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THE PROSPECTS OF TRADE.

On all sides the business outlook is of the most cheering character. The statistics of the Treasury Department show that during the nine months ending with September the total exports of breadstuffs was in round numbers nearly \$209,000,000, or over \$30,000,000 more than during the corresponding period last year.

Our domestic trade was never being prosecuted with greater vigor, confidence, and profit. The great lines of communication are taxed to the uttermost to handle the merchandise now in motion. The trunk lines of railway report their western bound freights to be from 25 to 40 per cent greater than this time last year, while the eastward movement is fully 10 per cent above that of the corresponding period in 1879.

Not less cheering are the reports from manufacturing centers, East, West, and South. The mills and factories are running full time and full handed, and critical observers note as a source of special gratification that at no time since the war has there been so great a demand for tools and machinery required in extending old established works and for equipping new ones.

Even so conservative an authority as the United States Economist does not hesitate to say, what we had the pleasure of asserting more than a year ago, that the country has entered upon a period of productive energy and prosperity such as it has never seen before.

“With our currency on a specie basis, with our population steadily increasing through the active toilers of foreign immigration, with vast areas of rich virgin soil being constantly added to our productive growth, with all our vast industries in successful operation, with the balance of trade in our favor, with peace at home and abroad, with labor steadily employed and wages good, with the wealth of the nation rapidly augmenting, there is no bar in the way of our commercial advancement.

PROPOSED PALM OIL INDUSTRY.

Mr. Edward S. Morris, of Philadelphia, suggests that something profitable might be done in this country in the extraction of palm oil by means of naphtha. While in Hamburg, Germany, lately, he found three factories running night and day extracting oil from palm kernels, and tried to gain admission to them.

At Liverpool he learned that palm oil and palm kernels formed about two-fifths of the entire tonnage of more than twenty steamers trading along the African coast to and from Liverpool. The exportation of palm kernels from Africa began only a few years since.

Believing that the industry might be profitably introduced here and the importation of palm kernels made a useful adjunct to the trade of American vessels visiting the African coast, Mr. Morris brought home three tons of the kernels purchased in Liverpool.

likely to have facilities for extracting the oil, but found no one ready to undertake the work. He is still confident that the industry could easily be established here, and that it would pay. Seeing, however, that we have only begun to utilize the equally valuable oil of our enormous yield of cotton seed, there does not seem to be much probability of any rapid increase in the importation of African palm kernels for their oil.

THE EFFECT OF FORESTS UPON RAINFALL.

The effect of clearing land of its trees, according to the opinion of many meteorologists, engineers, and other scientific students of the subject, is to diminish the average rainfall of the country thus cleared, to lessen the outflow of the rivers, and also to cause such concentration of the amount of rain and snow within short periods as to increase the danger of floods to a marked extent.

Sir Gustav gives voluminous tabular exhibits of observations taken on a number of large rivers, extending over periods of more than 100 years in some cases, and in nearly every case it is found that the river surface has been lowered to a marked degree. The rivers cited are the Upper and Lower Rhine, the Danube, the Elbe, the Vistula, the Oder, the Moselle, the Main, the Theiss, the Tiber, the Po, the Seine, the Glommen (in Norway) and the Mississippi.

Sir Gustav claims that the destruction of forests, necessarily coincident with the advance of civilized habitations into new countries, not only diminishes the aggregate amount of rainfall, but it increases the tendency of floods. This is, of course, equivalent to saying that the rainfall (which word includes all atmospheric aqueous deposit, such as rain, snow, hail, dew, etc.) is concentrated into briefer spaces of time during the year, instead of being equally distributed; and as this concentration must have a detrimental influence upon agriculture, the importance of the subject extends beyond its effect upon rivers alone.

The observations of the Mississippi recorded by Sir Gustav were made at Natchez, Miss., and extended over a period of 11½ years. They showed a mean annual fall of seven-tenths of an inch in the surface level of the water, while the highest stages averaged nine hundredths of an inch higher each year, and the lowest stages thirty-nine hundredths of an inch lower each year.

THE BRUNTON TUNNELING MACHINE.

The Society of Associated Coal Miners, of the Bouchès du Rhône, in the south of France, have long had in view the cutting of a tunnel nearly ten miles long between their mines in the basin of Fuveau and the sea. During the last three years they have made many experiments with machinery intended for tunneling, at an aggregate expense of about \$40,000.