



**Cotton.**—We certainly expected to find a very noble and large display of this great American product, but have been disappointed. Only five bales of cotton are on exhibition, and although these are superb of their kind, we have not been able to discover any samples of the finest qualities. There is one bale from Joseph West, Barbour County, Ala., and another bale from the same State, but the exhibitor's name we were unable to decipher. The cotton of Mr. West is silky, of good length, strong, clean, and has an excellent color. Jefferson Nailer, of Warren Co., Miss., exhibits one bale of short staple, very strong and white. One bale from Dr. S. Bond, of Green Bottom, Shelby Co., Tenn., is very fine in staple. The last bale is that of Col. John Pope, of Memphis, Tenn., which we noticed on page 88. In that paragraph taken from an exchange, it is stated that the merchants of that city had made him a present, because he exhibited the best cotton in the Crystal Palace. His cotton is of a very fine quality, good length of staple, silky, white, and strong, but the jurors not having made their awards yet, the above verdict may be premature.

From an article in the Patent Office Report of 1852, by C. F. McCay, we learn that the average annual cotton crop of the United States is estimated at 3,000,000 bales of 400 lbs. each, 1,200,000,000 lbs. In 1821 the export of American cotton was only 124,893,000 lbs., it has increased to 1,000,000,000. These figures show a vast increase in thirty years, and the demand has been equal, if not greater than could be supplied. From this, the legitimate inference may be drawn that the production of cotton goods will increase much faster than the population of nations, and that during the next thirty years, the increase of raw cotton will be as great in proportion as it has been during the past. Dr. Lee thinks that we have land and climate for the production of 9,000,000 bales annually. Allowing 200 lbs. to the acre, it will only require 18,000,000 acres to produce this amount. The four States of Georgia, Alabama, Mississippi, and Texas, contain four times that number of acres of choice cotton lands. It may be, however—as most of our cotton is exported—that those countries which buy of us, will devote more attention to the raising of this material to supply themselves. England is endeavoring to do so, and by recent news from France, efforts of the same kind are being made by that country.

**Cultivation of Cotton in Algeria.**—Two decrees have recently been published in Paris for the encouragement of cotton culture in Algeria, where many successful experiments—it is said—have already been made. By these decrees it is declared, 1st, that cotton seed shall continue to be furnished by the government to colonists. 2nd, that for three years, from 1854, the government shall purchase the cotton product at a price to be fixed each year according to the quality. 3rd, that at the expiration of those three years, premiums shall be given for two years for the exportation of the cotton of Algeria. 4th, premiums shall be given for the introduction of machines for the use of planters. 5th, there shall be provincial premiums—three for each province—of 5,000, of 3,500, and 2,000 francs, to the planters who produce the best quality of crops and the largest quantities. A sum of 100,000 francs has been appropriated from the civil list for the encouragement of the cotton cultivation in Algeria, to form an annual premium of 10,000 francs, to be called "The Prize of the Emperor." It is confidently expected by the French, that in a very few years Algeria will supply as much cotton as will render France independent of the United States. We have also seen statements in some of our foreign exchanges to the effect that cotton has been raised in Algeria, equal in staple to the best American Sea Island. These state-

ments, however, must be received with great caution. We have endeavored in vain to obtain the statistics of the amount of cotton consumed by France annually, but the quantity cannot be small.

We speak in reference to that obtained from America, and all other countries, for we know that in 1852 302,000 bales of American cotton were imported into Havre.

**East India Cotton.**—For many years Great Britain has endeavored to obtain a greater supply of cotton from her vast possessions in the East Indies. Some American planters have been employed for years by the East India Company to teach the natives. American machines have been used to clean the cotton, and every appliance to conduct the culture properly have been employed, in order, if possible, to relieve the Manchester manufacturers from dependence on America. In 1850, when the price of cotton rose to 11 cents per lb., from 7 cents in 1849, owing to our short crop, much effort was made by the Manchester Chamber of Commerce to organize measures for the future cultivation of cotton in British provinces, so as to relieve them from depending on the United States. A very large meeting of this body was held in Manchester on the 9th of September, which was attended by delegations from Glasgow and Preston, the two cities which, next to Manchester, manufacture the greatest amount of cotton goods. They engaged Alexander McKay, the author of a book named the "Western World,"—which is well known to our people as being an account of the author's experience in America—to go to the East Indies and report on the obstacles existing there to the success of the cotton culture, and the best means of removing them. He went to that country in 1851, but died before he completed his task—a work for which he was eminently qualified. In 1851, 329,000 bales of East India cotton were exported to England during the high prices, but this amount fell off to 200,000 in 1852 at moderate prices, so there appears to be very little hope of obtaining anything like an adequate supply from that quarter of the world. In fact, it has been asserted over and over again, that no confidence can be placed in the natives of that country in either cleaning or packing their cotton, but the great drawback to its success hitherto has been the small amount which has been raised to the acre. Down to the present day, the average production on the experimental farms recently established by the East India Company under American planters in Upper Bengal, was only 25½ lbs. per acre, the maximum being 57 lbs. over nine acres, the minimum 11½ lbs. over 219 acres. In Madras, four similar farms yielded, in 1842-3, an average of 41 lbs. per acre, and the most sanguine witnesses examined before the House of Commons only estimated the native seed to yield from 60 to 70 lbs. of clean cotton, and the best seed at 90 lbs. per acre, the land even in this case being made to bear such a crop in a rotation of only every third year.

