# INDUSTRIAL

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### AND NATIONAL ECONOMIST.

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### Industrial World

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#### SILVER QUESTION COMING UP AGAIN.

slar question is evidently coming up again a;; mrs likely that before long another internaconference will be held, with the object of ng, it presible, what place silver coin is to occupy. oney in the civilized world. It is the doctrine ogold currency school that eilver should be used ken money only, as a convenience in the way of It change, but not at all as the standard money of nerve. The silver advocates, on the other hand, rence only that more of it will be required to reenta given value. About three your ago an innational conference was held at I aris to consider same question, France, Germany, England, Italy, THE QUESTION OF A NATIONAL I a ted States and other countries being repreited, but it came to nothing. The movement in or of silver was supported by France, Italy and the ited States, but England and Germany were hosand to effect anything the action of all the powers concert was necessary. It appears as if some of parties to that conference had subsequently obnel "new light" on the sunject. Bismaker, for appears to no realizing that he led Germany into aga itle blunder when he tried to break up the old ablished silver currency of the country, and to make tavorable circumstances in Canada. d the sole standard. From this capital error much nmercial suffering and prostration of industry has well, and in the dear school of experience a bitter on has been learned. The effect of demonetizing ver was to increase greatly the weight of all debts, blic and private, to make the rich richer and the or poorer, and in a general way to set the current change in a direction in which no pairiotic Governentshould wish to see it going. It soon appeared at, in some way or other which people could not count for, property was depreciating in value, so at the man who ewed a hundred thalers felt the eight of two hundred upon him. It is beginning to seen that the gold craze is mainly what has done to mischief, and now Biswanck is anxious to retrace stops. Of course, in estimating causes of domes-Pauliring in Germany, or indeed any other of the at nations of continental Europe, the terrible opa r'en of armed peace, which is becoming almost as vier every year must be admitted Still, for the

means settled against allver as a standard; though he, I they could for a time be expressed to Canada after in common with some others, felt that the time had being used in England at mere nominal cost. We not then come for moving in the matter. Perhaps it has come now, at all events it is coming, it appearances be not deceptive. The United States having made the first move. France strongly supporting, an international monetary conference is soon to be held in Parls. And this is what the London Econosciet, a pronounced gold currercy organ, has to say on the occasion -ult we can est enter the Monetary Conference on the same footing as some other parties, we shall at least exercise towards it a very benevolent neutrality. Should, for instance, such a proposal be made to increase the quantity or fineness of the silver in our coinage so as to make it less of a mere token currency, we should hardly object, or to increase somewhat the amount to which silver may be a legal tender Anda despatch from Paris to the same journal mys - "The idea of abandoning the proportion of 15] to 1 between gold and silver, as recomended on Secretary Sheaman's late report, is supported by an apparently official note in the Journal der Debate A telegram received in Paris, from Berlin, states that Prince Brewards has said, if the United States accepted a return to the bimetallic system, he would support the representation of Germany in the Conference." Should this prove a true indication, and should France, Germany and the United States throw their influence in favor of the double standard, England remaining neutral, the thing will almost certainly carry in the Conference. Evidently the whitligig of Time is bringing about certain revenges, the gold at indard men do not "hold the fort" with anyend that the white metal is and ought to be as thing like the strength and security of a few years a standard money as the yellow metal, with the lago. Further news of the conference movement will le looked for with interest, in both Europe and

### TARIFF CONSIDERED—GENERAL RESUME OF RESULTS.

Continuing the consideration of this question, we will now discuss the criteria of the distinguishing characteristics of a suitable tariff for Canada. And let. We have expressed ourselves in favor of the imposition of such a duty on foreign manufactured goods as will enable us to produce all such manufactures as we require, and which can be made under

2nd. We are in favor of the free adm raw material and commodities, used in domestic of labor is spent at home among our tellow citizens, consumption and manufactures, and which cannot be not sent abroad to build up foreign labor and capital. produced in Canada

3rd. We are in favour of species as against ad alorem duties to the greatest extent possible.

4th. Wo are in favor of indirect as against direct

5th. We are in favor of judiciously subsidizing for a time certain manufactures of steel and fron in order to facilitate an early development of these great branches of industry, and open up and utilite our inexhaustible and rich mineral deposits.

oth. We are in favor of the imposition of such a duty on toreign agriculture as is imposed by other moreover, all the conditions essential to success, to countries on our ow

duch a tariff should to framed after a most exhaustive and comprehensive study and discussion of ful parliamentary following to second their designs, the question by the best adapted minds in the coun- a country teeming with resources, to render practiher - burden to be borne as war itself, must be con- try to impart the necessary information in the preved. But the burden of the continental military mises, and the results of such a tariff as we have modern science and invention to enable Canada at the tem is no now thing, though that it is becoming already in previous articles clearly demonstrated outset to secure everything that can afford certain foreign industry." would not be to enhance the price of imported goods biration of German commerce and industry recent- in proportical to duty imposed, as illustrated by exome other and additional cause must be found; perience in the United States, but to afford us a German statemen, whether rightly or wrongly, healthy revenue, and at the same time transfer the treat, giving employment to 1,000 hands, what does we now that they have found it in the exclusive burden of taxation from the necessaries to the luxstandard which a few years ago was forced upon uries of life, besides producing many other happy represent a population of at least 2,500. What Leonard will make his Budget speech, which is saticucontry. And oven in England, where the "gold | results. It will enable us, as it does the Americans, | would the closing of this factory and consequent | pated with much interest. The Minister will be able bave had things all their own way these sixty to perfect the quality of our manufactures and by im. expatriation of these craftsmen mean? A loss of to inform the House of the result of the working of Past, doubte are being expressed in high quar- proved machinery and competition to diminish the 1,000, of 2,500. Much more. These artisans require the new policy introduced during the cossion of 1870 whether the gold theory be really the right one cost of production, and the result will be that we will boots, shoes, hats, caps, mest, bread, roots, reger! The present year is the first which can be properly rea truly imperial point of view. For England, as soon be paying the highest price for labor, the highest tables, medicine, clothing, houses, wood, etc., etc., ganded as a test one. That the announcement will be

Pean, but also an Assatte power and the Interests, lowest price for manufacture I roods to those contres sadditional industries which they manufacture or add mey, the prefidless even, if you will call them such, of population where they are produced. We may be to in all its various forms, require the serve things signal for another mutius. Mr. Gosches, who res New England. We are not producing as yet a presented England at the last conference, is pre-emissionale yard of printed cotton or what is more combently a London "city" man, and one mest unlikely monly called called. A duty of 5c, per gard on this to be influenced by mere sympathy or sentiment, if class of goods would tempt some of the great Eaghe believed that hard financial facts pointed the other lish houses to open a large manufactory in Canada to way. But on that occasion even he let it be unders supply the local demand, and instead of an immense stood that his own personal convictions were by no cost being incurred for patterns and block designs consume many million yards of these goods in Canada and we should produce rather than import them. The tariff of 42 in the United States ensured their production in that country, and the result has been everything claimed for it. Again, something should bedene to develop our inexhaustible mineral deposits? Why should we not produce instead of import the 250,000 tons of steel raits necessary to span the continent from Nippising to Burrard Inlet? We suggest to the Covernment the advisability of offering a subsidy of two acres for every ton of steel rails produced in Canada for that road Say 400,000 acres as a condition of erecting blast furnaces in Causda, and producing 209,000 tons of steel rails for the Canadian Pacific Rallway, Ottawa, above all places in the Dominion, would be the spot best adapted for their manufacture, for the erection of such furnaces. Charcoal can be produced in this vicinity at 5 cents per bushel, which will be as cheap as coal at \$2.75 per ton. We have inexhaustible doposits of the best from and can procure the highest skill which modern scrence has yet produced for the erection and working of these furnaces, and the subsidy added to the cost or transportation will render their production cheaper to the Syndicate than their Importation. Ottowa, with her perfected system of rail and water communication, in the centre of a great mineral and lumber region, is the best distributing and manufacturing centre which could be selected. The effect of such a gigantic industry in the capital and Ottawa district cannot be over-estimated. It would add fifty per cent to eve population, fill every vacant fenement, and cause a demand for hundreds more. It would create a home market for all the surplus agricultural produce of the Ottawa district, create an immense circulating medium in our community, enhance the value of every city lot and acro of land in our vicinity, and give vast freights to our trausportation companies. We urge on all Ottawa members to use every legitimate means to ensure its adoption. The disciples of the ex-Finance Minister may ask if the establishment of domestic industries do not involve too much cost? Almost anything worth having, costs in the first instance. It costs to be educated, yet enlightenment at the price of study and gold, is cheaper than ignorance an naturel free and unaderned. It costs to build canals and The general good resulting from the general consideration of the whole is the great object to be considered. We should manufacture every rail, build every engine, make all the plant necessary to equip and run the Canadian Pacific Italiway in Canada. Such a resolve would by a grand stride, a bold and comprehensive move in the path of protection and progress Sir Criss. Torres, and Sir Leonard Tiller have a chance of rendering lasting services to the industries of Canada, of winning the applause, the graticude of their fellow countrymen. They have, realize such a bold conception-a great leader to assist, to advise and direct the undertakings-a powercable such a resolve and the accumulated skill of success. In a word the best means of making the best rail and plant which the present age produces. Suppose, for instance, a factory L opened in Mon-

this mean? One thousand factory employee will

of her two hundred millions of Indian subjects, may asked if the present tatiu has any defects. In our bo that each theusand artisaus probably adds, in one not lightly be disreparded. Silver is the only money opinion it is not perfect. It is not what Protect way or other, 5,000 additional to the population that these two hundred raillions know or will use, cionists would call a selecutic tariff in some respects. Have our fre-trade friends ever considered this and to abolish silver money in India might be the it discriminates too much in favor of Manchester and What emptied one-alith of the houses of Montreal under the late regime? The closing of the factories. What stunted the growth of the city during that data era! The impediments which the tand raced to the establishment of new industries and the development of diversified labor. All the artisans employed in the factories of the metropolis wanted homes. It required carpenters, iciners, bricklayers, painters, planterers, roofers, plaziers, workingmen of all kinds to erect these hower. It required vast quantities of sgricultural produce to fill the stemachs of the various crastamen which the tastit furnished with a purchasing power, and although to-day the same clouds freat over us the same sun, moon and stars light the beavens by day and night, in the language of Webster, how altered! and how changed! Of 2,000 notes falling due on the 3rd of February in the tank of Montreal, not one was protested!! Among the thousands of vacant houses in Montreal in '78 not an empty place is to be found, and the demand is for hundreds more. The market is slooded with money for investment. Capada fours are worth more than Canada sixes were formerly. Our aims houses, except for the old and infirm, are empty, and the soup kitchen is now a matter of history. The rallways are unable to carry the feel, ht offered to them, and the demand for increased accommodation is met by the employment of thousands of able hands, working night and day to meet the public wants' Never was there an era promising greater prosperity for Canada Bank stocks have appreciated 374 per cent., and all securities have become correspondingly improved in value, and the prospects of a £1,000,000 surplus for the figureful year ending 1st July, stares us in the face to terrify us into a Free Trade Policy! It it is a had policy to snap homes while crossing the stream, we think it would be rather imprudent to risk a change from prosperity, under protection, to one of promised increased (?) aggrandleement under free trad; No gave some statistics in a rocent article about the Redpath relinery. There are about 500 persons connected with that industry, and they paid out in a single year \$125,000 for labor, \$60,000 for cartage, consumed 15,000 tone of cost, costing \$65,000, imported to cargoes raw sugar and Teo cars of the same article, and filled 400 vacant houses in the city' When this sole industry accompilated so much under the National Policy, what must not the latter have achieved in the thousands and tens of thousands to whom it gave and gives constant employment? But again, suppose we adopt a reminal tariff; suppose the United States follows our example, what will be the result? The pauper labor of Europe, its cheap capital, their great resources will crush out our domestic industries, pauperize our own labor market in maintaining the unequal contest, the railways, etc -it costs to legislate and educate-but | purchasing power of the masses diminish, and exthe results are more than commensurate to the ex. | patriate our artisans to seek employment abroad which pense, and the money disbursed in creating a diversity they cannot find at home. Look at the contrast between the ambitious city of the West with all Its factories and diversified labor in the full tide of prosperity, and the homes of the masses the stores of the merchants, the mansions of the wealthy, the material and social development of the people. And then glance at the Aucient City with all its great commercial advantages. Compare the relative conditions of the people of these two cities. The one a manufacturing, the other a non-producing city. Are not all the material comforts of life inunitely more enjoyed in the long dreaty winter see on in our west. ern rather than in our historic castern city? Truly did Gazzazy say, "infinite are the uses of labor, but its bighest fruition is man! Well did the greatest statesman, the greatest genius of the American Republic say in 1832, "that the transformation of the country from gloom and distress to brightness and prosperity, was the work of American legislation fostering American industries, instead of allowing them to be crushed by foreign legislation cherishing

Tits Estimates of the Dominion of Conada for the year 1881-2 were laid on the title of the Hopse of Commons on Tuesday by Sir Lass and Titley They will be found in another column. On Friday, Sir 

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## - A POPULAR ERROR

Letterer plant wirked to London with one brought from forther advances. vilate w as I fuel fr to Aterioen?

To which the Areners Man Section (Littaling) that repiles -

Is not one knought to English Bestemer works from trints fettber away toan filest w? What doon counts d with the are they import from Spain-and Africa, ton, we Let us see The North Chinego Rolling Mill got at out 3 or mater-ear dame for the are, and for-not 80% at our contemperary save-for its fuel, making wh miles at the outsale for both. The Bessemer Works at Sheffell, to get as go-d ore as the North Chieses uses, must go se far as Lilban, which most be about 7% miles, and for fuel, say 50. miles, making be miles in all. According to our figures, therefore, the North Chicago goes about 911 miles for its ere and feel, while the Sheffeld Bessemer werks, to get as good quality of ore and fuel, must go something like 800 after all. But suggeste the western railroad had to get ore and fuel from Sheffield, in the share of steel rails, then to miles would have to be added \$,000 more, making a total of 4.50 miles, as compared with 9 amiles. Hence the trans-Mill. Furthermore, al! American works are not as far away from ore and fuel as the Chicago, the most or them are contiguous to either re or fuel fields, and some of them to koth: but the first named works is, with possibly one or two eleventh hour repentance came too late, the masses exceptions, nearest the field of greatest railroad construct of the people had got it into their heads that a Demotion, which is a factor that it will not do to omit from the calculation. As to the completeness and productiveness of American Bessemer works the undenlable fact that either one of them can produce several times as much steel in a short time left it was utterly impossible for any man

given time as either of the English works to sufficient evidence that Mr. Jean's statement is correct " The enterprise of iron-making in Canada is hindered by a prevailing popular error with regard to distances, much the same as that for which the American paper just quoted takes its English contemporary to task. Just as the English journal would discourage the attempt to make steel at Chicago, so do some people discourage all attempts to make either fron or steel in Canada. "The distance"-they are continually saying -- the distance we would have to carry | term is about to expire, the Democrate have had a small coal is fatal to the enterprise; It is a difficulty that can never be got over". The superior advantages of the United States are cited to discourage fron-making in Canada, just as the superior advantages of England failed but one. That one was for the removal of the are cited to discourage iron-making in the States, Now, it is true enough that there are many iron furnaces in Pennsylvania, which have both coal and ore cheapen the great fever specific to the people it has near at band. But the mistake lies in arguing as it proved no success at all, but a failure instead, quinine what is true of some American furnaces were true of all. There are furnaces in New York, Ohio, Illinois and other btates, to which ore is carried nearly as far prices to correspond, and the benefit to American as we would have to carry coal, in some cases perhaps | " consumers" of quinine was nil. The same strength farther. Look at the Canadian ore from the Ottawa of public opinion in favor of Protection, which dedistrict, and from back of Kingston and Belleville, cided the Presidential election, continues to show carried all the way to Cleveland. At the mines it may litself in various ways. Mr. Blains, where position be worth perhaps a dollar a ton; but after the long as the expectant Secretary of State in the new Cabinet carriage to Cleveland it has become worth nine doilars. Then look at the immense quantities of ore bill in hand for subsidizing an American ocean marine, from the Lake Superior from district, which are carried after the example in favor of which the French Chamall the way to Cloveland, Pittsburg, and even further born have recently decided. Even in the present east. The truth is that coal to make a ton of ironand Canadian coal too-can be delivered on our own ist drift. The Ways and Means Committee recently side of Lake Ontatio cheaper than Canadian ore is reported in tavor of abolishing over ten million dotdelivered at Cleveland and other points to which it jars of home taxation, heretofore levied upon savings is now exported. A considerable number of Ameri- bank and other bank deposits, bank cheques, also can furnaces, aggregating a very large annual out- patent medicines, perfumery and matches of home all proportion of their ore from distances of one hundred, two hundred, and even four non-protective taxes on imports, which is abolished, or five hundred miles. And both Spain and Norway goes to strengthen the case for the retention of those send large quantities of ore to England, to keep the taxes on foreign commodities which are protective of BESSERER furnaces going. These facts seem to be home production. To take a case that touches ourlost sight of in Canada nearly altogether; we allow ourselves to be irightened by the bugbear of " dis- the stamp duties, which protect no home industry, tance." We seen " lion in the path," and come to the | would greatly strengthen those portions of our N. P. slothful man's conclusion with regard to iron-making tariff which are really protective in their operation at home, while our more enterprising neighbors take | For this reason we shall gladly see these taxes and the precious ore, with which we can do nothing, and carry it hundreds of miles to their furnaces, almost as far as we would have to carry the coal to ours. The mineral treasures with which Providence has endowed the Dominion are worthless to us, just because we have not the energy to use them, and the wit to help ourselves. It has been said that what man has done, tariff clauses has been so loose and ineffective as to man can do; what, then, binders us from making iron here, as they do on the other side? Let those who say that we cannot do as our neighbors are doing give a good reason why. It is not the natural difficulties that are insuperable, by any means; the main difficulty, insuperable so far, lies chiefly in our want of courage to follow the example-aye, and the successful example, too, be it observed-which is before our turers in his treasury decisions as to the interpretanoses. With an efficient measure of Protection guar-

