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The large list of patents now issuing weekly, indicates that the back cases are being rapidly disposed of. This will be good news to inventors whose applications have been long pending. We feel assured that hereafter there will be no such annoying delays in the examination of cases, such as have been experienced for two years past. Inventors will find the present a very favorable time to present their applications. We are prepared to furnish those who contemplate applying for patents, with complete and explicit instructions how to proceed. Our facilities for the prompt transaction of patent business are unequalled.

Patents granted in 1855 can be extended under the general law, but it is requisite that the petition for extension should be filed with the Commissioner of Patents, at least ninety days before the date of the expiring patent. Many patents are now allowed to expire which could be made profitable under an extended term. Applications for extensions can only be made by the patentee, or, in the event of his death, by his legal representative. Parties interested in patents about to expire, can obtain all necessary instructions, free of charge, by writing to this office.

MODERN ENGINEERING.

While Americans justly point with pride to the completion of the Pacific Railroad as one of the greatest feats of engineering accomplished in modern times, and Europeans are congratulating themselves and the rest of the world on the near completion of the great Suez Canal, there are some other works of importance already projected which claim attention. In fact, the principal difficulties in the accomplishment of the two immense works alluded to consisted chiefly in their magnitude. Magnitude alone is not enough to deter modern engineering from attempting any work in this age of enterprise, and very few natural difficulties exist which it has not shown its ability to surmount. Fell's railway over the Alps, with its unparalleled grades, noticed in another column, and the Mont Cenis Tunnel, have demonstrated that the iron horse can overleap or break through almost any natural barrier.

A rival to the latter work in magnitude and difficulty is the Mont St. Gothard Railway, now in a fair way to early commencement. Prussia and Italy have given, through their ambassadors, to the Swiss confederation, assurance of their readiness to aid in the prosecution of the work, and a conference has been held at Lucerne to initiate operations.

At this meeting it was announced, by Dr. Alfred Escher, that the necessary capital would be obtained from the following sources; viz., Italy, £2,500,000; Germany, £2,000,000; Switzerland, £2,000,000; thus making an aggregate capital of £6,500,000.

It is stated that the Italian projection of this road will be principally adhered to. This project includes a perfectly straight and nearly level tunnel of nine and one-fourth miles, which the contractor of the Mont Cenis tunnel has, it is said, offered to construct in eight or nine years, including steel rails, for £2,400,000.

The opening of the St. Gothard route will furnish an easy communication between Western Germany and Northern Italy.

Another work now under consideration by the municipal council of Bordeaux, spoken of by engineering authorities in Europe as the grandest, most important, and economical work that has been proposed for centuries, is the cutting of a ship canal from the Bay of Biscay to the Mediterranean. The *Engineer* describes the route and its possibilities as follows:

“Let any one cast his eye over the map of France, and he will see that if a straight line be drawn from Bordeaux through Toulouse, it will touch the coast of the Gulf of Lyons not far from Perpignan. From Bordeaux to Toulouse the Garonne is a navigable and busy river, so that over two-thirds of the line it is only a question of widening and correcting a waterway already in existence. From Toulouse to the Gulf of Lyons there exists the Canal du Midi, and by means of these an immense traffic is carried on between the southern and western departments of France. The line of water exists already, all that is required is to deepen and straighten it; and if this could be done in half the time mentioned at double the cost, it would be the most economical piece of work perhaps, that was ever executed.”

The projector of this work is M. Staal de Magnoncourt, and the work is estimated to cost 442,000,000 francs, or nearly \$88,400,000 in American gold. It is also estimated that it can be completed in six years. The completion of this work would afford a direct line of communication with India through the Suez Canal, from any of the northern parts of Europe.

Thus modern engineering goes on, making the paths straight for advancing civilization, startling the wilds of the desert with the hum of industry, and making arid wastes to bloom.

THE COAL MINERS' COMBINATION.

When the power of the trades unions has been felt by capitalists they have not only bitterly complained of the evils of these combinations, but have not hesitated to stigmatize their action, as subversive of good order, and partaking of the nature of conspiracy. They have sought for legal enactments, to tie the hands of such organizations, and have appealed to judicial tribunals for redress upon, to say the least, very doubtful grounds of legal complaint.

This journal, while it has never denied the legal right of combination and association, for any lawful purpose, has constantly maintained that such labor combinations were unwise; that although temporary improvement in wages might be obtained by such means, the universal laws of trade and commerce would ultimately prevail, and thus in the long run, time, which makes all things even, would make wages even. The beginning of the reaction has already come, in decreased demand for labor at the present ruling prices, in the enormous stimulus to immigration imparted by the current rates of labor, and the influx of vast numbers of workmen, skilled and unskilled, from foreign countries to overstock the trades. Nothing but unlawful means can prevent the employment of these workmen at less than union rates, and the result will be that the next step in wages will be a step downward. By demanding too much, the end of these unions will certainly be defeated, and from such over-demand, the leaders of these combinations—though in many cases intelligent and far-seeing—cannot restrain the mass of workmen. In this way these associations always fail to permanently improve the condition of their members. Combination and association are social powers of the greatest magnitude, but they are the most difficult to control of all the forces of society.

Capitalists can hardly complain of such combinations with a good grace when they set the example themselves. Certain coal miners in Pennsylvania, have been doing the very thing which they have so often deprecated in their employes. They have combined to limit the amount of coal which they will take out in order to augment prices. The *New York Evening Post*, has taken the ground that the power to take such action depends on the monopoly given them by the tariff laws, and so reasoning from particulars to generals, demands the repeal of those laws.

