. The experiments seem to demonstrate it, so far as the quality of the article is concerned, for a wholesale grocer in this city is willing to give a dollar a pound for the native tea, which he considers as good at least as any imported into this country. It is possible, however, that the mere growing of the tea is not all that is necessary to make a practical commercial success of this project, but that the gathering and curing of the leaves may be the sticking point, in which case there will be a chance for our inventors to try their hands or their brains to overcome what may be the main trouble in raising our own tea.

OPERATIONS OF THE FISH COMMISSION.

The United States steamer Lookout has just finished "planting" about 600,000 young shad in the Potomac. The eggs for these were gathered in the Albemarle Sound by the Fish Commission, and when the vessel started it contained about 800,000 eggs, but at Norfolk a fresh supply of water was introduced into the hatching machine, and owing to something in the water, large numbers of the eggs were spoiled. The hatching process consumes from three to five days, and by the time the vessel had reached Fort Washington, the shad were about three inches long. After this the planting began, and was continued up the river until the vessel stopped at the wharf in this city. The process of "planting" is a very easy one, and is equivalent to the scriptural injunction to "cast thy bread upon the waters" in the hopes of finding it "after many days." It consists simply in lowering cans containing the young fish down into the water at the side of the vessel and allowing their contents to escape.

The Commission has received information that out of the 1,000,000 eggs of the California salmon supplied to New Zealand, at the expense of the colonial government, over 95 per cent of live fish was obtained, which is the more satisfactory because the New Zealanders had spent thousands of pounds sterling in the endeavor to stock their rivers with European salmon. Information has also been received from Georgia that shad have become plentiful in the rivers of that State, in consequence of the operations of the Commission in that region, and shad are now hawked about the streets of Northern Georgia at from 6 to 8 cents per pound, instead of 25 cents per pound as formerly.

A NARROW GAUGE ROAD TO THE WEST.

The House Committee on Railroads are about to report favorably on the bill granting a charter to the Washington, Cincinnati, and St. Louis Narrow Gauge Railroad Company. This road is already begun, about fifty miles being graded in Virginia. The promoters assert that a road of three feet gauge can be built and operated for less than one half of the standard gauge roads; and that therefore they can largely reduce the expenses of transportation between the West and the Atlantic seaboard. The company proposes to run a line of freight steamers from Washington to New York to connect with its road. It also proposes to establish branches to Chicago, and gradually to extend a narrow gauge railroad to all important points both East and West. One of the great advantages claimed for this road is that it will open up the West Virginia coal fields, which are said to yield a coal that will test 40 per cent higher for gas making purposes than any coal produced in Pennsylvania.

A PAPER AND STATIONARY EXHIBITION.

The Department of State has received information through Consul-General Kreismann that a general international exhibition of paper and stationary, and the industries pertaining thereto, will be held at Berlin from July 10 to August 31 of this year. It is believed that the opportunity is a good one for exhibiting the excellence of our products in this field, and American manufacturers are cordially invited to contribute. Messrs. Woodworth & Graham of your city have intimated their willingness to act as agents.

Mr. Kreismann also informs the department that the Prussian Minister of Commerce has addressed a communication to the Director of the School of Mines in New York, to the effect that those American engineers of mining and smelting works and foundries, who may desire to visit the establishments in Germany appertaining to their business will find arrangements made for their information and guidance at the Royal Academy of Mines, No. 6 Liestgarten, Berlin.

THE CHINESE LABOR QUESTION.

The House Committee on Education and Labor has agreed upon a bill as a substitute for the several pending bills "to restrict the immigration of the Chinese to the United States." The bill makes it a misdemeanor for the master of any vessel to take on board at any foreign port whatever any number exceeding fifteen Chinese passengers, whether male or female, with the intent to bring such passengers to the United States; and provides that the act shall take effect from and after January 1, 1879.

The Senate Committee on Foreign Relations has decided to recommend the adoption of a concurrent resolution, taking the ground that the treaty provisions which allow unrestricted Chinese immigration to this country might be wisely modified, and inviting the attention of the President of the United States to the subject. This resolution is a substitute for Senator Sargent's joint resolution providing in express terms that the President should be requested to open negotiations with the Chinese Government with the view to restrict the immigration of its subjects to this country.

Washington, D. C.

R.

Driving Piles in Sand.

To the Editor of the Scientific American:

In regard to the paragraph under this caption on page 274, SCIENTIFIC AMERICAN of May 4, 1878, I would respectfully call your attention to the fact that the method employed by the French engineers—that of sinking a tube alongside the pile and forcing a stream of water through it—was used in this country at least fifteen years ago, by the Confederate engineer in charge of the defense of Mobile Bay. I witnessed the operation first in 1863, when the Confederates were sinking a line of piles across the channel between Forts Morgan and Gaines. The pumping engine used was a steamer belonging to the Mobile fire department, and the rapidity with which the huge yellow pine piles were sunk in the hard, sharp sand was something wonderful, especially after witnessing the futile efforts made to drive them by the old fashioned pile driver. I do not remember the name of the engineer, or of the deviser of the plan, which was then thought to be entirely original (and probably was so), but think it was Gen. Leabetter.

Osceola, Ark., May 5, 1878.