CARRYING COAL AND IRON ORE full fleight both ways, and the cost of carriags will be protection to American manufactures, and who will reduction the minimum. It is troly an in mentional mot operate to his decisions the spirit and purpose plicace to call this a progressive and enterprising of the tariff laws, where ex usions of duty are attempted As Exalish trade portal—le a-published in country, shed we are helpless to do anything with by ingentious contributes after the Lorder, the stried best ow recently, the advantage the treatures of fron the which Providence has be- well with recent experiences in Canada since the that English Beassvan steel furnaces have over the stowed up in us defean think of to think better thou new tariff came into force the ingenious contributes same hind of works in the Western States in the Cosellat to our pushing and witnessade neigh for evading its plate intent and purpose have been me the there reductions over which a deriffich on boars for hity cents or ad there for my boar we but both numerous and activious. For instance, the inthe finished from back from them at \$100 a ton, which crease in the quantities of goods coming in under the "C mine firexonalise" waste to fithe North Clience may remind us of what our answeters in the Mother designations of emincipal and eccusaries cloths R they Mills with hard of however with in the and country were in the hatit of doing long ago, when was perfectly amazing, people who did not "know tr. steech the relicited to the fermion flower that the finite of the Duch to day, but the part import of these wondered what the immensely friend is to of the master flower, plants and to the finite of the finite of the part of these particular goods really restrict in the courts. We dear at noth about the master that the tests for a shifting. This rough he a licercand import of these particular goods really restrict in the courts. We dear at noth about the con-L'elector av 1 pr loctor con f Au eroat Research first great country, with only a little more National Policy meant. The storple explanation was that the square of the Bominion of the great review of the gr that acred to the north to the period to country, with only a nettle more matienal restry were used to cover goods which before had other taken place in manufacturing sireles as the north to the north to the purpose of the operation of the existing tariff the restrict of the north to the purpose of the operation of the operation of the existing tariff to the north to the north to the operation of the existing tariff to the north to the north to the operation of the existing tariff to the north to the operation of the existing tariff to the north to the operation of the existing tariff to the north to the operation of the existing tariff to the north to the operation of the existing tariff to the operation of the operation operation of the operation operation operation operation operation operation operation ope re a distance of 60 miles. What we at he at well of public opinion up to the point necessary for making outselves have experience of this sort of thing, but

#### TARIFF MATTERS IN THE UNITED STATES.

btates elicited a very decided and powerful express on of public opinion in favor of Protection as the settled years' time has developed, have saked for a Commission of two new elevators. At present the winning policy of the country. Neveral weeks before the day to investigate and report, in order that Congress may of voting it became apparent to the Democratic lead- at an early day make the necessary amendments. ers that the free trade doctrines which their party had For the strengthening of the general principle of inherited by tradition from an earlier time, were not Protection it is deemed necessary that details be popular with the masses, and that the suspicion of amended. Whether precisely in the way now their being opposed to the Protection of home induswiles So the difference in transportation is not so great try, would lose them very many votes. Alarmed at other way, it may be considered certain that the work notes in circulation, \$25,926 910, total hat no the prospect, they tried another tack, and gave out referred to will be done without very long delay. \$120,796,583 total assets, \$191 806,257 that wa tariff for revenue only? meant merely the And we may rest assured that the American National doing away with a few chnoxious features of the portation question, as viewed from the Western standpoint, tariff, leaving its main principle unchanged, while being disturbed, but is instead of that about to be shows up quite favorably for the North Chicago Rolling their candidate sent out to the country, over blusig. placed on a broader and firmer basis-on the basis of nature, the declaration that "all talk of Free Trade was folly" for the American nation. But this cratic victory meant danger to the tariff under which American industries were prospering, and in the or any organization, however powerful, to act upon the masses so as to convince them to the contrary. In the elections to Congress, and to various State Legislatures, the same strength of popular persuasion | cent Staff re-arrangements, expense of changes, etc., in favor of the existing system was shown, and the result is that the next Congress, which begins its Parliamentary existence in March, though it may not meet for business until December, will be Protectionist by a considerable majority in the House, with nearly an even inlance in the Smate. In the Congress whose majority in both Houses, but owing in great part to the strength of Protectionist public opinion out of doors, all the attempts at Free Trade legislation quining duties—the single free trade success in Congrees that has to be recorded. But as a measure to remaining at the old prices. When the duty was taken off, the fereign makers simply raised their gives importance to his views of public policy, has a Congress what movement there is takes a Protectionmanufacture. Every million of home taxes, or of scives, the abolition of the ten and coffee duties, and of others like them repealed, as soon as the requirements of the Dominion exchequer will permit. But, to return to what is going on over the border. It appears that, however clear the intention of the framers of the present tariff to give protection to home production must be held to be, the wording of many and various leave loop-holes of secape from its operation, and parties interested in importation from abroad have not been slow to avail themselves of the chances thus afforded. Popular as Mr. Secretary brunnan is, by reason of his successful national phanciering and his high personal character together, it is charged that he has shown a disposition to favor the torsign manufaction of the statutes; and strong representations are anteed in the first place, which is of course indis- being made to the President-elect on this subject. A \$55,345,884, corn meal, 384,177 barrels, of the value On Mr. Patterson calling Mr. Bowell's attention to the pensable, the solution of the fron problem, where the memorial is now circulating in all the fron dis
of \$1,127,383, oats, \$24,025; Tye, actuated exports, the Minister pointed out the deep to the first pointed out the deep the first pointed out t coal and the ore lie far apart, is simple enough. Erect tricts of the country, and is being signed by 2,346,955 bushels, \$2,161,092; wheat, 134,701,146 tive nature of the representations, and mentions. two sets of furnaces, one near the iron mines, and the nearly all the hading firms in the trade, request-bushels, \$62,463,752; whoat flour, 6,845,920 barrels, the fact that the supply of the home market k'', where near the coal mines, and carry the ore one you ing the appointment by him of a Secretary of \$38,141,723. The total value of the exports of bread-manufacturers busy. Mr. Patterson's representative. other near the coal mines, and carry the ore one v ing the appointment by him of a Secretary of \$38,141,723. The total value of the exports of bread-

they propose to meet it and check the evil ere it proceeds much further. Another tatiff movement we note on the other side in favor of the protective system. American wool growers, believing that it is necessary in the interest of Protection to revise and The Presidential election of 1890 in the United reconstruct the tariff, so as to bring it into harmony with the new conditions which the lapse of twenty creased by 2,500,000 bushels, the result of the consuggested, that is, by a special Commission, or in some Policy of Protection is in no danger whatever of duration as the settled policy of the country.

#### THE ESTIMATES.

On Tuesday afternoon Sir LROYARD TILLET brought down the Estimates for the year ending 20th June, 1882, also Supplementary Estimates for the year ending 30th June 1881. The latter cover the following items .- Civil Covernment, \$4,242.82, Penitentlaries, \$3,070.75 , Legislation, \$10,050 , Militia, including allowances to officers retiring under the re-\$19,345.75; Railwars, \$171,349.68, Public Works and Buildings, chargeable to capital, \$4,402.71 -chargeable to income, \$44,011.76; Ocear and River Bervice, \$16,077.30; Geological Survey, \$10,000; Mounted Police, \$190; Indians, \$212,381; Miscellaneous, including \$5,000 for Civil Service and \$12,500 for Pacific Rallway Commission, \$31,306.27. The total sum is \$865,586.57. The following is a summary of the Estimates for next year:-

Service.	Total Amount	Compared with	
	1891-82	Increase	Decrease.
	\$ cu	8 ote.	8 ets.
Public debt, including	9.201.335 50	219,605 37	
Charges management	9,201,985,60 215,977,96 960,968,16	19,435 86	I
Civil Government. Administration of justice	569,490 (0	39,166 50	E 473 M
Police	599, 499 (0 13,500 0)		138 78 20,725 71 4,076 30
Penitentlaries	292,945 61 634,266 60		20,725 71 4 076 50
Arte, Agriculture, Inclu-		!	1,
ding ceneus Immigration and quaran-	222,300 00	١,	ł
Penelone, Including sup-	194,266 00	]	6,680 00
	1 201 204 V4	1,663.86	1
Militia	1407m M	1,663.26 61,300 00	i
	70,500 00	22,000 00	}
Public works and build.			1
logs, chargeable to in-	1,371,275 40 629,723 33	127,771 97	1
Ocean and river service Lighthouse and coast ser-	629,725 33	86,140 00	1
_100	1 480 354 00	1	6,915 00
Fisheries	92,800 00 48,900 00	8,400 00 500 00	
Marine Hospit's and sisk			į
and distressed seamen Steamboat inspection	64,000 00 15,000 00 10,000 00	1	
beneriatendence of Int.	10,000 00		1
Co's. Bubiidles Geological Sur-	3,467,520 00	33,910 18	
TATALAN	50,000 00		6,000 00
Indians	623,378 60 290,000 00	1	28,657 45
Miscellaneous	150,060 00	49,750 00	)
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Excise.	732,119 00 271,855 66 05,900 00 83,353 00	22,106 66	100 00
Culling timber	83,363 00	11,650 00	100 00
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Additeration of food	10,000 00	i	1
Railways and Canals	2,272,390 00 132,966 60	1 70,265.70	3
Poet Office	1,943,690 00	91,500 00	)}
Dominion Lands	70,466 60	6,600 0	<u> </u>
Total Consolidated Fund	. 25,189,895 A	985,748 86	81,638 21
Redemption of debt	2,758,880 0	1,417,313 3	3
Mailways and Canal	14,186,600 O	1,781,256 04	sl .
Railways and Canal chargashle to capital Public works & building	20 000 00	1 ' '	j
Dominion lands, charge		1	177,550 90
Ro's to capital	\$00,000 00		<u> </u>
Total capital	. 17,277,730 00	<del></del>	
Total	43,467,636 64	5.194,418 CC	250,186 21
<del></del>		<del></del>	===

uther near the coal mines, and carry the ore one voling the appointment by him of a Secretary of \$38,141,723. The total value of the exports of bread-were wholly misleading. The manufacturers of and the coal the other way. By this means the vest the Treasury "way possesses the ability stuffs for the year was \$203,295,357, an increase over Canada were never more hopeful than they are sels or cars employed in the trade will always have and the inclination to carry out the doctrine of the exports of 1879 of \$24,093,468.

#### EDITORIAL COMMENTS.

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Mr. I

To Partic Rulway Contract Bill wir requ time, adjused the Schale of Monday, on p it was formally to a stell to by the thin so, to and is now law.

Accept water are entaction the applicate. paup rein England and Wales in 187 cm . . and the amenat paid for the relief of the party man Butter myond

Wente margalar receipt of intelligit ...

I egislature of Outsilo many applications to: 11 ve been made to the Government; but the profession granting of subsidies are not particularly by, to

Lier year the storage capacity of Chicago e elevators in the city is twenty-two, with a care of 19,010,000 bushele

Tax last monthly bank statement shows the take authorized capital to be \$66,266,660, and a capital \$61.872,337; jaid-up capital, \$50 775 ;

In the House of Commons, on Thursday in a week, Mr. McQuaid's Insolvent Act Amendment b. passed its third reading. It contains the filling clauses 1 The fourteenth and fifteenth sections of ... Act passed in the fortleth year of Her Majesty area (1877), chapter forty-one, entitled "An Act to ame: the Insolvent Act of 1875, and the Act amending to same, 'are hereby repeated, and the fifty-eighth at the of "The Insolvent Act of 1875 is hereby read 2. This Act shall apply only to proceedings ode "The Insolvent Act of 1875, and amending bit 1 any case where the estate of an involvent but re vested in an official assignce before the passing c is Act passed in the ferty-third year of Her March reign (1880), chapter one, entitled An Act to new the Acts respecting insolvency now in and a Canada.

THE Nova Scotia coal sales of last year amount it 954,659 tone, an increase of 268,035 over the previa year. The Halifax Herald says - The bates amount of sales ever before reached in the bistory ! our coal mines was in 1873, when under the influence of the previous duty on American' coal it readed 861,106 tons. Thus the year 1880 has been the mir successful in our history, the sales exceeding these 1873 by no less than 72,553 tons. We are usure ! . excellent authority that had it not been for the terrible disaster to the Hallfax mine at Stellart a ! which that—the largest mine in the province-w closed for nearly the whole of the last quarte til business at the other Picton mines deranged for a m weeks, the total sales for the year would have so doubt, exceeded 1,000,000 tons. As it was, the kw output for the year reached 1,033,710 tons. West happy to learn that from preparations now both made, and from contracts now actually offered um is every reason to expect a very large further it."" and development in our coel trade during the current year. Every well wisher of the province mutak dially desire that it may be so, as a proper detely ment of our coal wealth must not only be of immed direct benefit to our people, but will also indirect atimulate other equally remunerative industries

#### "TURNING THE TABLES

Although he stated that he did not intend by anticipate the discussion on the budget, in moral for a return of drawbacks, Mr. Patterson, of Land made a general attack upon the tariff, dealing ? with the export of manufactured conwhich showed a falling off in value last year visit compared with the year 1878, the last year of the late Government. Mr. Patterson spent the grant part of the afternoon in pointing out what were according to his allegation, the injurious results the tariff of 1879. In a few words the Hon. Mr Bowt-Minister of Customs, disposed of his long statement by drawing attention to the following paragra; [42] the Trade and Navigation returns lately brost

the present time.

The desen. ist ju local y rom ( States port, porta i So Let Britali Jaly, Zore zles f

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#### MR. JOSEPH HICKSON

devoted t the literests of rallways, and published to Chlore contains an engraving and sketch of the 4 Mr Joseph Hickson, General Manager of the carcor for Appleton's Rules Guile. The following is the

Mr Hickson was forn in the year 1830, in Northand fland, England, and when a lad entered the 1819, and receipts were \$1,000,00 more in 1889 than ch. of the York, Newcastle & Perwick railway at 1870. ch. of the Yerk, we wearded ferrick railway at Normalis, and was afterwards with the Maryfort & Uniteder railway as their principal agent at Cullale. He armoved to Manchest r in 1851, to join the Manester, 18 hethold & Lincolnshire Bailway, where he went through a regular railway training training the adily dition of almost hopeless bankruptcy, he secured the services of Mr Hickson as chief accountant, in which position he first became connected with the Grand Trunk Railway. He was shortly afterwards appointed secretary and treasurer of the (company, and has coniffued to occupy that position to the time of his appointment as general manager, fulfilling the duties of the onic, often most difficult, with marked ability, and with such satisfaction to the board at home, that on the withdrawal of Mr. Bryuges, no was placed and the standard of the railway, and has since been named chief been extended under "the Patent Act of 1872;" but no such patent shall be revived after the 31st of occupant of the company in Canada, with the coccupant in sanger and treasurer, and president little of general manager and treasurer, and president little of general manager and treasurer, and president of 2. The fee to be paid to the Commissioner of the company of the comp on the withdrawal of Mr. Brydges, he was placed in of the executive council, which controls the affairs of the company. During the time Mr. Hicksen has been in charge of the railway, he has rendered most some aforesaid, shall be computed at the rate of the railway, he has rendered most some aforesaid, shall be computed at the rate of minitant service at a critical period of its history His personal efforts in conducting thrancial arrangements for the necessary means to change the gauge of he tirund Trunk from Montreal eastward, have accelerated the carrying out of that important work. is a pointment to his present position was a recognifor of valuable and honest service rendered to the company, and is one upon which the directors and the replictors are to be congratulated Mr. Hickson is a propintors are to the conframed of the first is a man of sterling honests, a warm friend, manly and trinightforward in all his actions. In his relations by the quantities of head and heart, made for himself a ter patented, so purchased, constructed, acquired or made use of. oming, he is strictly just and impartial, and has, y his qualities of head and heart, made for himselt a dictile connected with the railway."

