

long, and 50 or 60 feet broad, and is so arranged that five vessels can lay alongside and load at the same time. To effect this, the wharf is divided as it were into two sections, the half of the platform being raised about four feet above the other half or nearest the shore half. The loaded cars are brought along the railway on the more elevated half, discharge their loads at shunts fitted up with great ingenuity, and send them in a few seconds into the ships' holds. The emptied cars are then moved to the end of the wharf where a turn-table sends them out to the lower platform where they are carried back to the Colliery. Every part of the massive structure astonished the whole company of tourists. There is nothing, in fact, in Nova Scotia, with which to compare it. The fact that it contains about 20,000,000 cubic feet of timber, and cost about \$35,000, sufficiently indicates the magnitude of the work. Walking up to the head of the wharf, we are delayed for an hour or more, waiting for the locomotives, but start at length and pass over seven and a quarter miles of good railway, running into the very heart of the wilderness of Pictou County, then suddenly coming upon a cluster of buildings, with neat views of houses near by, and some distance off the Superintendent's house gaily decked with flags. The tourists at once adjourn from the coal cars to the dining room, where about three hundred persons sat down to a cold collation of a most sumptuous kind. After disposing of the viands as only really hungry men could, the party was called from labour to refreshment by Mr. Drummond, the Managing Director. The first toast proposed was the Queen, which was drunk with great enthusiasm. Peter Archibald, Esq., of Truro, starting that noble, ever fresh thought of repeated on them, God save the Queen, which was sung in the depths of the wilderness with as much heartiness as in the midst of civilization. The second toast was the Dominion of Canada and the Privy Council, which was received with every token of high favour. "The United States" was responded to by Judge Jackson in a very hearty speech. Major Norton giving way to him as the greater of the two to the people of Pictou. "The Army and Navy of Great Britain" was received in the way it always is in Nova Scotia—with unbounded applause—and called up Com. Gen. Strickland to respond, who dwelt upon the danger of war in Europe owing to the insurrection in Spain, trusted it would not spread, believed that it would not extend to Nova Scotia or to this Continent, but if it did England's arm would be stretched only in the defence and protection of Nova Scotia, though small—equally with larger portions of the Empire. Major Brooke, (80th Regiment), responded on behalf of the combatants as Com. Gen. Strickland had for the non-combatants. Major Norton, fired by a remark of Major Brooke, rose and in the course of a very good speech gave some home truths to Nova Scotians for their want of enterprise.

Mr. Drummond then proposed the Local Legislature and the Government of the Province, to which Hon. Robert Robertson responded. To the toast of the "Press of the Dominion," Mr. J. McKenzie of Ict responded.

After repeated call, Mr. Howe rose, and concluded a very able effort by proposing the health of Sir Wm. Logan.

The distinguished Geologist spoke hopefully of the coal district he was examining, declared that Nova Scotia was, of all the places he had visited the most abundantly blessed with remarkable mineral deposits of great importance.

A. Longley, Esq., Chief Railway Commissioner, made a very happy speech in reply to a toast with which his name was coupled. Several other speeches followed, but we have no time at the present to refer to them.

The colliery was visited by some few of the tourists, but the time was too limited to attend both to the coal and to the cold collation. Those who visited the coal seams spoke of going some seven hundred feet under the bowels of the earth, finding coal seams nearly 20 feet in thickness, works capable of hoisting to the surface a thousand tons of coal a day, and of shipping the same quantity.

The proceedings of the day were closed by a ball in the Masonic Hall, Pictou, which was a truly grand and pleasant affair.

PORT HOPE RAILWAY EXTENSION.—The *Guide* says:—On Monday evening last the Town Council unanimously ratified the agreement between the town and the Port Hope, Lindsay and Beaverton Railway Company, the same having been approved of by a meeting of the rate-payers previously held. By the terms of this agreement the town gives \$30,000 in harbour debentures, bearing interest at the rate of 8 per cent per annum, in consideration of which the Railway Company agrees to extend the railway to Beaverton by 1st September, 1870. A bill to legalize this agreement is to be submitted to the Ontario Legislature at its next session. We understand that the work is to be proceeded with at once, now that Port Hope has supplemented the grant made by Thorah some time since, and that it will be pushed through as rapidly as possible, it being the intention of the Company to have the work completed and the trains running on the extension long before the time specified in the agreement. The *Canadian* says the survey of the line of railway from Lindsay to Beaverton is being actively proceeded with, and will be finished in a short time, when the work of grading, &c., will be commenced. A. T. Williams, Esq., the able Superintendent of the road, with his usual promptitude, has, during the past week, been over the extent of the line to Beaverton, noting the primary phases of the undertaking, and making the necessary preliminary arrangements for its rapid completion. The Company being satisfied with the action of Port Hope in the scheme of extension, have made a proposal to the town of Lindsay, and one which, we trust, will be acceded to by the Council and people of that place.