F. L. JAMES, M. D.

An Egg within an Egg.

To the Editor of the Scientific American:

I have a hen that produced an egg in March last that measured 6½ inches in circumference (largest part of bulge), and in the same month produced another measuring 6½ inches. The following month the same hen laid another egg measuring 7½ inches, which weighed 4½ ounces. When this was broken it was found to contain another naturally formed egg with shell complete. The space between the two shells was filled with ordinary white of egg. The outer shell was quite thin. The hen is of common breed.

P. C. MIXTER.

An Organized Patrol for Tramps.

The tramp element having become altogether too bold and lawless in Omaha, an organized vigilance committee of trusty citizens has been sworn in as special policemen by the Mayor, to serve without pay, until the city is thoroughly rid of tramps. The plan adopted was to surround the city at night with two or three hundred resolute men assisted by policemen, and to work inward, arresting all vagrants and suspicious or criminal characters to be found. This action is to be continued until the pests are entirely rooted out.

Yankee Notions.

The industrial importance of small manufactures is appreciated by few. In New England especially the making of "Yankee notions" has formed, and still forms, a very essential element of the national prosperity. Said a prominent Eastern manufacturer the other day to a *Herald* correspondent, "New England has invested a great deal of capital in her leading manufactures, yet her real strength lies in the numerous small things in which she stands unequalled. So many things are required in our civilization that the absence of the very smallest of these 'notions' would be missed by thousands, both here and abroad, now accustomed to their use. Take this little tag, for instance, which costs hardly anything; study its manufacture, its demands, and you will readily see the importance of such articles in the country's industry."

The reporter visited the maker of the tags, and found him busy with correspondence, including a cable order from London and letters from Buenos Ayres, Havana, and Rio Janeiro, received that morning. A visit to the factory discovered an entire brick building where the cardboard was smoothed and enameled by heavy machinery, and floor after floor was devoted to drying, cutting, packing, and pointing, with any number of men and women employed, all for the purpose of producing the tag which one sees dangling from a trunk or a valise. The cutting and eyeletting machines do their own counting, dividing the tags into packages of fifty, as they are dropped into boxes, and ringing their own alarm if one of the little metal rings obstructs the free passage of others. After seeing the employment of so many people and such powerful machinery in the production of an article so simple and cheap, the reporter began to think that the importance claimed for the "notion" industry was not so exaggerated as he had thought. The thousands of establishments of this sort scattered over the land are so many illustrations of the advantages of a cheap patent system. Every one of them is founded on one or more simple inventions, few of which would ever have been made or could have been made the basis of a profitable business under a system less favorable to inventors than ours.

Another Triumph for American Inventors.

Up to 1855 this country depended entirely on England for medium and fine knit goods. Now thanks to our improved machinery we make as fine knit goods as England, and excel her in all the cheaper grades. Said Mr. Root, a prominent manufacturer of Cohoes, to a correspondent of the *Herald*, "Importers of English goods now find themselves compelled to take our goods, the style and finish being preferable and the quality superior in regard to the majority of grades." To-day Cohoes manufactures half the merino shirts and drawers worn in the country. The importations from England grow less and less every year. Said Mr. Root: "We have virtually driven English goods out of the market, and, what is more, we are constantly improving on our own manufactures. Of the knit goods heretofore made two thirds were for men and one third were for ladies, simply because the latter could not wear the coarser goods we were then making. Now one half of the knit goods—\$5,000,000 worth—manufactured annually in the United States are fit to be worn by ladies, the physicians having generally commended their use throughout the country. A small quantity of the finer grades of gauze goods is still imported, since England can afford to spend more manual labor upon them. The manufacturers of Cohoes have faith in machinery, and have relied for success mainly on its improvement."

Competition in Cutlery.

In 1834 all the table cutlery used in this country was imported from England. To-day English goods in this line have been driven out of the American market, only small exceptional parcels being imported. In fact, out of an annual consumption amounting to not less than \$2,500,000 worth, not more than 8 per cent comes from England. The home market being secured, the trade is steadily extending into foreign markets, notwithstanding the fact that American cutlery is dearer than Sheffield articles: this on account of their superior shape and finish. Said Mr. Oakman, the treasurer of the Russell Cutlery Company, to a correspondent of the *Herald*: "The time is coming when we will beat England also in prices; almost every day we study to make our knives cheaper. If we can only succeed in reducing the cost half a cent per dozen a day, we are satisfied; but we must keep steadily at it. Still we have already done pretty well. Take, for instance, this solid handled steel table knife, which we sold for \$5 a dozen in 1867, we now sell for \$1.25 a dozen; and this is the way, if we want to compete." American cutlery now goes largely to Australia, South America, and Europe. We are pushing England also in pocket cutlery. Of the two million dollars' worth of pocket knives sold here every year, England supplies only one million dollars' worth, while not many years ago nobody would look at anything but an English knife. The extent to which machinery has been made to take the place of manual labor is the great secret of our success in the manufacture of cutlery. The cutting of the wood for the handles, the finishing of the ivory the cutting of the steel, the shaping of the knife, the fastening of the handle, the designing of the ornamental handles, the grinding, the finishing of the blade, and numerous other minutiae, are all done by machinery, most of which is also made in the works.