### DOMINION SALVAGE AND WRECKAGE COMPANY.

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n Friday next. T's specialities of the St. Law-ence Wreckage and Balvage Company were more the negotiations between that company and the comoters of the Isominion Company-instituted soing their measures, which have now developed discontinue, the use of spirits as an ordinary beverage and probably the decrease in the aggregate consumposters of plant, capital and every resource needed then is in part due to this cause." or the fulfilling of the bill's requirements. The appenders of the measure at present in Ottawa are apresentatives from points directly interested in Uper and Lower Canada. Among the promoters of he bill are Capt. Herriman, of Montreal, and Capt. Concily, of Kingston, both possessing exceptional usifications for nautical enterprise and practical acusintance with wreckage and salvage matters. With the influential deputation at present prepared o give evidence in support of the Dominion Wreck-ce and Salvage Bill there is every reason to exct a favorable result which will be satisfactory to he shipping interests and commerce generally.

#### THE TRADE OF MONTREAL.

#### mports and Exports for Placet Year anding 1st July, 1280.

The following figures are worthy of attention at the

N. B.—This increase is almost all in raw material

Exports of port of Montreal were \$9,990,844; more han in uscal year let July, 1879 to let July, 1880, than from 1878 to 1879, and the increase of exports to the United States from the above port in the same period, vir. fiscal year ending June 30th, was \$3,023,576; note than in fiscal year ending June 30th, 1879.

Total exports to United States from Dominion of Tanada (B.C. not included) for financial year ending June 1st, 1880, was \$19,024,331 more than in the Inancial year ending 30th June, 1879, and imports from the United States (B. C. not included) was 18,9-9,072 less in the financial year ending 1st July, 1880, than in the year ending let July, 1878. In 1878 there were imported by the Dominion of Canada and cutered for consumption goods to the value of \$41,080,119; in the financial year ending 30th June, 1880 only \$28,152,366. Canada experted to the United States from 1st July, 1877 to 1st July, 1878, \$21,126, 12, and from the 1st July, 1879, to July 1st, 1880, \$31,338,561, or \$8,261,849 more for the financial term of the finan year ending 39th June, 1880, than for the financial year ending 30th June, 1818 (B C, not included.) Total value of goods imported into Canada for year

ending lat July, 1878, \$88,873,301, of which \$47,089, 119, or nearly 54 per cent., came from the United Blates. In 1880 the total imports into Canada, as above, were \$60,984,229; whilet only \$28,152,386, or 40 per cont, came from the United States. Thus, whilst our experts to the United States increased under the N. P. from 1878 to 1880, \$8,261,849, the imports in the same period decreased \$18,936,783.
Total exports of Canada in 1880 were \$86.352,654, in 1818 \$70,732,094, nearly 37 per cent. of which, in

1880, went to the United States, whilst only 30 per cent, went in 1873. Imports from the United States Tro Rad by Am an inducation American tomast, to Canada were \$23,962,107 in 1878 over exports, from the United States to County were less than the exports from Canada to the United States by Grat. 1 Trunk Railway of Canada Both are taken \$3,236,135, or a difference in favor of Canada, in two YEATA, OF \$27,194,502

The Grand Truck Railway carried to Montreal acarly 10,5000 tone more of freight in 1889 than to

#### CANADIAN PARLIAMENTARY NOTES.

A misapprehension having arisen as to the true Grod Trunk Rallway of Canada. On his return from second reading of the Senate Bill, the object of which Canada in 1864, where he found the reliway in a conis to remove such apprehension. It provides as toliowa.

> 1. In all cases in which not more than a year has elapsed since the expiration of a patent, and application to renew the same has been made to the Commissioner of Patents within ten days of such expira-tion, the Commissioner may, in his discretion and after such hearing of conflicting interest (if any) as he may deem expedient, revivo the expired patent and continue the same for the period for which, if application has been made in time, it might have been extended under "the Patent Act of 1872;" but

four dollars for each year of the duration of such extension, and shall be paid by the applicant in accord-

ance with the provisions of the act above cited 3 Nothing in this act contained shall, in any way affect the right of any person who, previous to the grantlog of the original patent, as provided by section 48 of the l'atent Act of 1872, or of any person who, since the expiration of such patent, and previous to the date of the revival thereof under this act, has purchased, acquired, constructed or made use of the traightforward in all his actions. In his relations invention forming the subject of such patent, or sith his brother officers, and with the employee of the revived patent, to construct, use or sell the specific article, machine, manufacture or composition of mat-

According to the report of the Commissioners of Inland Rovenuc, for the year ending 31st March, 1881, it appears that the quantity of spirits charged with duty in the United Kingdom was 28,219,721 gallons. The merits of this company's measure will come of 1,576,413. The quantity retained for consumption efore the Parliamentary Committee for decusion as beverage in the United Kingdom was 27,286,352 gallons, a decrease as compared with the previous year ince Wreckage and Balvage Company were more of 1,647,843 gallons. The quantity consumed per articularly adapted to the Upper St. Lawrence, but licad of the population in 1879 was 0.010 gallons in five negotiations, between that company and the England, 1.677 in Scotland, and 0.946 in Ireland. In comoters of the Lominion Company-instituted giving these figures the Commissioners say. There hit similar purposes—the advocates of both mea-are not wanning indications of a growing disposition are mutually agreed as to the advisability of com-on the part of many in all classes to reduce, if not to discontinue, the use of spirits as an ordinary beverage

The report of Mr. Keefer, the Executive Commissioner of the Canadian Commission at the Paris Exhibition, was fald on the table of the House of Commons on Tuesday by the Minister of Agriculture. It is a voluminous document. The total number of Canadian exhibitors at the exhibition was 534, and the total number of awards 264. The number of gold medals awarded was 24; sliver medals, 46, bronze medals, 92, honorable mention, 100. Ontatio was represented by 328 exhibitors, Quebec, 107, Nova represented by 328 exhibitors, Quebec, 107, Nova Scotia 31: New Brunswick, 8, Princo Edward Island, 25; British Columbia, 29, Manitoba, 4; Dominion exhibit, 1. Ot gold medals Ontario obtained 12, Quebec, 6; Nova Scotia, 1; Dominion, 5 Silver medals: Ontario, 21; Quebec, 20; Nova Scotia, 4; New Brunswick, 1. Bronsu medals: Dominion, 1; Critario, 47; Quebec, 36; Nova Scotia, 6; New Brunswick, 2. The Commissioner refers to the benefits to be derived by Canada from being represented at the be derived by Canada from being represented at the resent time:— cxhibition. The prominent idea of the Commissioner

Total imports at port of Montreal, 1st July, 1879 to was to show the advantages of this country as a field Total imports at port of Montreal, lat July, 1879 to last July, 1880, \$25,552,690; being an increase over facal year ending lat July, 1879, of \$991,329; imports from Great Britain, in the above period, 1879 to 1880, at the same port, \$13,866,120; imports from United States in the above period, 1879 to 1880, at the same showing the nature of the great exhibitions which have been held sinco 1871. In 1851, London that 13,917 exhibitors and 0,170,000 visitors; cost, S1,668,626; imports from United States, from 1879 to 1880, at the same port, \$3,9954; visitors, 4,533,464, cost, \$4,000,000; Paris, 1862, exhibitors, 23,954; visitors, 4,533,464, cost, \$4,000,000; Paris, 1862, exhibitors, 23,954; visitors, 4,533,464, cost, \$4,000,000; Paris, 1862, exhibitors, 23,954; visitors, 4,533,464, cost, \$4,000,000; Paris, 1862, exhibitors, 23,956; visitors, 4,533,464, cost, \$4,000,000; Paris, 1867, exhibitors, 4,596,763; receipts, \$2,822,032. Vienna, 1873, 1879; to 1880, by \$20,534,746; total imports from Great Britain and the United States (lat July to lat July, 1878 to 1879) by \$21,836,661, or \$1,301,915; cost, \$2,882,032. Vienna, 1873, exhibitors, 42,548; visitors, 7,254,297; cost, \$9,850,000; receipts, \$2,820,000. Paris, 1878, exhibitors, 56,000; receipts, \$3,850,000. Paris, 1878, exhibitors, 56,000; receipts, \$3,850,000. Paris, 1878, exhibitors, 56,000; visitors, 15,032,725; cost, \$11,000,000, veceipts, \$2,830,000. Paris, 1878, exhibitors, 56,000; receipts, \$3,850,000. Paris, 1878, exhibitors, 56,000; visitors, 15,032,725; cost, \$11,000,000, veceipts, \$2,500,000, Paris, 1878, exhibitors, 56,000; receipts, \$3,850,000. Paris, 1878, exhibitors, 56,000; visitors, 15,032,725; cost, \$11,000,000, veceipts, \$2,500,000, veceipts, \$ pensos:

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T C Kefer, travelling expenses 716 70 T. C Keefer, allowance for personal
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\$500 per menth 9,572 40
Tutal amount paid on account of
Paris Exhibition to date, by order
of the House, March 31st, 1880. \$113,905 36

#### THE SYNDICATE AFLOAT

This morning Messre, Konnedy, Stickney, Duncan was of taking steps in consume with their charter. Mr Kennely presided, and Mr Charles E. Dink-water was present in his capacity as secretary. After a few remarks from the chair, the company was formally or anized and the officers regularly appointed. The whole list was not ready for publication in time for one edition, but will be given later. Mr. ticknes, it may be said, will be the general superintendent, and will have entire charge of the construction department. Mr Wm Harder, formerly station agent GTR at Point Levis, will be general passenger by the force of his merits, until he became general intent and meaning of so much of that part of section his duties at once. The flow of the duties at once of th intent and meaning of so much of that part of section | the duties at once. The lieu. J C. Albett will do the Abbott left for Europe via New York over the Dela-hich ware & Hudson road, and were accompanied by Mr 101- D McIntyre and Mr C. E. Drinkwater, the two last of whom will go no further than New York and Plattsture respectively. A number of friends were present to bid good-by o to the departing gentlemen, and the scene was very animated — Hontreal Vitness, Feb. 17

#### INDUSTRIAL SECRETS.

A century ago, what a man discovered in the arts he concealed. Workmen were put upon an oath never to reveal the process used by helr employers Doors were kept closed, arthur going out were scarched, visitors were rigorously excluded from ad-mission, and false operations blinded the workmen themselves. The 103 steries of every craft were hedged in by thick-set fences of empirical pretentions and Judicial affirmation. The toyal manufactories of porcelain, for example, were carried on in Europe with a spirit of jealous exclusiveness. His Majesty of Saxony was especially circumspect. Not content with the oath of secrecy imposed upon his workpeople, he would not abate his kingly suspicion in favor of a brother monarch Neither king or king's delegate might enter the tabooed walls of Meissen. What is errore ously called the Dresden porcelain-that exquisite pottery of which the world liss never seen its likewas produced for 200 years by a process so secret that neither the bribery of princes nor the garrality of the operatives revealed it. Other discoveries have been less successfully guarded fortunately for the world. The manufacture of tinware in England originated in a stolen secret. Few readers need be informed that tinware is simply thin iron plated with tin by being dipped into the molten metal. In theory, it is an easy matter to clean the surface of iron, dip it into a bath of boiling tin, remove it enveloped with a silvery metal to a place of cooling. In practice, however, the process is one of the most difficult in the arts. It was discovered in Holland and guarded from publicity with the utmost vigilance for more than half a century. England tried in vain to discover the secret, until James Sherman, a Cornish inliner, insinuated himself master of the accret, and brought it home The secret of manufacturing cass steel was also stealthily obtained, and is now within the reach of all attleans - Trade List.

#### WATCH-MAKING IN FRANCE.

Beancon almost monopolizes the watch-naking of France, all but 2,488 of the 444,798 watches manufactured last year coming from that town Of the Bessucon watches 140,907 were gold and 292,405 allver, the whole being valued at over \$4,000,009, half of which represents labor. Nearly all these watches are sold in France. The foundation of the watch trade at Besancon dates from the close of the last century, when a number of workmen from the Swiss side of the frontier, persecuted for their political opinions, took refuge there and were induced to remain. Since then this industry has continued to prosper, but it was not until after the conclusion of the treaty of commerce of 1360 that the business assumed anything like its present proportions. There is a school for teaching watch-making at Besancon; but though liberally endowed by the municipality, it is said not to be well attended.

There is quite a just of work at the Great Western Rallway car works.

-The preliminary steps are being taken to arrange a reception for Hanlan.

—Ine merchant who advertises on the blotting on Thames St, and four storeys high including a fine paper has mistaken his calling He will get nothing manant roof. The outward architecture of the build-but blots in return.

... There are now affeat in Gloucester Harbor 400,pounds of halibut and 300,000 pounds of codilsh, with steady demand.

... The clerks of Montreal are establishing a union for the protection of their rights. Mechanics are beginning to move for an advance of wages.

-Stocks of lard at Cincinnati are about 12,000 tlerces smaller than a year ago; monta about 8,000,000 pounds more; pork 15,000 to 18,000 barrels less.

-The 'Assistant Receiver General at Toronto has just received fifty horse containing \$5,000 in coppers, which he sends for distribution to banks.

-It is stated that invitations bearing French and American signatures have been issued for the Monetary Conference, beginning on the 19th April.

-The average weight of hogs in Chicago was 258 ibs. against 2653 last year, and for three months since November 1st, th. average is 261'35, against 264'45 lbs last year.

-Intelligence from Cabul says that Ayoob Khan executed three of his sone for attempting to selse the palace at Herat during their father's absence at Candahar last summer.

-Private despatches received from flat Portage, on Monday afternoon, state that Chief of Police O'Keefe and Constable Cameron had seized 80 galtons of liquor sent out by express.

A Rhelat despatch says the Mery chiefs have received to resist the Russians to the last extremity. Five thousand of the surviving Tehkes have arrived. The Russians are accumulating provisions for an advance on Tjend.

-The Crown Land receipts for the Province of New Brunswick for 1880 were \$145,000 against \$75,000 for 1879, the increase being in both land sales and stump-The average price of land is \$1.50. Out of 17,000,000 scres, the province still retains 7,000,000.

...It is said that the crafty ice-dealers of San Francisco annually buy up the crop of an Alaska ice company to the amount of 10,000 tone, which is left to melt where it is cut, while San Francisco and Cali-formia are served with ice artifically made at an exorbitant prico.

-A deputation of lumbermen from the Upper Offices waited on the Hon. Mr. Chapleau at Montreal on Theoday to protest against the imposition of McEntyre, R. Is Appeared to Hou J. J. C. Abbott the additional taxes which have lately been placed arounded in the syndicate headquarters for the pure on lumber by the quebes devenment. Mr. Chapleau model in the syndicate headquarters for the pure on lumber by the quebes devenment. Mr. Chapleau model is the syndicate translated to be the greater translated to be the greater than the collegement. Promised to lay their grievances before his colleagues

> —In Connecticut there are 3,000 orstermen with a spital of over \$2500,000. In Darlen there are ? eystermen with an invested capital (exclusive or round and opster stock) of \$54,515, Greenwich, 112 6) stermen capital \$185,144. Norwalk, 253 ovstermen. Cipital \$203,034; Standord, 175 systems n. \$175,000 ipital

-The Chief of the Bureau of Statistics reports that the total values of the exports of petroleum and petroand treight agent at Winnipeg, and will enter upon leum products for the month of December, 1800, were

> -According to a report on the Durlen canal, made by Joseph Niramo, je Chief of the United States Bareau of Statistics, the cost of the Suez Canal was \$02,273.907. The receipts last year were \$5,073,186, and the expenditures, including 5 per cent interest upon the share capital, as a sinking fund, \$5,415,540, leaving a net balance of \$557,645

-The boom at Mesers E. R. Moore & Co's, pail factory, Portland Bridge, N.B., which has been silent since shortly before the opening of the new year, will again be heard on Monday moining. During the cea-action the machinery was overhauted, new chimneys built and a floor laid. A gravel roof is to be put on the rear end of the building during next week.

