THE GREAT EXHIBITION.

[Our Special Correspondence.]

LONDON, April 7, 1862.

MESSRS. EDITORS :—I wish to lay before the readers of the SCIENTIFIC AMERICAN, and all who are directly interested in the Great International Exhibition now being organized in this, the largest city on our globe, some facts relating to our position as American exhibitors. It is hardly necessary to repeat the singular action of our government in relation to it. The distracted condition of our political affairs, and the onerous duties devolving upon the President and his Cabinet may be fairly urged as an excuse for the delay in appointing a commissioner to take charge of the interests and articles of American exhibitors. But, although an excuse may be offered for the delay, I cannot offer an excuse for the official action of our government. I have a right to speak plainly on this subject, for I am acquainted with the facts of the case, and I am more directly interested than any other person in the success or failure of the "American Division" of this exhibition.

The President was urgently solicited by inventors and manufacturers to appoint a single commissioner, to whom the whole organization of the American department and the interests of American contributors should be entrusted, and he was solicited to rise above party and political considerations, and allow the industrial interests of our country a trusted and experienced leader. Col. Johnson, of the New York State Agricultural Society, was presented as the choice of thousands; or, in case he should not receive the appointment, John H. Klippart, of the Ohio State Board of Agriculture, was suggested. I understand that the President favored such a choice for some time, and was on the eve of making the appointment, but as some political cliques anticipated a liberal appropriation of money for the commission, they exerted an influence which has been injurious in its results. Twelve commissioners were appointed, three of whom were men of experience, and were willing to devote their energies to the performance of their duties, but the others were more injurious than beneficial, and at last, to cap the climax, a most unfelicitous proclamation was issued by the Secretary of State, after the articles of our exhibitors had been shipped for the exhibition. This proclamation was issued not because Congress had failed to make a suitable appropriation for the payment of expenses connected with any commission respecting the exhibition, but because the contributions were of the plain, utilitarian class, and not sufficiently showy objects. This was a mistaken policy, for utility, not show, will be the standard by which American machines will be judged here.

Our Minister in London and the American Consul tried in vain to get our articles admitted after that proclamation was received here. But at last, through old friendship for Col. Johnson and myself, the doors of the Exhibition have been opened to us. I held the commission to act as agent for American exhibitors until a regular commissioner should arrive, and I had no official notice rescinding my temporary appointment. Mr. Seward's awkward proclamation so nearly upset all my efforts that I had almost begun to despair of gaining access to the Exhibition. But, at last, we have been received, and Col. Johnson will yet be here as our leader, and the Royal Commissioners have given us all the space they possibly can, without turning out some exhibitors who now occupy positions previously intended for Americans, but which were considered as abandoned by our government. We are most cordially greeted by every official connected with this enterprise, and can bide our time. Whatever may have been the general expression of feeling here during the excitement of the *Trent* affair, I have now to report a very favorable and reasonable consideration of American affairs—in fact I have not met a secession sympathiser since my arrival in England, and I am confident that if our government pursues a vigorous policy with the secessionists there will be no more talk of English interference.

I have a great deal of labor to perform—attending to correspondents and exhibitors, and, for want of funds, Mr. Taylor and myself are doing all the work of unboxing and setting in order the articles of about fifty contributors. I feel sure there will be no such quarreling as there was under the Riddle administration, in 1851, over $25,000 government funds. Had I the dictation of the whole exhibition, I could not have hoped for more attention and kindness from the Royal Commissioners.

For six months I have done the heaviest labors of the American part of the enterprise, without the remuneration of a postage stamp or sheet of paper from our government. I am positive that had I ceased my efforts there would have been no American display here, and I feel confident that if I am not interfered with through the Department at Washington we shall come out of the contest with much credit to American exhibitors.

Respecting the building for the exhibition, there is much difference of opinion. As a whole, I think it is admirably adapted for the purposes it was designed, though it is not "a thing of beauty." I look forward to a great success for American contributors. I am sure that those of our citizens who visit the Exhibition will find nothing to be ashamed of. A few generous friends are contributing something for the decorations of our department. Exhibitors, as a whole, have come very far short in supplying the funds necessary for the proper care of their goods; some of them, however, have done their whole duty, and have shown a noble spirit. Every civilized government on the globe but the United States has contributed very liberally to the objects of this Exhibition. Our manufacturers and artists had very nearly lost an opportunity of being known here as being within the pale of civilization and art, and as having a nationality. As soon as the articles are arranged so that I may be able to classify them, I will endeavor to give a condensed history and description of those which are of most importance to the readers of the SCIENTIFIC AMERICAN.

JOSEPH E. HOLMES.

Cultivation and Use of Willows.

The following are extracts from an essay on the above subject in the Transactions of Highland and Agricultural Society of Scotland :—

Willow makes the very best kind of charcoal, and is highly esteemed in the making of gunpowder. The bark is used for tanning several kinds of leather. So from this we may learn that the consumption of willows, if more extensively grown, might be greater; and plantations, or large beds of osiers, might be very advantageously grown in almost any soil, such as banks of rivers, &c., and annually cut, would produce a sum of money that I have no doubt would largely remunerate the grower. And from land that can not otherwise be made available for tillage, notwithstanding the vicissitudes of seasons taking good and bad under view, the writer has experimentally ascertained that an acre of willows or osiers will often bring the grower a larger gum of money than an acre of wheat; and likewise from land that would be almost useless for other crops.