**British Guiana Cotton.**—At one period, this portion of the world raised considerable cotton. In 1803, when it was captured from Holland, it was a cotton growing country, and produced very superior qualities; the two provinces of Demerara and Essequibo exported 46,435 bales that year. For two hundred miles between the rivers Pomeroon and Courantyne, on the sea coast of Berbice, it was laid out at one time solely with cotton plantations, but since 1815 its culture has continually decreased, and at the present moment we believe not a single pound of it is exported from that quarter. The export virtually ceased in 1841. In 1832, the year preceding the act of emancipation, 1,533,785 lbs. were exported. In a dispatch from Governor Barkly, to Earl Gray, dated April 3, 1850, he says, "at the present date, in all this vast territory, it would not be easy to find a cotton shrub within its entire limits."

Why the planters of British Guiana, from furnishing one-third of the cotton consumed in Great Britain at the beginning of the century, were induced gradually to abandon the culture of that article, is a question deserving of serious investigation.

That it was not inferiority in the soil, or in

the quality of cotton produced, is certain. Cotton was here a perennial, not as in India or the United States, an annual plant, and the system of forcing it into blossom by sea-water irrigation was, as far as I know, peculiar to this colony, and productive of the greatest advantage. The species of cotton, too, was what is called the 'long staple,' and the quality so superior, as still to be quoted in the price-currents next in order to the famous 'Sea Island' variety."

The reasons of the failure of cotton growing in that country, he attributes to bad cultivation, for while in 1800 the land yielded 300 lbs. to the acre, it dwindled down to 150 lbs. in ten years. The once flourishing cotton fields of British Guiana have been converted into sugar plantations.

**West India Cotton.**—In 1850 considerable attention was also directed to the West Indies, in order to see if cotton could not be successfully cultivated there. A large meeting of planters was held on the 25th September that year, at the Jamaica Bank, in Kingston, for the purpose of forming a company to test the cultivation of cotton on a large scale, in Jamaica. A committee was appointed to report on the subject, which report is now before us; it presents not the least shadow for any hope whatever being entertained of the successful cultivation of cotton in that Island; it presents only a sad picture of the state of that Island.

Of Egyptian and Brazilian cotton, England imported 245,000 bales in 1852, so that it is very evident that the sole and only country on which the cotton manufacturers of England can rely for their supply of cotton, is the United States. At present, middling cotton is selling at New Orleans for 9½ cents per lb., taking the crop for 1853 at 3,100,000 bales of 400 lbs. each; value of this is \$117,800,000. Of this 703,000 bales are set down in the Patent Office Report as the home consumption, which at the above price—taking that as an average—amounts to \$26,714,000, leaving \$91,086,000 as the sum paid by foreigners for this American staple. Instead of other cotton growing countries increasing their supplies, they are falling off, and some countries, especially British Guiana, appears to have been swallowed up in this cotton contest. When cotton was 40 cents per pound in 1817, Berbice was a cotton growing country, but when the price came to be reduced in 1821 to 19 cents, it ceased to be a cotton growing country. More than one cause has contributed to this result, but the principal one is the spirit which has always been exhibited by American planters in encouraging and applying improved machinery connected with its cultivation, and in the cleaning and packing of it for market; also the care manifested in attending to the proper management of the soil and the choice of seeds, whereby the quantity raised to the acre has been, and is now more than sixteen times the amount raised in the East Indies.