-Orest Britain and the United States are reported to consume one-third of the world's production of augar Great I-ritain consumes 74 pounds per capita, and the United States 42 pounds percapits. Germany consumes 19 pounds per capita, and Russia only 7 pounds per capita. 90 per cent. of the sugar used in the United States is imported from alread, and it forms one-seventh of all their Imports

-In 1860, Alabama was one of the richest States in the Union. Real estate in Alabama was valued in 1860 at \$792,000,000, in 1870 it amounted to not quite \$202.000,000 Cause, the war and emancipation There are in Alabama 6,500,000 acres of government land, and 11,000,000 acres in timber. Only about 5.200,000 acres are in cultivation. About 1,000,000 bales of cotton are produced in the State annually

-The Grand Lodge of the Ancient Order of —The Grand Lodge of the Ancient Order of United Workmen of Ontarlo met on Tuerday in the hall in Boustcock's building, Adelaide street. Toronto There were 150 delegates present. The Grand Master Workman, G. W. Badgetow, was present, and there were also 'present Grand Freeman Louis of Chatham, Grand Overseer Miller of Goderich, Grand Becorder M. D. Carder of St. Thomas, Grand Guide Dr. Park of Port Robinson, Grand Becorder Ruston of Bildestown. Receiver Ruston of Ridgetown.

-The Windsor Mail says - We hear that a stock company of about \$2.0,000 capital is talked of in Windsor, for the purpose of manufacturing agricultural implements. As the sale of these goods is large. and always on the increase, we have no doubt of the success of the undertaking. We have heard it stated that at least \$150,000 worth of agricultural implements have been sold in Nova Scotla in one year, and there is no reason why such a large amount of money should not remain in the province. We look anxiously for further developments.

-Le Canadien says that Measure, J. D. Marcoux and and C. Lagace last year established a troot and show factory on a small scale at Beauport. In fact, it was rather a small shoemaker's shop, giving employment to but 20 liands. To-day, thanks to the energy and enterprise of the promoters, the old shop has given place to a regular factory, worked by steam and provided with all the latest labor-saving machinery, while it now gives employment to ever 50 hands, and orders are being executed f the most important houses in Quebec and Oniario.

-A gang of workmen are now engaged in breaking ground for the foundation of the new mill preposed to bo erected on the site of the well-known "Kent Mile" In North Chatham, Ont. A part of the old structure has been removed and the remainder will be merged into the new building, the clerator wing extending from the mill proper to the dock remaining as it is. The new mill is to be 54 feet on Kent St. by 42 feet

-The Thundet Bay North Show Miner urges the establishment of rolling mills and blast furnacies at that place. It expresses the opinion that "Thunder Bay is the one point most favorable for the erection of rolling mills and blast furnaces, and capitalists can find no better site, and no better time than the present, for the establishment of industries of this nature. There is here the necessary deposit of ore in quality and quantity, the opportunity of disposing of their manufacture at a large profit, and the matter of labor is also favorable, for it is generally abandant at full wages.

-In North Carolina there are 1,060 fooms in cotton factories, and 102,767 spindles, which consumed 27, 508 bales of cotton a year, and give employment to 23,428 persons. These figures indicate about half the extent of the industry in Georgia, which stands foremost in that line in the South. In Massachusetts there are 94,768 looms and 4,464,290 spindles which consume 578,590 bales of cotton annually, and give employment to 62,794 persons. The total number of looms in the United States is 230,223, spindles, to, 921,147, cotton consumed annually, 1,536,481 bales. persons employed, 181,628.

-A Montreal despatch says. About two or three years since, owing to the severe depression in the iron and other industries of this city. Mr. Wm. Clendinneng, who is extensively engaged in the stove and foundry business, was obliged to transfer all his real estate, amounting to \$300,000 in value, to trustees for the benefit of his creditors. The improvement in his trade, through the National Policy, has enabled Mr. Clerdinneng to meet his liabilities, and Mesers. James Crathern, Edward Mackey, and P. S. Ross, the trustees, have this week re-transferred the whole of Mr. Clendinueng's property back again to him The creditors acted in the most liberal manner towards Mr. Clendinneng during his temporary difficulties. Although a Liberal in politics, Mr. Clendinneng has acknow-ledged in public the banefits which the industries of the Dominion have derived from the policy of the Government. He has now more than double the number of men employed la his establishment than ho had two years ago.

#### SPIRIT OF THE COMMERCIAL AND states be cuttained among nations. For at this paper tunning matter, paper we briefly among tice as follows. In the matter of supersonal transfer of the paper. INDUSTRIAL PRESS.

TRICKS IN ALL TRADES

While by Strate Assembly

It is posted a not know a Congress to John that some of the life of a cost and this excite ideas of from what the world eath importible, decorner and retise matter of various kinds. The five-theations of consectibers to veal many strates transformations or matter, all infeedly and thermo, not do another in a duril pidlo s gla . The set of some that in marke translated be obligete New York Leve Increased succethe last consucration \$75,000 non-Americal then in and stimule industries descreed, the relowns, are named. It was build, for historic, that some is was made or old along but exactly what too was hard to find out at age need reetald slows were sold by raylikers to exitute tion, who disposed of themata good page. It is known that lets of cold leather make the commercial methols known is President buy but only in his finish founds. to two it and the new call for old shows we excidently for some other parases. In New York city and Isrocklyn eleut three million pulseer old shows are thrown analytics year. Formally old shook were t lentiful in the cuttors of certain neighborhoods; now It appears that they are sonthit atterancheser prizes in the complete is line. By dister persevering inquiry it was discovered that the old show were used for three purposes. First, all chose not completely were est. ure jetched, greated and after being otherwise regenemted sold to men, who deal in such wares. persons mear one sleep much more than the other these dealers that mutes for shore whose original mater are just hope. It couldly, the shoes not worth jutching are not up into pie ex. the good title are use for jutching other shoes, and the worthless bits, the soles and cracked uppers, are converted into Lanales was by a process frown only to the manufacturers. It is said that they are boiled in pure spirits and allowed to stand for a few weeks, the product for surpassing the Jamaica rum made with secures, burnt sugar and spirits. A gentleman who doubted the truth of this story stopped recently at a low grog-shop in the neighborhood of the factory spoken of, and inquired if they had any rum made from old shoes. "No." said the bar-keeper, we don't keep it much now; the druggists, who want a pure atticle, all sell it, and the price has gone up. But we have had it, and we can get you some if you want How many old shoes go to a callon of rum could not be ascertained. It has been noticed by some deputies that while manufacturers are quite willing to put a valuation upon their manufactured product, they lienitate about stating the value of their raw material, and even return the schedules with the space for the value of raw material left blank. In one instance a manufacturer of tomato catsup returned a report giving the value of his manufactured product at \$18,000, and the value of his raw material at nothing. His explanation was as follows - Every year in the cauning season he sends to all the wholesale houses which make a business of canning tomatoes clean tubs, with the understanding that the women who trim and peal shall throw the skins and parings into these tube. every day these tubs are removed the stuff is then ground up, fermented, flavored and sold as tomato the extent of \$18,000 Another singular and decidedly peralcious business is the manufacture on a large scale of chean candle sfrom white carth, or terra alba, mixed with a little sugar and glucose. The deputy who investigat the confectionery business reports that 75 per cent of some candles is composed of these substances, and such candy, notably gum deep contains still less augar. The effect of white earth upon the stomachs of the unfortunate children who bur these candies is yet to be determined by future auto-What is called a fine board of Castile soup has been found to be composed chicily of this white earth and grease, but the evil effects of such an imposture are trifling compared to the results of turning children's stomeche into mineture pottery works. Among the new industries which have sprung into existence during the last tew years is the system of finishing in this city of twelgn good, imported in an unfinished condi-Foreign articles composed of acveral parts are now largely finished in this city, the parts calling for hand labor are imported, while those calling for machine work are made here. In this way heavy duties are saved, although the articles are sold as imported goods. The manufacture of spurious and adulterated articles is not confined to America alone, for we find by the French journals that the question of adulterated and manufactured wines is greatly agitating the French wine merchants, who have petitioned the Government to intercede in their behalt by such local concinents as will effectually prohibit and preasserting that not one third of the wine used in Paris is made of grapes. The many Americans who turn up their noves at the juice of our own grapes will naturally wonder what the spurious French wines are made of The petition of the French wine merchants says that there are a number of large factories near Paris in which wines are made from rotten apples, damaged dried fruits of all kinds, beets and spoiled molasses. But there are not enough of these mater. ials to make as much wine as is required by foreign trade. Turnip juice has been worked over into wine, and American cider is the basis of millions of bottles of champagne, but good apples and turning are too costly to be wasted on chesp wines, such as most Americans buy Some of the temperance accieties might find the returns they are after by satisfying public curiosity about what wines are made of.

### PROGRESS OF ENGINEERING IN AMERICA.

(Californian.)

Until the close of the last century natural power had ev., been employed in its most primitive forms Wind and water were the only motive powers called in to ail man in bla labors, and the appliances to utilise them were of the simplest possible character. It is true some great engineering works were undertaken and completed, but only at large expenditure of mere labor and muscle. But with the introduction of steam, in 1778, a new wide field was opened for the exercise of the genius of the engineer and mechanic. The invention of Watts was a triumph which set men to thinking, and its successful application contributed more to the prosperity and welfare of nations and the advancement of science and mechanism in the next succeeding century than had ever been achieved by the united effects of all previous time. Perhaps in no part of the world has it given birth to greater activity, or accomplished greater trimmphs, than in the United States. At a late meeting of civil engineers in Ht. Louis a very interesting paper was road by Mr. O. Chausic, summarising the progress and wonderful buyers, growth which engineering has made in this country, and alinding to the high position which the United supply.

when we take it may come we are count to maint a passer studen congestion of the length of power, and the improvements made in proping mass that we are more likely to obtain it in perfective in from stupefaction from poison of the length operations have made in proping mass that we are more likely to obtain it in perfective in from stupefaction from poison of the length operation in the first perfective in the cases pure contest should be used, for all other Poisson what was accomplished twenty reason. There is no other land of the stimulating qualities that we are now of the length of the stimulating qualities that we are now of the length of the leng world in the extent of her lines, poseling recent the world only 2.300. Our infrond engineers and locanotic builders build all others. Our roads reach pull locater trains and run piore fails in a year, or during their litetime, than those of any other nation The Pennrylvania milrend is prenounced one or the lest, it not the lest, managed railroad in the world boldest conception of bridge construction ever atis now engaged in effecting certain needed model a. of our rivers. The recent improvements to naviga-tion at Hell Gate and Flood Rock were referred to as great and novel feats of engineering. In telegraphic and cas engineering we have made wonderful strides. In the tormer we lead the world; in the latter, since 1850, the number of companies has increased from 50 to 200, with a capital of \$200,000,000. In metallurgy. the increase of our blast furnaces is especially notable In the amount of fron produced, we are next to England, Germany standing third. Our steel industry, second only to that of Great Britain. will exceed that country in another year. Our increase has been 60 per cent in two years. Our mining industry is simply enormous. The petroleum industry was bricily alluded to Our exports of that product are now the nith on the list in point of value In agricultural engineering our progress has been truly wonderful, and before this all other branches become as dust in the lalance. In the plough alone the annual saving labor in producing our crops amounts to fully \$38,000,000 less than the same work would have cost thirty years ago. It is in ship building and maritime trate alone that we have lost ground during the last two decades. The decadence is attributed to the war of rebellion, and to equal competition with England in ship building, and the superlority of Iron over wood—an industry to which our engineers and capitalists have not given proper attention; but it is confidently predicted that in the early future we shall once more assume our proper place on the ocean.

THE MOLASSES TRADE OF THE UNITED STATES FOR 1880.

The annual review of the molasses trade, published by the Shipping List, has been issued, and we present to our readers a condensation of the same.

The people of the United States are probably the largest consumers of this sweet, and a large proportion of the production of the West Indies is consumed there. The importations in 1880 were not so large as that of the previous year, principally on account of the ling office as it is wanted as often appears to the folks partial failure of the crop in Cuba and the other West who incur the trouble of grinding. We find that it the country were taken as a basis of calculation, how. ever, it would appear that despite the decreased importation the consumption would show a large increase, for there is very little pure molasses sold at retail The majority of the syrups and molass is on sale at this honest practice is now a thing of the past, and golden or allver drips are fast supplanting the honcet old Ponce and New Orleans molasses. As a result of kind of boiling water. We want no percolators or this change the reboiling of molasses for the sugar extractors, and indeed, if this paper has any value, it contained in it has become a considerable industry. The quantities thus consumed have been as follows: land, 10,059 do.; a total of 187,440 hide. against 213,-000 hhda in 1879, 190,000 do. in 1878, and 172,000 do. in 1877, or a little more than 75 per cent. of the total impertations of foreign for the year. The falling off in the quantity boiled is accounted for by the fact of the smaller importations. The total receipts of foreign molasses at the Atlantic and Guif ports for the year under review the amounted to 32,939,014 gallons, against 34,910,936 do in 1879, a decrease of 1,971,622 do., or 5 64 per cout while the decrease in consumption on account of the larger stock brought forward from 1879 was only 1,405,498 gallous, or 4.07 per cent. The domestic crop of 1879-80 was much smaller than that of the previous year, amounting to only 12,200,000 gallons, which, added to the consumption of foreign as above gives a total of 45,299,184 gallons, against 48,704,682 of the coilee. It should be strong, so as to requirdo. in 1879, a decrease of 3,405,498 do., or within a small fraction of 7 per cent. In regard to values, the average for 1880 was 35 cents per gallon, against a little over 26 in 1879, 33.30 in 1878, and 40.870 in 1877.

Begarding the probable supply for the current year the Shipping List says the latest advices at hand are to the effect that the yield of foreign from all the West India Islands will about equal that of last year. The domestic crep will be considerably larger, the increabeing estimated at 25 per cent., or about 100,000 bills over that of 1879. Up to the 15th of January, 1881, the receipts at New Orleans had been 207,73 buls against 204,359 at the corresponding date last year. The total production of the crop 1879-80 was nocording to Mr. A. Bouchereau, 244,788 bbls, or 12, 189,190 gailens, against 13,218,404 do. in 1878-79, and 14,737,240 do. in 1877-78. The fine quality of the case this year and its high sacrbarine value may, it is thought, reduce somewhat the proportion of molesses to sugar, and the excess over last year's yield will be principally made up of low grade contringuls. Cer-tainly thus far there has been a marked scarcity of the most grades which have been most sought after by boyors, and sold at relatively higher prices than the common qu lties, which have been in more abundant