Now although we have maintained, and do maintain that the protective policy is what is needed for this country, we never advocated immutability in tariff enactments and are ready to concede that when a tariff intended to protect the labor of this country against the cheap labor of Europe creates a monopoly in any branch of trade or manufacture, that branch has been too much protected and the tariff should be immediately reduced. The free trade teachers would substitute annihilation for reduction in all cases; we say annihilation also, in all cases where it can be clearly shown the life of any industry is not endangered thereby. Not to prohibit importation absolutely, but to so far protect any industry that it can compete on favorable terms with the same industry abroad, is what we deem the extreme limit legislation should go in this matter.

But we are far from believing the coal business to have assumed the proportions of a monopoly in this country, and we have reason to believe that the demands of the employes have been pushed so far that to ensure reasonable profits on their business, proprietors have found it necessary to take some decided stand. The position they have taken as an organization is most unwise, and will eventually react upon themselves.

The same rule applies to coal-mining as to any other branch of industry. As advocates of protection we believe that the importation of coal from Nova Scotia, which the *Post* maintains can be done at the rate of \$5 35 per ton, by the removal of present duty on coal, would, if it gave us cheaper coal, cost us dear in the destruction of an important branch of

home industry. There is more than one effect which the adoption of the free trade policy would produce in this country. Yet that one effect is the one which is so alluring to the laboring man that it is constantly held up to his vision. Give us free trade and we will give cheap clothing, cheap teas and coffees, cheap sugars, etc., etc., cry the opponents of protection. But in their list of low priced commodities, they always omit the important item of labor. Labor so cheapened by small demand that it will go begging for employment at any price and finally be forced to cultivation of the soil as a last and only resource. Not that there is anything about the noble occupation of agriculture, as such, to be dreaded, but it is easy to see that with the labor of the American people entirely turned into this channel, such enormous depreciation in prices must ensue, as will render farming unremunerative, glut the home market, and compel us to carry our products thousands of miles to sell them. This part of the picture is never presented by the free trade preachers. The word cheap is charming to the ear of the masses, so long as it is not applied to labor; but when everything else is cheap, labor is never an exception.

The *Tribune* has shown, however, that the removal of the duty on coal would not allow the Nova Scotia miners to get it out and bring it to this market at the price which the Pennsylvania miners seek to obtain. That price is, we understand, \$5 per ton delivered in New York.

We do not think this price so extravagant as to justify the statements of the *Post*. It is difficult for outsiders to comprehend how with present prices of labor it could be brought here profitably at much lower rates. The *Post*, and its co-workers may perhaps succeed in convincing the workingmen of this country, that in order to secure cheap fuel, they can afford to submit to a large reduction in current rates of wages but our opinion is they will fail in the attempt. If, however, they succeed, the result will be so disastrous to the country that it will be compelled to return to the protective policy. The past history of the country warrants this prediction.

GENERAL DYER'S VINDICATION.

The charges against General Dyer were strongly urged, and have attracted much attention. Many who felt themselves much aggrieved by the treatment they had received from the Ordnance Department, were extremely bitter in their accusations, and vindictive in feeling toward the Chief of Ordnance.

A brief summary of the principal charges preferred may be necessary to give our readers a full understanding of the merits of the case.

It was charged against General Dyer, that he was himself an inventor, and that he took advantage of his position to advance his personal interests, regardless of the interests of the Government or the merits of inventions submitted to the Department.

It was further charged that by intrigue, in which he was assisted by other officers of the Department, he indirectly obtained the removal of Gen. Ramsey, and obtained his own appointment, in order to further the interests of certain contractors in whose transactions he was interested.

He was also charged with sending in an insufficient report, when the Congressional Committee made requisition for it, and willful suppression of important facts.

He was further charged with instituting what has been known as the “Rifle Projectile Branch,” entailing thereby a heavy expense upon the Government; that he exposed official matters to subordinates; that he denied the claims of Mr. Wall, the inventor of the “Springfield Alteration,” etc., etc.

But the charge which seemed to imply the greatest dereliction of duty on the part of Gen. Dyer was, that he refused to purchase and introduce certain projectiles which it is alleged he ought to have purchased.

A great deal of rancor has been displayed, and the prosecution have said many hard things during the course of the trial, but it has resulted in the entire acquittal of Gen. Dyer and the confirmation by President Grant of the finding of the court.

Notwithstanding there are many throughout the country who will remain unconvinced of the justice of the decision, we think no other could have been expected from the evidence produced, and we should be most loth to assent to the charge of unfairness on the part of the officers who composed the court, which has been made from some sources.

We have not space to give a synopsis of the evidence taken, which was very voluminous, but the opinion of the court upon the charge of not purchasing projectiles, which, as we have intimated, seemed to be the gravest charge preferred, gives a summary of the testimony upon this point.

The court said that “the question, according to the evidence presented, appears to be narrowed down to the inquiry, whether or not he was derelict in his duty in not purchasing, at an earlier date, a supply of the Eureka projectiles for service in the field; for, it appears by the evidence that full supplies were at all times in store for issue, either manufactured at the arsenals or procured through purchase—by General Dyer or his predecessors in office—of the Hotchkiss and Parrott and other projectiles, which previous to that time had been, or afterward were, considered valuable for service.

“Previous to the order of the 27th of February, 1865, the date of the order to Clifford Arrick, for 5,000 Eureka projectiles for experimental purposes in the field, it does not appear to the court that the Eureka had shown itself superior to some others of the most approved projectiles. Therefore, General Dyer, in not purchasing them to the exclusion of others, or in larger quantities than he did, only exercised such latitude of judgment as must always be permitted to officers in such official position. Nor is there any evidence to sustain