#### Trial of Steam Engines in the Crystal Palace.

The annexed documents are interesting correspondence between the Director of Machinery in the Crystal Palace, and L. B. Page, Esq.:  
L. B. PAGE, Esq.—Dear Sir:—In reply to your note of this morning, referring to the trial instituted on the evening of the 17th inst., to test the qualities of different "steam engines" on exhibition, I would state that as the trials were made in the absence of the owners, and they not having advised or suggested it, I do not feel at liberty to furnish officially for publication any comments of my own which might prejudice the interests of any exhibitor. The "governor" of the Alabama engine, having exhibited no variation while working from 48 strokes down to 20 per minute, under a pressure of from 40 to 10½ lbs. on the square inch, afforded proof that the "Southern Belle" was not in proper working order. I therefore leave out for the present the notes taken of its operation.

The results of the trial of the two engines employed to drive the machinery in the Arcade were so eminently satisfactory, and so creditable to the skill of the builders, that I do not hesitate to furnish you with such remarks, &c., as I have prepared for a report to the Association. Yours,  
J. E. HOLMES,  
Director of Machinery.

EXTRACT FROM REPORT.—The most inter-

esting trial during the Exhibition, was that of testing the qualities of different steam engines, in relation to the economical use of steam through the arrangement of the valves and cut-off; this trial was instituted under my direction. Prominent among all the beautiful and useful machinery on exhibition, are "three large Steam Engines." The first, a beam engine, was manufactured by Messrs. Corliss & Nightingale, of Providence, R. I.; G. H. Corliss, an eminent engineer, designed it. The peculiarities of this engine, aside from its substantial qualities and graceful proportions, consist in certain arrangements of the valve and cut-off, by which great economy in the use of steam is effected and a most perfect regularity in motion is obtained. The cylinder is 14 inches in diameter, the stroke 4½ feet, requiring 37 revolutions per minute, to give our shafting the proper speed; the rated power is sixty horse, with 70 lbs. steam pressure. The second engine was designed and its construction superintended by John C. Hoadly, and was built at the "Lawrence Machine Shop," under the agency of Gordon McKay, Esq. It is a double horizontal engine, the two cranks being set at right angles to one another, and working a single belt-fly-wheel. Each cylinder is 15 inches in diameter; stroke 32 inches. The rated power is 60 horse-power, under 60 lbs. steam pressure.

The third is the "Southern Belle," which was designed and constructed by John S. Winter, of the "Winter Iron Works," of Montgomery, Ala. The workmanship is elaborate, and has been universally admired; it is a horizontal engine of 13 inch cylinder; stroke 30 inches. The bed on which it rests is excellent, and as a casting, will vie with any work of the same magnitude in the Arcade; its "governor," I am sorry to say, seemed to have no control over its motions, and this may be the reason of its want of success and withdrawal from trial: I hope another opportunity will be afforded to learn the true working capacity of an engine on which so much labor and skill have been expended.

At 7 o'clock, P. M., Dec. 17, I directed the fires to be drawn from under the boilers, and requested the engineers to give free ports to their engines, so that they might work through the whole range of the steam to the best advantage. The pressure of the "gauge" was at 42 lbs.—the Corliss Engine making 37 revolutions, and the Lawrence Engine 46 per minute. Each of these engines was driving 400 feet of shafting and a large number of belts of running machinery. The "Southern Belle" was making 48 revolutions, but without driving any band to communicate power. The number of revolutions were taken and the pressure noted every ten minutes, until a quarter past 8 o'clock, and every five minutes afterwards till the engines stopped.

RESULTS.—At 7h. 20m., six pumps were unshipped from the Corliss engine shafting, without making any sensible increase in its speed, and when under 27 lbs. of steam pressure.—They were coupled again in one minute afterwards without retarding its speed more than half a stroke. At 8 o'clock the running machinery was then detached, the pressure then being 7 lbs.; this increased the speed of the Lawrence engine 2 strokes per minute above that which was noted 10 minutes previously under 10½ lbs. pressure—both engines turning the long lines of shafting, belts, loose pulleys, &c., the Corliss Engine made 14 revolutions, the Lawrence Engine 10. At 8h. 35m., both engines made 7 revolutions per minute under 2 lb. pressure; 4 minutes later the Corliss Engine stopped. The Lawrence Engine continued to work for 6 minutes longer, and made 20 strokes during that time. The friction of both of these engines, together with that of the great lines of shafting, must have been well provided for, to produce such results.

#### Committees on Patents.

The following are the Congressional Committees on Patents:—Senate—James, Evans, Stuart, Seward, Chase, and Thompson. House of Representatives—Benjamin B. Thurston, of Rhode Island; Samuel A. Bridges, of Pennsylvania; Andrew Tracy, of Vermont; Bishop Perkins, of New York, and Clement S. Hill, of Kentucky.