COPPLE AS IS PARTS

When we talk at oil codes we are bound to admit Concile supplied with waterweeks, involving Ligous Low, one may often be disappointed, whereas it is a gives special directions, it may to come index of pix to me of which a serior in a figure how, one may often to disappointed, which is to a pixer ejecularite them, it may be come in all posterior pixers has also been med broaded corners disappointment is so rarely experienced that the call the hold be fresh, but, strong, and will one in another how there is no large to the consider of the consideration of the con mentuation in process in the way of steam propulsion, which it is considered in the expected will effect no using of four very many constant colors only on some special sugar, taken before turning out of fully 27 per cent over present methods. In railways con 100, the making stad managing thereof had not amount railway in the total presidence of the entertainty of the water in any special he can assign no limits to its value of the manager. But established propriets to all the attention of the water in any special he can assign no limits to its value of the manager in the entertainty of the ente systematic my stiestion. The result, as will be seen, second point is that helling water will ration, all Europe has but 20,000, and the balance of the very simple, and it must be added that, in the a certain amount of collect the north each 20,000 that indicates and without opinion, it is perfectly satisfactory. But to use of the raw material does not 10,10 loculative builders had all others. Our roads rough secure the attention of the reader and his or her constitution of the infaulton, and then it to be attention of the reader and his or her constitution of the infaulton, and then it to be attention of the reader and his or her constitution. further and cost | re than any others, and our engines | fibrace in the results arrived at a few particulars must be given. Many years mee it was our enstom to purchare the best Mo, by reasted, but not ground It therefore ground as required in a hand mill, and we fondly thought we had codes in perfection. The In regard to bridges, there are now in the United familiants since acquired with cothe in a thousand States 200 miles of these structures constituted of places, including of course certain of the more importa-them stone or ion and two-thirds wood. (The East ant European capitals, has commend a suspicion we river bridge at New York may be Instanced as the sometimes entertained that in our early days or coffeemaking we really knew very little arout it. But the judge from their selections of mines at the subject having acquired apecial interest in connection tempted). The matter of river improvements is just subject having acquired special interest in connection now attracting much attention, and the fact is being with the necessities of a falling constitution, a new realized that until quite recently but little has been effort was made. The old confee mill was again set to done in this direction. It has been demonstrated work and freshoround conec was provided and was that the currents of the largest rivers may be con- used more liberally than in the days long gone by, and trolled by simple brush dykes. The moveable dam the college it appeared on the table was tine, but it was on the Onlo-a French idea-has already proved a not such as may be obtained at a commonplace refreshsuccess, and the best engineering talent in the country ment in l'air and Vienna. No, there was something wanted, and the question arose, what could that sometions required to meet the peculiar nature and needs thing be! Samples of collect were obtained from several quarters, and as a matter of course samples of coffee and chicory, both me separate articles and ready mixed. It is nith extreme regret we teel bound to state that grocer's coffee in generally speaking a very poor article, and that's one reason why the English people do not value coñec as they should. You can-not value a lad article, and thus these who compel you to have it do voir a great wrong. The unsatisfic-tory nature of the coffee sold by the stamils grocer brought to mind as a remembrance that when collect was in use in our house many years ago it was the rule with tay husband to bring bome supplies from a house in London, and we would have gone without code. sconer than use the rubbish our village purveyor would have compelled us to use if we had permitted him to supply us. Beware, then, of the family grocer and his mixture, for in all probability it consists of had coffee commingled with an excess of chicory, and is therefore wanting in flavor, arous, and the tine refreshing and supporting qualities of "coffee as it ought to be" That perfect ceffee ready ground and mixed can be obtained is as certain as that a journey due North will bring one to the North Pole at last, but it is about as difficult to obtain the one as reach the other. Having tried all the mixtures, and having ecriously considered the great chicory question, we have settled down to a rule which we believe to be final, and the consequence is that we take coffee daily "as in Paris" with no trouble whatever. The matter is as simple as cooking politics-nay, it is more simple, because the labor is less and the result more certain. Let it be clearly understood therefore that without chicory you cannot make perfect coffee. You may prefer to have coffee pure, but then you do not have it as in Paris, and if you follow my advice you will probably never care for pure coffee again. The first thing is to secure a good sample of Mecha and a supply of cliscory separate, and use about one-fourth of the latter to any given bulk of the former. At this point two very important matters come before us. In the first pace, then, there is not so much merit in grindwho lucur the trouble of grinding. We find that it India islands. If the sales of the retailers throughout kept in close tin canisters, ready-ground coffee is good the country were taken as a basis of calculation, how for two or three weeks. If carelessly kept, of course the aroma goes, and the flavor goes, and the refreshing stimulus we desire is no longer in it. Our sule, therefore, is to huy enough at a time for a fortulght or so, ar we obtain a very fine Mocha tendy ground at retail steres consists of miv. ..... of giucose, molasses ls. 7 d. per lb Where and how we get it is of no and other adulterants. Some years make molasses consequence, but it may be proper to say that an ordiwent into consumption just as it was imported, but mary shopk-eper would probably charge is. 10d. for a alialiar article. It remains that to make the coffee. A common coffee-pot suffices, and the commonest will perhaps consist in the prescription of an exceedingly simple plan of ensuring coffee as in Paris." that vertical fishers well are better than any destination of the prescription of -Philadelphia, 93,289 hbda.; New York, 68,470 do.; Put into the pot a teacupful of culies and two tea. hind, or richer and more productive than depoint appointment, 13,652 do.; Boston, 12,000 do., and Port. spoonsful of chicory for every tures breakfast cupe of dat veins, that all a mine wants to make it as goods lead 10,000 do. infusion required. Fut the pot on the hot plate for a few moments to warm the coffee, then pour in the boiling water and put the pot on the fire, and when the coffee boils pour it out and return it a few times in the "old-fust loned way," for there is no bet er way and you want no egg-sholls, no sole-skins, and no isingless, for if you are smart in your movements and then leave the pot alone for five minutes the infus on will be as clear as an honest man's conscience, and you have but to pour it out into the cupe and enjoy it. Maving made at you must drink it, and here it must be recorded that as a breakfast boverage it is certainly better with hot water than with cold milk. The will and the wherefore cannot be explained by the writer of this, but the f ct is not to be doubted that scatding the milk improves the flavor and the wholesomeness reducing with milk and sweetening with anger, and then it is a question if it is not equ valent to meat and drink, for assuredly it is as full of support as Atlas. who once took the earth upon his back, and is said to have thought nothing of it. Conversing lat ly with a friend on this subject, he said that when he a Contractal hotel he found it a very easy matter to conform to the Continental rate of eating only a biscult or light roll with his morning coffee. " F tie. + there is so much appropriate their splendid outlies that I cin do a long and heavy morning's work in picture galieries, and hard welking, and went nothing after my coffee and roll natil I return at one to the substantial and savoury dejenner. At home I take too with bacon and eggs, but I prefer the Continental fashion of gread coff e and but little to cut with it" Those to whom, by reason of a day's varagements. it is a matter of importance to make a hearty brookfact, "coffee as in Paris" may be less desirable than appears. At all events, in our household, when we have any reason to begin the day with a good meal, we take care to order ten for breakfast. Taking a broad view of the subject, and with regard to health wiel, it seems that ton is an impoverishing out of reverage, and, as a rule, not fit for rock at the

which it is now every to be trice of the property way, a valuable modeline, and Is often that can refredden congestion of the len . ourse -I zeleziep

SOMETHING ABOUT MINING INVESTIGATION AND OPERATIONS.

It is a very difficult matter for people of never men a milne to form accurate epita ... value and capacity of mining projection, 11. stocks and kindred enterprices, one propoproperty appears pretty much like another to a scheme whose worthlessness is approprie miner may to the very one of several inch receives favorable attention with the entertail. class of men who assert that it generally. dollars to mine and mill one dollar's worth outthe very ones who are satisfied with pething to return of five or ten dollars for every doll a t rest when it comes to a mining enterprise these men are very sure to embark in wir a nture that has no carthly chance of provi properties as they select are what are largely to I the ligh average cost of the extraction or t low metals, because they are often we Moneyed men become the prev of sharpers of cat enthusiasts because they do not take sense view of mining adalts. They believe to when they profess to believe nothing Exits " profits cannot be expected unless from a p bose just record warrants great expectation do not usually take this fact into considerat consequently a good talker possessing a vivit; ation, to use the mildest kind of a term, with every time with a poor mine, as against atrepresentation and a good wine. The absorber unreasonable character of a prometers strong a never dawn upon the would-be investor the real the original owner is not sharp enough to acreas what he has, and that a novice in mining his the is shrewd cuough to steal a march on his min - ... brother—when in reality he stands no beth; the with the latter than he does of saving more at and silver from the rock than do the processing ages have been required to render successful ventors will avoid many chances of disaster if the heed what we are about to say. Every loat a mineral vein is not capable of being made a lay paying mine that can support a company and h worked from headquarters thousands of miles axes The greater the distance the larger should inmine in order to pay for the trouble of visiting managing the same. Every man cannot mings mining enterprise. A poor manager will person a really valuable mine from part As much experience and skill is required in course superlutendent as in the elector of a manutators mercantile cetablishment. A mine cant ' and everything, including new processes of reduct was tunnels. Too many heavily paid official density also generally too much for it. A mine should operated almost as economically after being purchasi a company as when worked by the original mark Shareholders should never believe the charge as better for profits because the company is edicately lot of nice men or prominent citizens. The ser generally merely figure beads, or at all events as incapable of running a mine. Better have a through going miner that is an entire stranger. Never maked in tunnel or smelting enterprises. The former were never known to win, and the latter only one three of a hundred. When you have money you led the putting into a new process, own up that you are fool and go and give the money to the post Ta following fallacies cannot be too severely demount. That lodes or mines grow richer and larger val depth (balk very generally used to catch golden any other is development—in other words all that needed to catch mineral is a hole in the ground. M It be remembered that If what are usually result flesure veins of anything like a vertical charanot pay well somewhere on the surface, they are at going to do so at great depth, that there are general but one or two and rarely half a dozon large paint weins in any one district, and that the protime? strat mines does not insure wealth to a property an operator declares that his mine or the compact's stock is not for sale, put him or his operations dell for a fraud, or else believe some more extensive more making scheme is on foot than appears at " sight. When it comes to mines or mining tall everything is for sale if enough can be got for it and so are many of the ulcost and finest near of the cree cities who are induced to embark in rich enterpret -at least they are willing to unload on their real and confidents if much money is to be made by doing To those about to invest in mines, we were say, note well what we have written above the always take hold of a property that has already put well for a longer or shorter time in preference to that has done nothing in the past, and who he but nothing to offer except promises for the futur for mining stocks they should be considered in the same light, unless taken hold of for merely specific tive purposes .- New York Indicator.

-Mr. Eli M. Tree, clerk of the British America Hotel, Einesten, bas secured letters patent for abit register. Books used for this purpose are open " various objections, in that they soon become delact solled and torm. Mr. Tree bas supplanted the bas with two rollers, one supplying and the other roof. ing paper, and according as the space becomes him it is wound upon the receiving roller. The method is very simple, and obtains to perfection the chaf-for which it was invented. There is every protabilly that the new register will be universally used X Tree is to be congratalated, as he is one of the thoracter who have spent valuable hours in taxing the beginning of the day. There yet remain, mys the inventive grains, who has been rewarded with the Garden, i. o points worthy of notice, in respect of case.—Kingston News.

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#### WEEKLY REVIEW.

Totoxto, February 16th, 1881.

Sames. The stock market for the post ten days has been more or they and today a full leadings was

are fadificant about selling. The fact that prices re-main a steady during the parted of transition experienced would warrant the opinion that any loisk demand will cause an advance in values, as at present and will cause an advance in values, as at present actually did take out 1 1.09.400 busitels, and actually by millers. Wheat has been in better demand for all knodes, but as stocks are light holders are not easier. enced would warrant the opinion that any laisk deall grades, but as etocks are light holders are not caper being excessive, and other coarse grains rule quiet

isfactory way in which Causdian goods are being sold by the wholesale, the manufacturers are endeavering to get up a combination to sell goods at a living pro-The horse nail manufacturers of Montreal have already arrived at this conclusion, and an agreement Is being drawn up, which will have the effect of advancing this article probably 25 to 30 per cent. The leading manufacturers of cast-iron goods are also notifying their customers by circular, dated 14th linst, that all provides and after a second that all previous quotations are cancelled, and no further orders will be booked except at prices mujually agreed upon. Pig fron—The latest English circulars note a steady business in the Glasgow market during January, though prices have been easing down on the whole during the entire month. Finished iron —The colliers' strike appears likely to end in increased cost of coal, and as this will infallibly advance quotations for manufactures of all sorts buyers appear to realize the fact and are placing their orders more freely.

LEATHER. - The general condition of the leather trade has improved since our last report. Prices are steady, with the supply about equal to the demand, with no large stocks held in this market. There has been increased inquires from the manufacturers, but wo have heard of no large lots being yet placed. Orders from the country are not large but numerous and amount to considerable in the aggregate

Wood-Market continues dull and drooping for combing fleece and prespects are anything but en-couraging to country holders. A steady demand is maintained for nearly all grades of wool which enter into domestic consumption, and while consumers oppose my attempt to advance values they take hold freely at current quotations for super and extra pulled and other wools approximating in quality. Capes are decidedly firmer and quotably 1 to 13 cents likehor to sell. The depressed state of the Bradford, Eug., and the United States worsted trade has naturally affected the price of fleece wools.

Dagga .- Business in this trade ranges from feir to good, orders coming in freely, but mostly for small lots. Hemittances are reported improved.

#### OLEOMARGARINE MANUFACTURE

The following description of oleomargarine manufacture is from Braintrec's The eleomargarine manua-by the Mego process, is a pure, sweet and nourlaining animal fat, closely allied to sweet dairy butter in all its essential qualities. In the process of rendering beef fat by this process, it is separated into four distinct marketable articles in the following proportions First, oleomargarine, about 32 per cent.; second, atterine, about 12 per cent.; third, tallow, about 20 per cent.; fourth, residium, about 6 per cent, valuable as fertilizer chiefly. There is about 30 per cent evaporated. The elementary of the product from which butterine is made. The legitimate process which promised well, but for one reaconsists of churning a given quantity of unaklumed milk, after it has been allowed to "turn," until the son or another have failed to come into anything like butter "comes," then from four to six parts of melted general use. We now come to bear of a carriage elementary of the coloring, and the 2 are recharged upon broken fee to congeal the butterine. It is then salted, "worked," to congeal the butterine. It is then salted, "worked," and mayle into prints or packed in tubs for sale. Settain proportion of air, and exploded in the cylinder of them are about 11,800,000 beef cattle alaughtered. evaporated. The eleomargarine is the product from There are about 11,800,000 beef cattle alaughtered in the manner common to well known gas engines. There are about 11,800,000 beef cattle slaughtered annually in the United States, which yield an average of 70 pounds, or a total of \$26,000 pounds of fat, capable of yielding 528,640,000 pounds of oleomargarine by the Mege process, which, say, from 15 to 17 cents a pound. The business being comparatively new, and restricted by a patent, a part only of the fat produced is utilized. An idea of the present importance of the trade may be gathered from the fact that there are from 10,000 to 12,000 head of cattle slaughtered in the city of New York and its vicinity, which ered in the city of New York and its vicinity, which yield an average of about 80 pounds of fat per head, all of which is utilised in the manufacture of oleomargarine. Besides this, there is a large and increasing quantity of "stock" (freshly rendered fat) being received here from the West; and there are three establishments in this city (New York) which are manufacturing oleomargarines at the aggregate rate of about 45,000,000 pounds a year. Similar manufacturing establishments are a large and increasing discretized by varying the amount of gas admitted to the varied by varied by va Louisville, Ky., and other cities.

#### GRAIN SHIPMENTS IN 1850.

The shipments of grain to Europe from this port, exclusive of flour, for the calendar year 1830, according to the mutual company for the ceiling of grain vessels, This considerable increase is of itself interesting, but the comparison between the shares of steam and saling vessels in this carrying is more so. Of the total in 1880, steam took 48,066,579 bushels, or 44.08 per cent.; salis took 63,376 584, or 55.92 per cent. The division was thus not very far from equal, but in 1879 it stood thus: 40,500,058, or 46.73 per cent. by steam, and 58,910,022, or 69.27 per cent, by sail. Here is a very decided rate of gain of steam over sall, which is all the more surprising in that it cannot be referred to any companison on account of the character of the product, grain being the sort of freight which, combining great bulk as respects value with comparative non-perishability, would best hear transportation by

nall. The lifegular stomars, which entered the radiocuty for lindices in 1 to doubtless contri-Fifted toward the chance in the preportion. In 1819, 1860 salling-yeserla and 1,650 steamers were use got in earlying grain, more or less, in 1850, 1,750 Some s.—The state marks are the follows was less been more active, and toolay a fair business was substituted in the following the follows: Banks—for the follows: Insurance—fonded at the weak correlate follows: Insurance—fonded at the weak correlate follows: for the follows: Insurance—fonded at the weak correlate follows: for the follows: Insurance—fonded at the weak correlate follows: for the follows: Insurance—fonded at the weak correlate follows: for the follows: follo sult and 1 202 steady to so be artical stain thus showing a dere won't a in the sultand on the reuse of 236 in the Norvegian and Italian venels ranked next to British with 18147,226 and 11, 82,001 bad els respectively then Austrian and terman with 0.007,016 and 5.200 Russia, Spain and Sweden. This country shipped to Europe 113,312,163 bushels of grain from this port, in 1,222 steamers and 1,780 sailing versels, this week worthy of note. Prices in heavy goods are still very low, but steady, and merchants are looking for an advance in them. The English markets are stiffer in the and bar tron, which has caused wholes allo merchants here to be firm. Owing to the unsatisfactory way in which Canadian goods are being sold. The I nited states grows raw materials in abundance. and if other nations want her surplus let them come after it with their own ships-the American Clyde shall be protected and fostered, come what may,-New York Times.

#### SOLID PROGRESS IN THE SOUTH.

The facts in the case of the State of Georgia show conclusively that the colored population are making very excellent progress in the acquisition of property and hence the charge that they are being kept in the beckground, that they are held down by their old owners, is not one which can be austained. The report of the comptroller shows that the colored people of Georgia pay taxes on nearly \$600,000 in one year. In the city of Atlanta, the negroes pay taxes on a quarter of a million. In the matter of education, the advantages, it any owing to the contributions of Northern people, are rather in favor of the colored people. They have just the same privilege as the whites. There are in Atlanta two large universities. one of which is supported by the State, and one theological seminary, ail of which are for the blacks. In the public schools of the State there are about 80,000 colored children; and in the entire bouth the number of this class in the public schools is over three-quarters of a million. There is a public library in Atlanta, which is for the use of the negroes, and which has some statistics are given in regard to the material progress of the bouth, which are full of meaning, in that they refute the calumnies of that section, constantly assert that it is failing behind in production The outton product has increased over 1,800,000 bales since the war, and the number of cotton spindles within the same period has grown from 180,000 to nearly 800,000 "And," asks Mr. Bidney Root, "how is it that our iron furnaces, which have generally re-mained in blast during the recent severe panics, are aircady a potent factor in the calculations of the fron world?" The year before the breaking out of the war was one in which the cotten product assumed its greatest dimensions, and if he the fact that cotton was then king, how is it now when it is increased over a million and a half bales-when it has become this much greater than it was at that time when it was the recognized menarch among for Ign products? According to a statistician in Boston, the cotton crop for the last ten years is equal to the amount of the national debt at the close of the war, or some \$3,000 .-000 000. This enormous product is all due to the South; and to it should be added the millions which have come from the growth of rice, sugar and tobacco. -Atlanta Bunsoy Gazette.