COMPARATIVE VALUE OF CROPS, &c., IN NEW BRUNSWICK.

A GENTLEMAN in Westmoreland, referring to a short article published in our columns on "Hop-culture," favours us with some ideas as to the comparative value of crops. Barley is a very sure crop in that part of the country, seldom or never failing. Oats come next. Wheat is the most profitable grain when it is not struck with rust or weevil. This year it is good in Westmoreland and in Northern Counties, but occasionally it proves uncertain. It would, perhaps, always be well to sow a little wheat, as a few barrels of home-made flour, raised by each farmer, would add greatly to the wealth of the country, should there be a failure of the crop. The loss would not be very serious; of roots, potatoes are the most valuable, but they, like wheat, are a little uncertain. This year they are good. Turnips come next. The winters being long no farmer should neglect to plant a considerable area with turnips. Cabbages, beets and carrots are profitable, or would be if Westmoreland had a better market. Hops might be raised in great abundance in that county. They grow luxuriantly and raise large returns; few crops more so. Our correspondent, some time ago, visited the Eastern Townships of Quebec and found hop-culture there very prevalent, and very profitable.

We may add that the manufacture of sugar from beets ought to occupy much attention here. France, in the face of many difficulties, has succeeded in making the manufacture of beet sugar a most important branch of industry, and we notice that this is being done in some of the Western States.

Then there is the important department of stock-raising, one department of which, at least, sheep-farming, has never been turned to proper account in New Brunswick. Long as the winters are, with proper care, the means of feeding sheep profitably in winter might be provided. We understand that Grand Manan is one of the best places in the Province for sheep-walks, as during a greater part of the year the sheep can find vegetation on that island. No doubt there are other localities which present considerable advantages for prosecuting the same branch of industry. It is certain that by giving greater attention to the breed, farmers might soon double, treble, or quadruple the quantity of wool raised in the Province. This would surely be a very important matter. It is difficult to get our people to go into fishing as they ought to do, considering the boundless wealth of our coasts. Let us hope that the good crops of this year will encourage them to give more attention to the cultivation of the soil.

A NEW ELECTRIC LIGHT.

THE marvel of the town just now is an electric light which is displayed every night from the French steamer *St. Laurent*, of the Generale Transatlantique Company's line at the foot of Morton Street. This light is more powerful than anything of the kind ever before exhibited, and when its rays are concentrated upon anything, either upon the shore or the river, the object is illuminated as much as if it stood in the light of the sun. The inventor is M. Berlioz, of Paris, who has received permission from the directors of the French Steamship Company to place his apparatus on board the *St. Laurent*, in order to show the adaptability of the light to the purposes of ocean navigation. Captain Bocande, of the *St. Laurent*, is enthusiastic in praise of the invention, and exhibits it to inquirers with great cheerfulness. He has tested its power in the docks at Havre, in the roadstead at Brest, on the voyage across the Atlantic and at the pier in this city, and feels convinced that one of its uses on steamships would entirely prevent danger of collision at sea. The brilliant rays of light will penetrate the densest fog as well as the blackest darkness, revealing the course of the vessel so great a distance in advance that ample time would be given to change the direction of the ship if an emergency made it necessary. Another advantage of the light is to be found in the fact, that by its use the hold of a ship, or the engine-room may be illuminated at night, and the work of loading and repairing, or any other kind of labour, be carried on with as great facility as by daylight. Where despatch is of so great importance in the management of a steamship line, this is a feature of much value in the invention. In addition to these good points, there is a third which is also of great advantage. By means of the light a code of night signals might be established, which could be interpreted with greater ease than any existing system of day signals.

The light is exhibited from the bridge of the steamer, and being set on a pivot, may be turned in an instant upon any part of the ship, aloft as well as on deck, upon buildings on shore and upon craft passing on the river, throwing the smallest objects out into a brightness clearer than noonday, an effulgence which is startling by contrast with the surrounding darkness. Directed upon a vessel half way across the Hudson River, the light bathes her in a luminous halo, which enables the observer not only to see everything upon her decks, but also to fancy that he can detect the astonishment depicted upon the faces of the crew at being thus suddenly suffused with an illumination so powerful. An ingenious arrangement of the electric force permits, also, the instantaneous extinguishing of the light on the bridge, and its appearance at the same moment in the fore-top. The only objection to this wonderful light is the price of the apparatus, and this, perhaps, will for a time prevent its adoption on steamships. The mechanism, *lenses*, &c., of the light on the *St. Laurent*, cost \$3,000 in gold, but it is hoped that this amount may be reduced to \$2,400. The cost of supplying the electric force is estimated at 12c. per hour, which is not by any means expensive. —*New York Paper*.