As regards the nature of soil and subsoil suitable for growing them to the best perfection, osiers delight in banks of rivers or drained swamps, and are greatly invigorated by occasional flood of irrigations. Plantations of them may also be formed, and will succeed well on low spongy bottoms along the margins of streams.

In the great majority of farms will be found level, marshy, wet spots, which, by drainage, cannot well be made available for tillage, which might be planted with the willow, and would afterward recompense the proprietor or farmer in a two-fold way. The land might be prepared in various ways for this crop, owing to the extent and nature of the soil. For plantations of any considerable extent for osiers, the ground should be formed by the spade, into beds of from eight to nine feet broad, with intervening furrows or narrow ditches to carry off the water. The planta tion may by made at any time between the fall of the leaf and an advanced period in spring, but the last two weeks of February, and the first weeks of March, in England, April and the Middle of May in America, are the most proper times for planting the willows. Cuttings fifteen inches long should be taken with a knife on an upward slope from well-ripened wood of either two or three years' growth; they grow more luxuriantly when planted about two-thirds of their length in the ground, than when they are less deeply planted.

Osiers succeed best in a deep, moist free soil—ground dug to the depth of 24 inches, with a small quantity of dung and old lime rubbish put in the bottom of the trench.

The willow, for the use of the basketmaker, should be cut every year slopingly with the knife, within three buds of the point whence the shoot issued, and will admit of being cut back once in three years for the use of the cooper, exactly to the swell of the shoot of the three years' growth—thus compressing the plant back to its ancient dwarf form, at the same time realizing a handsome return.

Moreover, by treating osiers in this way, they will last and produce well for a great many years. The ground should be deeply stirred with the hoe, and kept clear of weeds; but digging with a spade around the roots of willows often proves very hurtful to the fibrous feeders, as we often meet with a great portion of such oozing and growing very near the surface of the soil.

The way in which willows are most commonly disposed of after being cut is, they are sorted into trusses and tied into bundles of two and sometimes three feet in circumference; and if intended to be stripped of their bark, they are set on the thick end, and immersed a few inches in standing water.

They succeed best in Northern exposures, provided they are not overtopped. Should the ground be at all suitable for the crop, each set will produce the first year two good basket rods, or 24,000. The second year, the sets, being much stronger, will produce on an average six rods, one more or less being considered a very common number—one of which may be left on each stock for hoops, and the remaining 60,000 cut for baskets, which would be worth about $120.

A "Monitor" for the Lakes.

The memorial of the Chamber of Commerce of this city in relation to lake defences has been laid before the legislature, accompanied by a letter from Captain Ericsson.

Messrs. Ruggles, Griffith, Nye, Trask and Duer, the committee appointed by the Chamber of Commerce to memorialize the legislature, urge the necessity of measures for the defence of the commerce of the lakes, and recommend the enlargement of one tier of the locks of the Erie and Chenango canals to a size sufficient to permit the passage of mail-clad vessels.

In order to show that vessels like the *Monitor* can pass through locks twenty-five feet broad and two hundred feet long, the committee give the following letter from Captain Ericsson :—

NEW YORK, April 14, 1862.

Sir :—After a full consideration of the subject of your inquiry, I have to state that an impregnable iron vessel, two hundred feet long and twenty-five feet wide, constructed on the general plan of the *Monitor*, will have sufficient buoyancy to carry a shot-proof iron turret carrying a gun of fifteen-inch caliber, with a ball of four hundred and fifty pounds, and capable of destroying any hostile vessel that could be put on the lakes. Without coal, ammunition and stores, such a vessel will draw six feet six inches, and measure eighteen feet in hight from bottom of keel to top of turret. Before going into action a certain quantity of ballast, in addition to coal, ammunition and stores, will be put on board, in order to attain what may be termed the fighting draft of eight feet.

Yours, very respectfully,

J. ERICSSON.

P. S.—The cost of a war vessel, as above suggested, will not exceed $200,000. J. E.

Cotton Coming Forward.

The Nashville *Union* says there is great briskness in the cotton market at present at that point. Loads are constantly passing through the city on their way to the river. One boat, a few days since, left with some 200 bales. Buyers are scouring the country in all directions as far as the protection of the Federal lines extend, and sometimes even further. The planters are acting like men of practical sense, and are quick to trade. Good middling readily brings sixteen and seventeen cents in specie or United States Treasury notes, and twenty and twenty-five in current Tennessee paper. There is no holding back on the part of the planters. They all fully appreciate the immense benefits which reviving trade will scatter over an almost bankrupt country. One thing has forced itself upon the minds of those even who were unwilling at first to admit the fact—interference with private property which has not been involved in the rebellion will not be made by Federal troops. All parties now feel secure in this respect.

THE chloride of gold produces a beautiful lilac color on silk.