#### NOVEL ROAD ENGINE.

We have on several sociations illustrated steam manumeturing of comargarine at the aggregate rate of about 45,000,000 pounds a year. Similar manufacturing establishments are operating in Beston, Philabelia, Baltimore, Cincinnail, Chicago, St. Leuis, Louisville, Ky., and other cities.

> -Newly \$73,000,000 of United States bonds are owned by women.

It is said that there are 1,350 watches manula-

-The first steel rails made in the United States,

#### SCIENTIFIC AND PRACTICAL.

CULTING HARD SHEEL WITH SOLE BOOK

a ligh motion the wift sheet from would est off a ben a locality and at all the in a few seconds. After we were satisfied that well from would not old and hard steet this may. Fill up the large hole with time charcoal, one matter how hard, the dish was put on one of the number of a circular saw which was during at a very properly put up, will last a lifetime. sigh metion, and that disk was employed for many rears afterward to gum saws of all sizes. During the past seem to baring occasion in a new shop to make a goodly number of cutters for the power moulding machine, we made another sheet iten disk, which was utted to the mandrel of one of the little circular saws, as we can cut slots into the heal ends of the cutters. and cut and dress off the edge ends faster than twenty men can dross the steel away with chisels and files one can "gum ' an old cross-cut saw, or a mill saw or drag saw, or large circular saw, with such a disk in cracking or injuring the saw blade. After a large saw bas been gummed by an tron disk, if one has a small omery wheel of the proper form he can dress up the teeth almost to a perfect cuiting edge without a file, thus saving an enormous expense of files. I have found in some instances, when gumming cross-cut two-men saws, that the steel of certain kinds of saws would be case-hardened a little on both sides of the kerf made by the disk. That very thin film of casetardened steel would wear away a new file rapidly But by employing an emery wheel instead of files until all the case-hardened steel had been removed, the expense for files is always small. Indeed, we use files only to fit up the very points of the teeth. I may add, for the advantage of beginners, that the true way to fit up the periphery of a disk is to cut it with heavy shears as nearly round as practicable, after which hold a piece of grindstone or sandstone so that the edge of the disk will strike it when in motion. We always use a stone and file, and then attempt to ret steel a little, thus working off the periphery until it is as smooth and true as it can be made. Then the rold steel and soft from when in high motion will itterally melt the hard and cold steel and drive the melted metal from the bar las stream of white-hot sissing and burning steel dust.- Neventice American

#### USE OF THE LEAD BATH.

The employment of melted lead for heating steel articles preparatory to hardening is becoming much more common than formerly. Years ago melted lead was recorted to only when the article to be hardened was small in bulk and thin, or when the article was of greatly varying thickness. But as handiness in use came with experience, the lead bath became a common means of getting the proper heat on articles of unvarying form and of quite a large size. The cape and dies which are produced in large quantities by some concerns manufacturing to order or for the general market, are now generally heated in the lead bath instead of over a charcoal fire. From the lead tath the articles come so clear and clean that the experienced operator does not require an after polishing to prepare for the drawing or tempering process, even when the cooling bath is oil instead of water; the color being as well defined as when the hardened article is polished. The oil is readily removed by a momentary immersion in potash or soda water. But it is necessary that the lead bath be of clean, pure lead; that made from the commercial pig is the best. It will not do to use old pewter, Babbltt metal, or even old lead pipe. The bath should be made in a black lead or plumbago crucible, or in a pos made of boiler from or heavy sheet from, and the lead should powder.—Boston Journal of Commerce. te brought to a blood-red color and kept there. To prevent oxidation and consequent waste, the surface of the lead should be covered. Where the articles to be heated are of hearly uniform size, a plate of cast or wrought from about a quarter of an inch, or even less, in thickness, may be placed on the surface of the melted lead, being of size and shape to nearly cover the lead, and through this plate may be made a pole sufficiently large to admit the articles held in a pair of tongs or suspended by a rod. Where the bath is to be used for articles of varying shapes and sizes a thick sprinkling of charcoal dust is a good protection.
If the bath is kept up at a good red heat it is surprising how soon its heat will be imparted to quite a large place of steel. The process is a saving of time over that of the charcoal fire, and has the still greater advantage of producing a "suant" and even heat. The chilling, of course, may be in water, a pickle, or oil, as nature of the work requires. When the drawing or the tempering is not done by the sand bath, the open fire or red hot fron, it may in many cases be advantageously done by the lead bath itself. This is especially the case when some portion of an article wholly hardened requires not temper but softness. Instances of this character are in the treatment of aprings, a suitable for the purpose. When the operation is portion of which should be left soft, as when they properly conducted a layer of galena is obtained, are to be after worked for use. The lead bath will soften just that portion immersed, without affecting the article for any further perceptible distance, as the bath heats the sized very rapidly without affecting the unimmersed portion. In thus softening over a fire solutions. The most convenient solution for deposition on brass is thus prepared: Take a quantity of the point desired. Springs of hardened brass wire may thus be softened where a portion is to be bent or rivoted. A momentary immersion of the portion to he softened, and then a dip intcold water, will at once remove the spring-like rigidity of the wires. There are many occasions not necessary to specify, when the lead bath will be found very heady. Every machine shop should keep a pot of clean lead on hand and ready for heating. Even in jobbing business and in the tempering of tape, drills, reamers, and even turning tools and planer cutters, the lead bath is a great convenience.

#### A PRINTEL DS TROMINING DED.

About strong and the control of the A rod on easily be worked down ton feet more in

#### UNIFORM MOTION

It is always desirable that the motion of a machine should be regular. Even supposing that the first mover is perfectly constant and equable in its actions, which revolves about 2,000 times per minute. After the machine may not be regular in its movement, the periphery had been dressed off as true as practical from the irregularity of the resistance to be overcome. able, that disk of soft fron would (and will) cut off a But still, if both the power and the resistance were vard of cold etect four inches broad and one-fourth of perfectly regular, the machine would not be perfectly an Inch thick in one minute, making a kerf as true uniform in its motion, for there are particular postand smooth as a groot saw will cut through a piece of tions in which the moving parts of a machine are The dick will save an immense amount of more efficacious than others, as in the crank, for filing when making cutters for moulding machines, justance, hence, the energy of the first mover will be unequally transmitted, and irregularity in the motion of the machine will consequently follow. The motion of some machines bears a constant tendency to accelerate, others to retard, and others alternately to accelerate and retard, and, perhaps, in no case whata a few minutes, without any approhension whatever of ever can the motion of a machine be said to be perfectly uniform; but common sense will point out the necessity of having the motion as uniform as it can be made, else it will increase in proportion as it is multiplied through the machinery.

#### DESTRUCTION OF IRON.

Some years ago an experiment was made in England, continuing several months, of the effect of percussion on a suspended bar of fibrous wrought iron. It is not convenient just now to recall the details of the report which was published at the close of the experiment, but the result was that the fibrous from was changed in quality to Iron of a granular structure which broke as short as ordinary cast iron. Doubts have been expressed, at least by the popular press, of the possibility of this change of character in the quality of fron by such apparently inefficient means; but experts are unanimous in the opinion that long repeated concussion on fibrous iron, especially when held in .ansion, will in time effect a radical change in the molecular structure of the metal. There are other means for destroying the integrity of Iron, or at least changing its character; one is, heat long continued. It is well known that the thin plates of ordinary cooking and parior stoves which are used in this country are uttorly worthless as material for the cupols, although they weigh about the same as new plates of Iron just from the flask. The material appears to be there, but the real material is absent, it looks like fron, but it is not from, it is so thoroughly disintegrated that particles have assumed a form entirely different from those in iron cast from good pig and not exposed to after heating; and yet it is no oxydized iron, for it cannot be reduced again to its original element of fron and its accompanying impurities—the fron itself is destroyed. A similar change occurs undoubtedly in the fibrous and lamina. ted plates of steam boilers long exposed to heat and alternate expansions and contractions. The reports of examinations of plates of exploded boilers, as made by experts, frequently contain the statement that the iron taken out for tests has become brittle. Certainly that was not its original quality. There undoubtedly is a point of tension beyond which fibrous iron changes, almost instantly, its character. The same remarks may be applied to steel, and a ready demonstration may be found in the testing of fibrous Iron or steel in the ordinary testing machine, where the test is made for tenacity. It will be ebserved that the stretching, which is gradual, proceeds noiselessly to a certain point, when the metal refuses bers at their marriage instead of death, considering to stretch another fraction of an inch and bursts, or no doubt, that, whereas entering the marriage state of the considering the marriage state of the considering the marriage state.

#### HOW TO COAT ARTICLES WITH LEAD

Professor Emerson Reynolds thus describes one of the best methods of applying his new process of galvenising, or covering with lead, various substances: Take 16 grammes of solid sodic bydrate (NaUH) or an equivalent of other suitable hydrate, dissolve it in 1.75 litres of water, and add to the liquid 17 grammes of load nitrate (Pb2NOs), or an equivalent of other lead salt, with 250 cubic centimetres of water; raise the temperature of the mixture to 90° C. If sufficient lead sait has been added, the liquid will remain somewhat turbid after heating, and must then be rapidly strained or filtered through asbestos, glass or other suitable material, into a convenient YCCOO!. The filtered liquid is then well mixed with 100 cubic centimetres of hot water containing in solution 4 grammes of sulpho-urea or thio-carbamide. If the temperature of the mixture be maintained at about 70° C., deposition of gatena in the form of a fine alberent film or layer quickly takes place on any object immersed in or covered with the liquid, provided the object be in a perfectly clean condition and which is so strongly adherent that it can be easily polished by means of the usual leather polisher. It is not necessary to deposit the galena from hot liquids, but the deposit from is more rapid than from cold tion on brass is thus prepared: Take a quantity of sode lye containing 14 ounces of real sode (NaOH); dissolve in this, with the aid of heat, 3 cunces of tarirate of lead, and just before diluting the solution to one gallon of cold water, add 5 drachms of sulpho-ures previously dissolved in a small quantity of bot water. The articles are to be immediately immerced in this bath, and the temperature raised to boiling. When the desired tint is obtained the articles are to be removed, washed and polished. The above solution can be used for glass or porcolain, het or cold, if the proportion of alkali be reduced onethird or thereabouts.

#### INSURANCE MATTERS.

The first term of the control of the daring to the discharge of their duties, the trustees had authority to grant rewards to those who rendered efficient and valuable services and who displayed hero'c qualities. The insurance of property scaling loss by thre was evidently a + 2 condary object or incldent connected with the organization. There was no capital paid in at the organization of the association, the companies riedging all their apparatus and property, and the trustees making themselves individually liable for all losses. The application for a charter was made as soon as the organization was all frauds. While this much is emphatically tree affected, but it met very decided and determined is also true that there are companies which rot into charter was made as soon as the organization was oppesition from the older insurance companies, who based their opposition upon the fact that there was no capital paid in, but the real cause of the opposition was the well-grounded fear that the association would interfere with their business and leasen their profile. The charter was refused, and the question of granting it was made a test in the ensuing election for members of the senate and house of representasives, and the influence of the firemen aided largely in politically revolutionizing the city. By great effort a charter was got through the legislature and signed by Gov. Findley on the 27th of March, 1820, under the title of The Trustees of the Fire Association of Philadelphia. Although there was no limitation in the original charter, the association confined its business to the city and county of Philadelphia. In 1832 the trustees made application for an amendment to the charter, the chief object of which was to relieve the tru-tees of the personal liability clause in he original chatter. Another was to prevent any dividend being declared to the several fire companies until "the moneys arising from premiums for annual insurances, interest on loans and profits shall amount to the sum of \$100,009, and then the whole interest on the capital stock, after paying expenses and satis-fying losses, shall annually be divided among the several companies composing the association in equal proportions. Very little opposition was experienced in obtaining this. The charter also restricted the association to the "insurance of houses and buildings in the city and county of Philadelphia." At this time the number of fire companies comprising the association had increased from the original nine to forty-five. Subsequently four more were admitted, making a total of forty-nine fire and hose companies admitted into the association from its organization until the charter was amended making it a joint stock company by act of the legislature, approved May 5, 1871. The hest companies admitted to the association paid no initiation fee. Subsequently a fee was imposed and increased as the association increased until the fee reached \$7.500, and one company, which was refused admission by the board of delegates, offered \$10,000 for the privilege of memberahlp.
"No company was entitled to any dividend which, in opinion of the board of delegates, did not possess a competent apparatus for the extinguishment of fires. Under the original and amended charter the association was limited to the insurance of houses and other buildings from loss or damage by fire. This rest. totion was removed by a supplement passed by the legislature and approved April 13, 1838, which granted full authority to insure "houses, tenements, manufactories and other buildings, and on goods, wares, merchandise and effects therein, and upon any ship or vessel, etc., etc

#### A MATRIMONIAL BENEFIT COMPANY.

A very lagenious departure in the insurance line has been started in Cincinnati, where a "Matrimonial Benefit Company" has been incorporated. Threwing saids all the traditionary schemes of the life insurance business, this company proposes to benefit its members at their marriage instead of death, considering, the same section of a line at a given time. But ly the exchequer must oftentimes need replenishing, after death money would prove of very little practical use, so far as the deceased is concerned, other than to pay the expenses of his obequies. The laws of the association call for an initiation fee of \$5, and a general assessment of \$1 upon the marriage of a member A field for speculation is certainly opened to the enterprising man, who, between the divorce laws of the State and beneficial provisions of the matrimonial company might, with successful mancouring, manage to secure a protty competency by entering upon the holy state of matrimony on a average, say, of five times a year. It is highly probable that the scheme will become popular with a large class of indigent but would-be-married men consequently if, for instance, the association should number a thousand members (a very small estimate, by the way), an active man and one possessing charms for the gentler sex might, by welding four or five damsels per annum, secure as many thousands of dollars, which, after deducting the expenses incurred in divorce proceedings, s.e., about \$30 per case, ould afford a very comfortable income. This view of the success of the proposed undertaking may strike the average mind as somewhat demoralising, but ther we are living in a slightly demoralized age, and more startling transactions than this are being accomplished daily. The " Matrimonial Benefit Company" would do well to view the matter from this standpoint, and take sure measures to preclude the concection of any such lase and ignoble swindle which is terrible to contemplate. To be forewarned is said to be forearmed .- Insurance World

A bill is before the Illinois Legislature to prohibit any life insurance company from doing business there that is not permitted by the laws of the State whore it is located to loan money in the State of Illia nois. Such a law as this, should it pass and be approved, would cersainly stir up some of our life companies to the necessity of such legislation as would give them a wider range for the investments.

-The leading advocate of compulsory national insurance in England, Rev. W. L. Biackley, complains that he is misrepresented in many material points.

the operation of the plan for has device to will go deally disapport, and in the con-Measure to be the contribution for THE SINGLER HISTORY OF A PHILADILE policy of contributing the entire of the contributing the entire of the contributing the entire of t national deposit models applies only contents the ages of clothers and twenty

> the public fournals. There is a strong to decision of part of the general public to take a supers all very of this matter of litigation and to cry out in angle but a discriminating manner against every arren. the companies to protect their policyholders i, sistance to pojust claims. A little inr. at. 20 of would readily show that cases are constantly at the similar to the Welton Dwight case, or the Liber 44 in Oregon, in which resistance is alike in the interest of the honest policyhelders and of that general p good which is conserved by an exposure of acr set quently resist claims under some specious pora at a ing from the existence of some not very deals expressed condition in the policy contract, which tion of life insurance basiness. Those compacts which strike the golden mean between litigates based on unfair conditions in the policy or the mere technicalities of the shrewd attorney, and lingut, a based on a fairly supposable attempt at fraud on the company, will not fall of recognition and just approlation by the observing public in the long run\_7, incellegator.

> -A policy of insurance of the life of F contact! this provision : "It shall not take effect until the atvance premium thereou shall have been paid do the the litetime of the person whose life is thereby in-sured? I applied for the policy, and it was input and left at R's place of business by an agent of tacompany, who, by letter, requested the payment. the premium if correct and satisfactory. The arete repeated the request by letter a few weeks later from letter was received by the sister of F and opened by her, he being ill of a elckness whereof he died is sister, without his knowledge or direction, paid the premium, and F died without knowledge of the parment. Held that the policy was not binding on the insurance company. No contract of insurance exists between the parties at the time of the death of F The possession of the policy, without a waiver on the part of the company of the condition upon the part of the company of the condition upon the part of the company of the condition upon the part of the policy. formance of which it was to take effect, did not all a a delivery of it in completion of the contract, a nish any evidence that the minds of the parties his met. It was not enough that the form of the point had been approved, for it was allil optional with whether he would, by payment, make it a had a contract. If he declined or neglected to pay the company would have no claim for the premium egant him or against his estate, because the risk never vtached. A proof of less by the widow and persons' representatives of F did not amount to such rate . tion of the unauthorized payment by Fa sister a would give validity to the policy .- Whiting vs 4 ... chwetti Life Ins. Co., Sup., Ct., Mass.