THE PATENT MONOPOLY.

The Effects of the Patent System on the Progress of Sciences, Arts and Manufactures.

At the meeting of the Bristol Association, in the section of Economic Science and Statistics, Mr. H. Dircks read a paper on the Patent Monopoly, as affecting the encouragement, improvement and progress of sciences, arts and manufactures, of which the following is an abstract:—

Patent law is based on the principle of considering it to be of public advantage to protect the secret invention, whatever it may be, by securing to the inventor the sole use of his invention for fourteen years, under letters patent granted by the crown. It is thus that patents are now, as of old, obtained on the payment of certain fees, and the lodging of a complete specification (together with drawings, if needful), exactly describing the nature, object, and mode of working the alleged invention or improvement. But the patent laws have, under different reigns, undergone great modifications. The system that obtained during the reign of Elizabeth was strikingly absurd and obnoxious, operating to encourage perverted and fraudulent ingenuity, and it was only on the accession of James the First to the throne that patent monopoly was limited to the "sole" working or making of any matter of new manufactures. Unfortunately it was not at the same time required from the inventor to state more than the title of his invention, to which he generally added an inflated statement of its wonderful properties. This lax mode of obtaining patents for inventions which might be real or purely visionary, continued for nearly three centuries, and it was only late in the eighteenth century that specifications formed necessary adjuncts to the titles of patents. In considering the system of patent monopoly we must never lose sight of these progressive stages, otherwise we shall continually fall into the error of raising objections to patent monopoly on obsolete and admitted defective patent laws. From October, 1852, the mode of obtaining patents has been simplified, and great facilities afforded to inventors; the patent fees have been considerably reduced and made payable at three stages of the term of fourteen years, amounting to a saving to the inventor of 50 per cent on the fees for the United Kingdom, as compared with former practice. It is now sought to introduce many excellent reforms, to admit acknowledged facilities, and to render patents less liable than they are at present to clash with private interests in similar property, to be effected through the medium of specifications undergoing a thorough examination by an authorized legal and scientific body of examiners. This sketch, although necessarily brief, brings under observation—1st. Secrecy in invention as one mode of securing to an inventor the monopoly he desires to possess in the products of his own ingenuity; 2nd. The adoption of patent monopoly, under the existing law; and 3rd. The progressive improvements in patent laws from the reign of Elizabeth to 1852. Letters patent simply afford a monopoly in products which are novel, useful, and economical, the result of individual investigation, ingenuity and enterprise, and of which the public, that is, the community at large, would otherwise have been deprived. Patent fees are the smallest part of the charges incurred by inventor; hundreds, and oftener thousands of pounds are totally sunk in mere experiments; and often when a valuable patent is obtained, its possessor may have to spend years and a fortune in bringing the manufacture to perfection. Metallurgy abounds with examples of this kind, as does also chemistry, weaving, dyeing, ship-building and every department of industry. Who among these arduous workers would have dared thus to devote their time, energies, and capital to reap the cold and doubtful acknowledgements in a pecuniary form from any body of manufacturers, however numerous and wealthy? It is not in human nature to devote capital and ingenuity to the perfecting of mechanical or other operations in arts and manufactures without reaping a substantial benefit, arising from a percentage of profit on the advantages gained by a new or old manufacturing process. Much has been said against patent monopoly on the ground of a large number of patents being obtained for subjects which are pronounced to be frivolous, and, of course, worthless. Now, a steel pen would possibly come under this category, and, perhaps, also a button, hook-and-eye, pins, needles, tape, ribbons, gloves, shoes, hats, nails, screws, and others of a similar class. But most of these, like the sewing machines, require ingenious mechanism for their production; and being articles of large consumption, not only is an extensive manufactory erected, one for pens, another for nails, a third for screws, and so on, but the working of the newly-patented article may involve an outlay of capital, which surely deserves as much protection as capital employed on patented engines, steam-hammers, and other large mechanical appliances. To some minds all is meretricious which they cannot immediately understand; and if a dozen instances out of 2,000 patents granted in one year can be shown to be absolutely worthless, the whole fabric of patent law is decided on no better grounds than the production of a few exceptional cases, than which nothing can be more illogical and unjust. The most cursory view of the progress of patent monopoly shows how gradually it increased. In the time of James the First seldom more than 1 to 6 patents were obtained per annum; Charles the First, 1 to 15; Charles the Second, 1 to 6; Anne, 1 to 10; George the First, 1 to 29; until in the reign of George the Third they rose from 60 to above 100; and at the end of the last year under the old patent law presented a total of 580; against all of which we find the operation of the patent law of October, 1852, giving for three months a total of 1,211; next year, 8,045; the year following, 2,754; and in 1856, a total of 2,858 patents. The conclusions we draw from these facts are, that excessive patent fees are a serious tax on the inventive