### ENGLISH RAILWAYS,

In England, since 1875, railroad managers, on the 12,000 miles of read added to the 18,500 alreads a existence, have expended .: 107,000.000, increass the capital cost of each mile from £37,000 to £4.79. Since 1874 the net earnings of the five great paterger lines have advanced from 3.41 to 3.97 on the ag gregate capital, while on the principal mineral ins these earnings have decreased from 5.34 to an average of 4.82 per cent. As to the deaths of passengers, then have been reduced by one-half, the number of accdents having been diminished by one-third, while the number of trains have been increased 11 per cent since 1874. Frazer's Mugazine, in teviewing the whole problem of railway eafety, insists that this can ! solved only in one way, by means of the staff o pr mit, which insures that only one engine shall be of " For the passage of trains over the same line, in tar same direction, at a different rate of speed, no absointo rule of safety exists, although the efficient work ing of the block system produces an approach v safety." The danger incurred depends on the rets between the different rates of speed. Forty miles at hour is the time on the London & North-Westers Railway, with mineral trains running at 15 miles. At the latter must get out of the way of the former, then are aldings every 74 miles. When, in 1840, the Ladon & Birmingham road was opened, 28 trains duf were all that were required. The lead of the pager train was 40 tons, and the merchandise train 0 98 tone. The passenger speed was 25 miles at hour, the merchandise 20. Since 1875, over the same road 127 trains ran, passenger trains being over 257 tons, speed from 25 to 40 miles an hour, while the mineral or merchandise trains are of 540 topt with a speed of from 15 to 20 miles. Of course the work is now done partly on three or four lines 4 is well known, the profits of a road carrying passergers is much larger than that derived from an excissive mineral or merchandise road. For instance, the Metropolitan Railway carries a traffic of £36,000 for mile and the Metropolitan District of £34,000, which makes each engine on the respective lines care in the one case £12,000, and in the other £10,000, while of some reads, doing an exclusively freight business. the annual earnings of an engine are only 4: "

-It is said that the deputation from the Tost Council, appointed to attend to the interests of the municipality, in respect to the Midland Railes, legislation, will endeavor to have a clause inserted in the bill before the Local Legislature, declarat that the General Traffic Manager's and Chief Esgineer's offices form part of the head office of the perpension, and should be stationed at Port 150pt The argument set up to advance this proposition it that at the House last session, the town deputation agreed to assist in the passage of the bill then before the legislature, on condition that the "Head Office should remain here, and that the railway has broken faith with them in removing the offices referred "

N. 16. 15.

He does not propose to abolish the poor-law; under Peterberougu .-- Pers Hope News.

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#### RAILWAY MATTERS.

REDUCED PASSENGER BATES

the Kinney Areanys - A practical step in the di-taction of reduced passenger rates has been taken by the littsburg, Cincinnati & St. Louis Railway Company, which appoundes the following commutation rate s

Siret-the thousand ratte tickets for indisidual use of one person named thereon. good for one year, but subject to exten-to same conditions as foregoing, sold only n order of general or division freight agent That-Fifty trip tickets, available between

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ino stations specified thereon, for putchaser, member of his family or employees, and for one year from date of sale. Per Fourth Twenty-six trip tickets, subject to

same conditions as titty trip tickets. Per value, coupons receivable in payment for excess baggage charges at any station. . \$20.00 Sixth—Extra laggage tickets representing \$15 in value (discount on either ticket 33 per

(ent) ..... 1000 These rates indicate a very considerable reduction, These rates indicate a very considerable reduction, and offer special inducements to commercial travellers and business men. The excess baggage sickets, at the handsome discount of one-third, ought to hearrely purchased, in spine of the fact that accomplished commercial travellers aften hoast that her understand mothods of getting liberal amounts of extm laggage through without charge—except, perhaps, the cost of a few cigars. These tickets make it a'most as cheep in the long run to be honest as to swindle the road and corrupt its employees. The Pittsburgh, Cincinnati & St. Louis system embraces carly 1,500 miles of lines, as follows . Pittsburgh to Ashington, Pa, Wheeling and Columbus, Dresden anction to Cincinnati, via Zanesville, Lancaster and principle. Columbus to Cincinnati; Xania to principled, Onio; Xania to Richmond, via Dayton; bolumbus to Indianapolis, via Urbana, and Piqua, Columbus to Chicago, Richmond to Illinois State Line, via Logansport.

KINGSTON AND PEMBRORE RAILWAY.

The annual meeting of the shareholders of the K P R was held last week at the office of the com-

The following are the names of the Board of Directors elected for the ensuing year. Messrs, B. W. Folger, R. P. Flower, J. Tillinghest, H. H. orter, W. Nickle, C. F. Gildersleeve, Geo. W. Flower,

as Swift and G. A. Kirkpatrick.
The president, Mr. C. F. Gildersleeve, presented as annual statement, which showed the receipts of he rold to be \$50,933 79; expenditure, \$43,438.30, owing a net profit of \$7,495 49.

The president then said that work had recently een commenced on the line north of the Mississippi ever commenced on the sine north of the shistisppi liver, and eighteen miles of steel rails purchased for hext springs delivery. It is expected that traffic will be opened to the Clyde river during the ensuing ntumn Application is again being made to the Datario Legislaturo for aid for the fourteen wiles octaveen the Madawaska river and the village of Benfrew, from which point the company has running powers over the Canada Central Railway to Pembroke and Lako Niplasing The traffic earnings for the year 1880 were, for passengers and mails, \$12,726 50; for freight, \$33,207.29, making a total of \$50,933,79. The expenditure on running account for the same period was \$43,438,30, leaving a profit of \$7,495.49, which provides for the interest on a livile over one half of the Londs outstanding, and no interest on the stock, and no reserve for wear and tear of iron and rolling stock.

At a subsequent meeting of the Board of Directors, the following officers were elected:— C. F. Gildereleeve—President.

(10) Osborne-Secretary-Treasurer.

B. W. Folger-Superintendent.

t. W. Flower-Superintendent of construction.

-Kiroston News.

THE NEW CONTINENTAL RAILWAY.

tine of the most preposterous projects that has been presented to the public recently is the so-called Con-tinental Rallway. According to a statement given by the ompany to the public, through the columns of some of our daily contemporaries, the line of road is to extend "from the liudson river, opposite New York, to the Missouri river, opposite Omaha, with extensions connecting Chicago and St. Louis with the East. This line has been surveyed the entire length, been made to put 10,000 men at work as soon as weather will permit in the spring. It is stated by officers of the company that ample funds are at their command to construct the road and equip it in the most complete manner. There is to be a double track the entire distance of the heaviest steel tails of English manufacture. This route, between New York city and Chicago, according to the surveys, does not vary lifteen miles in the entire distance from a straight geographical line. The distance between there two points is 781 miles, or 128 miles aborter than the shortest route now in operation. By the Pennsylvania Railroad and its connections the distence to Chlosgo is 914 miles; by the New York Central and the Lake Shore, 980 miles; by the New Central and Great Western of Canada, 961 miles." No one will question the accuracy of the geographical air inte between this city and Chicago, while they may deny the practicability of constructing a road on such a tine or saving anything like 128 miles over the shortest of the present routes. Further, the statement goes on to show that, shealdes being the most direct route to the West, the elevations will be less than those of any other road, not exceeding 40 fect to the mile at any point. At the Deleware Here the elevation wit be 180 feet above the level of the

doubts as to that part of the statement which says down in the prospectus as follows — thus line has been surveyed the entire length. The profits, seven months of gravel mining ... statement goes on to show that "this road will be Profits, 12 months of quarts mining ... completed and in operation two years from next spring. A large staff of engineers will be distributed along the line of the route early in the spring to complete their labors. They will be followed by construction parties, who in turn will be followed by trains with irou and supplies. The entire work will thus be pushed forward with the utmost expedition." The expedition with which this road is to be constructed surpasses anything heretofore known in the . Mines of Nov. annals of railway building in this country, involving of last year the completion of between tour and fire miles per

#### QUEBEC RAILWAYS

day For a road of the magnitude and importance of the one promised, the capital, which for "a double

track laid with the heaviest steel rails of English

manufacture," and equipped " in the most complete manner," amounting at a low estimate to not less than \$80,000,000, has been secured in the most quiet

manner. The taking in ot all the great and good

things promised by this new scheme is a heavy steady upon public credulty. - New York In licator.

The Pacific Railway Syndicate, whose contract with the Government has been the one subject of debate made. The different roads could be worked with summer. most effect under an united management. Under such an arrangement the public ought to be better such an arrangement the public ought to be better served than it would be if it were obliged to deal Stormont. with different owners. The amaignmation of parallel lines is often Lighly objectionable, since it destroys the very competition which the construction of more than one road was intended to secure, while the union tian one road was intended to secure, while the union of the several links which constitute a through line is generally an advantage both to the owners of the property and the general public. But if report speaks true, there is a wide difference in the price which the syndicate offers and that which the Quebec florernment asks. The Government of Quebec has consided to a new the accordance of the construction of the construction. which the syndicate offers and that which the Quebec Government asks. The Government of Quebec has carried its energy, in the construction of railways, to the print of temerity, and the consequence has been an overburdening of the finances. If a private company could have been found to build the Provincial railways of Quebec, it would have been great folly for the Government to undertake them; and if it can now disburden itself of the load it has assumed with. now disburden itself of the load it has assumed without any great sacrifice, it will act wisely in doing so. It may not get as much as the roads have cost, but it will attain two objects . It will ensure the working of the railways without further sacrifice to the province, and put the provincial finances in an easy position. In doing this, every object for which the roads were built will have been attained — Monetary

The county councils of Frontense and Renfrew will petition the Local Legislature to grant a bonus to the Kingston & l'embroke Railway Company, to enable them to build the fourteen miles north of the Madawaska river, the construction of which portion is necessary to form a junction with the Canada Central road

& North-Western Rellegarl The Chicago pany report business for the past eight months, from June 1 to January 31, as follows. Mileage, 2,770, June 1 to January 31, as rollows. Mileage, 2,770, against 2,249 the year before. Passenger earnings increased, \$376,817; freight increase, \$1,326,331; express increase, \$3,707, increase on proprietary roads, \$426,417; total carnings, \$13,820,037, total increase, \$2,134,278.

...The Kingston & Pembroke Railway is being and several millions of dollars have been spent in the slowly built past our doors, and Lanark looks on actual work of grading. Arrangements have already unconcerned. No effort is being made to induce it to been made to put 10,000 men at work as soon as join the Canada Central here instead of at Renfrew. A deputation is at present in Toronto urging the Legislature to make a grant for the section between Madawaska river and Renfrew. The stock is threequarters owned by New York capitalists, and they are furnishing the money which is now making the extension. The net increase last year was \$5,000. extension The net increase last year was \$5,000. to the area lines. Among the most noticeable lodes. The Government has given the road running powers are the Barrel, Ohio, Frankfort, Ritchle, Hall, Britanover the Canada Central from Renfrew .- Central Can-

> The bill respecting the Whitby, Port Perry & Lindeay Railway Company provides that the time for the completion of the extensions and branches shall be extended for six years, that power be given to issue "extension bonds" to the extent of \$15,000 for each mile constructed, to lease to, or smalgamate with other companies, and that an agreement to be made with the Midland Company for certain divisions of the carnings of the two toads be declared valid

-The bill to incorporate the Weston & Duffin's Creek Railway Company provides that Mesers, Alex. Manning, John Upper, Kingston, David Tisdale, Simcor, and Wm. Scully, shall have power, with other shareholders, to construct a railway from a point at or near Weston to a point on the line of the aca at the Allegheny river, 1,160 feet; at Akron, G. T. R. near Duffin's Creek, via a point on Yonge Ohio, 1,350 feet, at Fort Wayne, Ind., 700 feet, and street near Eglinton. The capital is to be \$300,000 at Chicago, 630 feet. The survey strikes the Delaware in shares of \$100 each, and when \$56,000 is subriver at licivilere, and the Alieghony at Mahoning, learned and ten per cent. of it paid up, directors may learned to be elected. The ten per cent must be paid within Newcastle, and thence the projected road twenty days of subscription, and the qualification for runs to Akron, New London, Tidin, Fort Wayne, a director is the possession of 100 shares. There are find, Rousselaer and Chicago. The most different to be five directors. The line is to be commenced ficult engineering obstacle to be most with on within three years and completed within seven.

#### MINING NEWS.

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York and Akron, Ohio, knows tall well that a succession of elevations varying from 600 to 2,500 feet must be encountered on the line proposed. The line of the Erie read reaches a maximum clevation of over 1,800 feet, the Pennsylvania read about 2,800 feet, and the object of parchasing and working an extensive distinct and similar results have since been obstitutioned to New York Central, which passes through the only good had passes through the only good had passes through the only good near the property similated on the Riviers du feet, while the New York Central, which passes through the only good near the property consists of Loup. Because county. The property consists of Little Falls, at an elevation of about 400 feet, has grades on its line of 86 feet to the mile. The three of the Riviers du Loup are included in the property to farmed with 1.247 acres held in fee simple, and of mining rights of the line of 86 feet to the mile. The three of the Riviers du Loup are included in the property to farmed with 1.247 acres held in fee simple, and of mining rights leave to Mr. Hattee

Tanoisa

This district lies on the Attartic shore (T 28 on the central to two and a half miles on one bank and the central to the property to the past two and received a good return. Betwee and received a good return. Betwee near two is and received a good return. Betwee near two is and received a good return. Betwee near two is and received a good return. Betwee near two is and received a good return. Betwee near two is and received a good return. Betwee near two is and received a good return. Betwee near two is and received a good return. Betwee near two is and received a good return. Betwee near two is and received a good return. Betwee near two is and received a good return. Betwee near two is and received a good return. Betwee near two is and received a good return. Betwee near two is and received a good return. Betwee near two is and received a good return. Betwee near two is and received a good return. Betwee near two is and rec former named roads have several high grades varying the extent of two and a half index on one bank and from 80 to 125 feet per mile. The elevations of this three nules on the other. The extended cost of plant new line are given at the principal rivers, lying is \$25,000-\$10,000 for hydraulic for washing the naturally at the bottom of valleys, and no mention gravel, and £1,000 for quartz mills. The gross resist made of the maximum height of the range of mountailts estimated at \$1,200 per day, and net proceeds taken to be crossed. This, with other reasons, excites at \$1,100. The result of one year's operations is act

Profits, seven months of gravel mining ..... £40,000 Profits, 12 months of quarts mining .... 90,000 

- Montreal Stor.

#### GOLD DISTRICTS

We give here a flat of the proclaimed gold districts with general information, gathered from Mr Glipin's "Mines of Nova Scotia," and corrected up to the end

CARIBOU

This district is situated (W 36 on the map) about six miles south of the Musquodobolt river, at Hamileix miles south of the algaquoupout fiver, at Manie ton's Corner, about 36 miles from the Shubenscadie station, I C IL, from which point a fri-weekly mail runs to the mines. Work was undertaken first in 1867, and several of the lodes have paid well, as the North, Flat, Cross and Hyde lodes; of these the Cross lode at one time gave quartz carrying 20 ounces. In 1977 a lode found on Aren 629, one foot thick yielded, in six months, 1,170 oz. from a stope of 40 feet and within a depth of 120 feet.

PIFTERN MILE STREAM

This district lies (W 40 on the map) on a tributary of the East neer of Sheet Harber, about 19 miles from since the session of Parliament opened, is reported to have made an offer to purchase, from the Province of Quebec, the railways that will form the eastern continuation of the Pacific as far as Quebec. It has, from the first, been probable that such an offer would be mount of gold has been taken out during the past amount of gold has been taken

IBLAC'S BARBOR

This district (X 49 on the map) known officially pa Stormont, lies east of Shertrooke For several years the returns gave an annual yield of about 1,400 oz. but during the last few years the mines have remained almost entirely neglected. Promising lodes have been found in the aurrounding country, but have not yet been thoroughly tested. No district in the province has better promise for the future than the one new under consideration. now under consideration

MONTAGE

This district lies (Q 31 on the map) about six miles wast of Dartmouth, near lake Loon, and has mainwast of Dartmouth, near lake Loon, and has main-tained an average output for a number of years. The Rose and the Symonds lodes have been worked con-tinuously for about two years, and have yielded im-mense returns, the quartz running from one to six ounces per ton. The Belt lode has been worked by the Mesers, Lawson, who, in the five years ending with 1874, extracted about 10,000 ounces with a hand-

MOOSE BITTE

This district lies (W 35 on the map) about seven miles west of Carribon, and is accessible by a road from Middle Musquodoboit. Only recently has the district received attention, and it promises to be one of the best in the province

MOUNT TRIACES.

This gold field lies (U 27 on the map) about three miles from Mount Unlacke station, W & A.R. A large number of lodes have been exposed over an area having a breadth of about one and a half miles, and a length, it is said, of six miles During the past year arge profits have been realleed from the Montreal ompany's area by various tributors.

OLDHAM.

This gold field is situated (V 30 on the map) three nia etc. A large amount of gold was extracted in 1477 by Mr. Baker from a lode in the castern turn of the measures, the result of five months work being 1,240 ounces. On areas 101 to 105 the Blackie fode was worked for some time in search of the mispekel nodules, which were found to carry gold up 5 and 7 ounces per ton

RENTREW.

This district lies (V 29 on the map) about 7 miles west of Enticld Station, I C R, near the north end of Grand Lake. Work was begun here about the same time as at Oldham, and the returns show a steady increase to 7,004 ounces in 1867. The operations of the Ophir Company were systematically conducted for several years and handsome profits realised, but workings were abandoned at a depth of 350 feet. Their returns during tive years were 17,532 or 13 dwt 21 gr trom 21,012 tons of quartz. All the mining has hitherto been confined to the south side of the anti-

where a pershidge is to be constructed too for thigh. The absorbing of the project light. The absorbing and instructively of the project light in the relevation at the Delaware river is given at 180 feet while it, bridge that carries the road over this stream is to be for feet high. Anyone possessing the country between the Hodson river opposite Now. The Hon I A Chaplen is one of the lists at the stream of the physical geography of the country between the Hodson river opposite Now. The Hon I A Chaplen is one of the local directors, and Mr. A. Humpney, quebec, who as been constructed to the physical geography of store of the physical geography of the country between the Hodson river opposite Now. The Hon I A Chaplen is one of the local directors, and Mr. A. Humpney, quebec, who as been constant to property for the past two such as good return. Between the vears 1800. village of Shirbrocks on the St. Mary dver, and

the map) about 10 miles east of Halifax, where it can be reached by a tri-weekly man, and is well known as the earliest opened. In the eastern part of the district, at Strawberry IIII, work has been pursued for a number of years chicily an lodes, known as the Dunbrack and Forrest, and others associated. The Nurget toda of Meases, Barton has vielded well during the past wason,

WAVERLYY

This district (8-20 on the map) is about 2 miles cast of Windsor Junction, I C R. There have been targe fortunes made here, and after a period of depression new veins have been opened on the Burkner and the McClure areas which promise large returns to the fortunate owners

WINE HARROR.

This district lies on the coast (W 48 on the map) about four miles east of the menth of St. Mary's river, and 12 miles from Sherbrooke. Here the auriferous quartz todes are met with over a belt nearly a mile from north to south, and are in thick bedded quartres, generally associated with their layers of finely laminated bluish elate, which facilitate mining. Work has been chiefly confined to the ground owned by the Eldorado Company, where it has been continued by tributor- since the proprieters ceased operations. The property of the Provincial Company has frequently yielded good quartz, the Caledonia Company having mined in six months. \$200,000 of sold. The Hattee lode has also yielded good returns to those who have worked it

OTHER DISTRICTS

Among these may be mentioned the Ovens, (L. 22 Among these may be mentioned the Ovens, (1. 22 on the map) in Lunenburg County, where alluvial washings were carried on for a short time, Gold river (Q 21 on the map). Harrigas cove (U 44 on the map), Salmon river (U 44 on the map), Moose Head (U 45 on the map); Ecum Secum, etc. Gold has also been reported from the Cobequid and South Mountains

#### THUNDER BAY IRON CO

To parties who are interested in our mineral development, it will be glad nevs to learn that Mr A. O Clark expects to be here early in February to superintend the rapid development of the iron mine at Ironton, and the building o a branch line of railway from that point to Port Hedstrom on Thunder Bay. A number of men have been at work during the winter atripping and making preparations for the coming season's work. That the firm of A. B. Mecker & Co.,

-About twenty thousand bushels of conlare mined daily in the mines near Peoris, Illinois.

...There are 177 mines in Indiana, employing 3,450 men, which produced in the past year 1,196,490 tons

-The Marquette and Menominee fron distances can furnish between 2,500,000 and 3,000,000 tons of orathis year, if called upon to do so.

-The upper Peninsula hasn't one-tenth of the charcoal fron blast furnaces it is capable of sustaining at a profit of money and reputation.

-Governor Jesome, in his late message, proclaims the fact that Michigan contains the largest copper mine and the largest iron mine in the world.

-The expenses of the recent trial of James Carroll at London are set down at \$3,355, exclusive of the Judgos' salaries, counsel fees, and witnesses for the de-

-The iron ore producers of the Upper Peninsula, of Michigan, have every reason to expect that the Year 1881 will be as prosperous as any they have ever experienced.

-The Florence, Wis., Mining News says the corporation known as the Menominee Mining Company mined and shipped in 1880 over 400,000 tons of iron ore from its ore bods in the Menomines district.

miles east of Enfield station, I. C. R. Gold was discovered in 1801, and since that date operations have been carried on. The worked portion of the district is characterised by a valley having a nearly cast and west course, occupying the crown of a very sharp anticlinial fold, the axis of whichich is nearly parallel to the area lines. Among the most noticeable led. -Thirteen silver mines yielded \$924,800 in Decem-Star, \$28,100; Indian Queen, \$17,700 , Independence,

—In 1878 thirty-five of the great mines of the West reported a yield of \$38,250,500. In 1879 thirty-six mines reported an output of \$23,005,400, and last

t twenty-eight mines gave \$19,793,800 f the yield of 1879 \$12,648,000 was in silver. 65,800 in gold and \$681,000 in lead. Of the yield of 1880 \$11,011,900 was in eliver,

\$8,441.900 hold and \$340,000 load -Sin Francisco Bulletin. -Twelve gold mines yielded as follows in Dec.

—Twelve gold mines yielded as follows in Dec, 1880 Standard Con. \$221,226.02, including \$13,800 silver, Bodie Con. \$45,198.77, Noonday, \$3,1933.29. Syndicate, \$24,769.75, all gold mines of Bodie, Callfornia Homestake, \$108,000, Deadwood-Terra, \$75,000, both gold mines of the Black Hills. North Bloomfield placer, \$21,200; Milton Gravel, \$21,780 Idaho, Nevaia County, \$41000, Freeno Enterprise. \$19,000, Oneida, \$11,400, all of California.

The four leading mixed metal mines gave the fol-

The four leading mixed metal mines gave the felclinal, the measures on the north side are generally lowing products in December Contention or Westcovered by soil, and, although rich boulders have ern, \$181,300, of which \$37,100 was gold and \$144,200 clinal, the measures on the north side are generally covered by soil, and, although rich boulders have been found, the parent lodes remain for future alliver Euroka Con, \$157,500, of which \$62,200 was been found, the parent lodes remain for future alliver Euroka Con, \$157,500, of which \$62,200 was workers.

\*\*Solution\*\*

\* This district lies (W 40 on the map) about 34 miles California, \$41,600, of which \$26,000 was gold and by stage from Antigonish, H & C. B B, near the \$15,000 silver.

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" Old Lorse Muscatele	2 35 39	155	Linered, boiling, w mal	073 4 070
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black took t	0 20	004	ParafineCanadian # gal . American	021 20 000
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Do white .		z	Niant Tarred roje Jate Jate Sotton Sail, carrana duck	0 25 20 0 35
Pice	1 (9) (0)	4 20	ÇANDLP#	929 <b>kg</b> (39)
Tapioes SALT.	7, 20	<b>53</b>	Relmont Sperm Mould, Montreal	. 0 10 # 0 201
Course (19 to the ton)	2 60	33	Pamboe, 124 & in	0 19 60 9 21
Furnica, hame halves guarters Factory Filled	100 00	60	PIG INOV.	(0.00.10
	:0 w	1 66	American Canadian biemenii Carribnia	25 00 #25 00 19 50 #20 00
Canned Fish  Industry, 11b cans Markeral, kalayon,	1 25 @		Coltness Eglinton	21 50 at 22 00 1
Time Cod (Garas)	1 % 6	200	tiarteberie (ileagarayek, per ton	. 21 50 # 22 60 20 50 # 21 50
Irry Cod (Gaspe) (green Cod in barrels— No. 1 No. 2 Larre do., draft, No. 1 Ilerring, Labrador Lane, No. 1 epist Lake Supersor White Fish, half barrel	4 60	4 20	Sommeries .	20 50 se 71 50 27 00 se 23 00 20 50 se 21 60
Large da., draft, No. 1	. 30) <b></b> 350 <b></b>	Fafe	Canadian Siemens	. 2 10 @ 2 25
Herring, labrador	500	575	Lanadian riemene Lisumpor and Disuling (under 250 %) Reach and Haffordahlre, per 100 be	2 10 @ 2 25 6 50 @ 7 50 1 85 @ 1 85
If the transfer of the transfe	4 1/1 (4	5 m 4 75 4 50	Heet do do hwades and Norway	. 4 50 <b>2</b> 5 60
Columbia River Salmon, barrel:	1275 OC	15 25	Arrow and equal	3 40 @ 3 50
Wasted Hessing	17 (0) at 19 (0) at 20 (d	888	Arrow and equal Clifton Hatton Itwanes and Penn., per box	3 25 60 3 30 3 19 60 3 15 9 60 60 3 25
Poaled Herring Polit Mackerel, No. 1	. ရှင်း 🖀	, 60 (0)	719 94 1700	
	1 (6)	66	Charcoal, I.C. per lox Charcoal, I.X. Charcoal, D.C. Coke, I.C. 14x20, 2°c extra.	. 575 <b>6</b> 5/0
Brands, Honnessy's, per gal	160	1.0%	Coke, IC 16 x 20, 2'c estes	473 2 800
Martell, per gal	430 M	11.00	Charosal (best) No. 26	
" Otard, Dopuy & Co., & gal	. 315 <b>2</b>	46	Charcoal (beat) No. 26	. 11 00 @ 12 00
Vine Growers' Co., & gal	7 30 4 , 3 30 4	3 40	Morewood's Lion, No. 25 Other brands, No. 25 Hoops and Lands, per 100 lbs, beets, best brands	71 6 7
Jules Robin's, P gal	. 3 m	3 #/ 8 15	Hoops and Hands, per 199 lbs. Sheets, best brands	2 00 60 2 75
" J Denie, H. Mounie & Co., F gal.  " Arlenie, Maratt & Co., & cal.	. ა.90 <b>#</b> . 3.30 <b>#</b> . 3.30 #	3 40	Cast, per lb	101 2 12
" He Laure, File & Co., F gal Rum, Jamaica, 10 o. p., per gal	3 05 2	3 15	Cast, per lb Steigh Shoe Spring, per 100 lbe Heat d, warranted Tire do	250 w 275 360 w 400
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UID, DE KRYPET A, TEU CAPE	• 128 🖷	7 7 10 7 4 30 9 14	Dest best brands, # 100 m. Lowmoor and Howling, unler 200 m. Urdinary brands, best, # 100 m.	
or or in word	20.	- 17	T JANES OF THE THOUGH TOUR TOURS OF THE PROPERTY OF THE PROPER	C (A
" Blandenheym & Nolet	2000 2000 2000 2000 2000 2000 2000 200	2 05	Ordinary brands, best, # 190 m	275 # 300
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In wood  Blandenleym & Nolet  other brands green, other brands, per case red, other brands, per case Booth's Old Tom, cases Hurnett's Uld Tom, cases	2055 M M M M M M M M M M M M M M M M M M	2 05 2 00 3 97 7 20 6 57 6 57	Ordinary brands, best, \$\psi\$ 190 m	6.50 # 7.50 2.75 # 8.00 . 10.50 # 11.00
"In wood "Blandenley at Noiet "other brands "green, other brands, per case "red, other brands, per case "red, other brands, per case Booth's Uld Tom, cases Hurnett's Uld Tom, cases "wood. High whee. U. C. p. Imperial gal., in bond.	2005 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	250 200 200 200 200 200 200 200 200 200	Ordinary brands, best, \$\psi\$ 100 m	6.50 # 7.60 2.75 # 3.00 . 600 # 6.50 . 10.50 # 11.00 . 11.00 # 0.00 . 13.00 # 0.00
In wood  Blandenleym & Nolet  other brands green, other brands, per case red, other brands, per case rod, other brands, per case wood  Higheriaes, U. C. p. Imperial gal., in bond Rye Whiskey, Imperial gal., in bond In small lots, duty paid  Blass' Ale. warts	20/5/10 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	3500T200T200T000000	Ordinary brands, best, \$\psi\$ 100 m  **MIRCRILARROUS.**  Anchors.** Anvils, "Poter Wright's"  Azes, Chopping, 20 to 25 p. c. discount:    Jat N. 8   Clinch Nails.**   Cut Nails, per 1(0) best   10 to 64 (3 to, and larger)	60 # 750 275 # 800 600 # 650 10 80 # 1100 1100 # 000 1300 # 880
Brands, Honnessy's, per sal  Martell, per sal  Cases  Otard, Duppy & Co., P gal  Pinet's, P gal  Vine Growers' Co., P gal  Bulary & Co., P gal  Liviary & Co., P gal  J penic, H. Mounic & Co., P gal  Arbouin, Marett & Co., P gal  Lemanta, Hon, per sal  Demerara  Cuba  Uln, De Kuyper's, red cases  green  Riandenlierm & Nolet  other brands  green, other brands, per case  red, other brands, per case  red, other brands, per case  Higheriaes, U. C. p. Imperial gal., in bond  Kye Whiskey, Imperial gal., in bond  Rase' Ale, quarts  pints  Guinness' Stout, quarte		200772007000004555 22776570000004555	Ordinary brands, best, \$\psi\$ 190 %	60 # 750 275 # 300 600 # 650 1050 # 1100 1100 # 050 1300 # 050 280 # 050 285 # 050

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Skunk, black	0.50	4	0 (4)

#### WEEKLY REVIEW.

sons advanced 1 per cent. to 1071 for buyers, 198 for sellers. Toronto strengthened 1 per cent. to 115 and 146 Exchange steady at 621 and 64 Montreal Telegraph moved up } per cent. to 127 offered, 127} asked

and 230,000 quarters of corn, against the same "Pssudodoxia Epidemics," says: "The conceit user quantity of wheat and 200,000 quarters of corn a week collent, and if the effect would follow, somewhat ago. The English wheat markets appear to be settling wine;" and he speaks of it as a conceit white of ago. The English wheat markets appear to be setting through the world with some attention, credulous and down to an easier and quieter condition. Prices have again been compelled to give way before the large valgar auditors readily believing it, and more prisupplies of breadstuffs that are constantly seeking a cious and distinctive heads not ritogether rejected market in Great Britain, red winter and California it." Sir Thomas, it would seem, submitted the mewheat off coast being 1d. lower from previous outside quotations, the former being now down to 45s 6d and the latter to 45s. No 2 red winter wheat for shipment during present month and next is 3d down, 44s Joseph Granville, in his "Scepsis Scientines" (10). being the price now quoted. Corn ivalso quieter, with discusses the objections of Sir Thomas Browne, at: an easier tendency in values. The exports of wheat concludes that "there are some hints in natural ejectant corn from the United States from September 1, ation that give us probability that is feasible." Given 1880, to February 5, 1881, included 74,400,000 bushels | vil, more than two hundred years ago, said | 4 Th ago wheat and wheat in flour, and 31,987,000 bushels corn, against 87,594,000 bushels wheat and 30,938,000 bushels corn for same time in 1879-80, showing a decrease of 13,000,000 bushels of wheat, and an increase of 13,000,000 bushels of corn. In Chicago the wheat with success be attempted, when magnetic market closed firmer and to higher at 98to history shall be enlarged by riper inspection March, 593c April, \$1023 May. Corn was ic to ic and the not unlikely but that present discondenter at 343c April, 423c May. Oats were steady, cries might be improved to the performance closing at 30c April, 335c May. In this market there. The earliest book in which Mr. Jevons found allusers. was very little business doing in grain, and prices were nominally unchanged. The flour market was dull, Haptista Porta, published in 1889. In the sevents but in the almost complete absence of business we do book he describes the wonders of the magnet, savent alter quotations. The only sales reported on ing in the preface, "I do not fear that, with a long strong bakers', \$5.75, and 250 Ontario bage, \$2.50. walls, we can communicate what we wish hymens of two compass needles circumscribed with an alphabet

afternoon from Chicago, higher prices will rule to- Augustine, and an exact description will be found in morrow. Pork in Chicago, after developing some his "De Civitate Del," a work helieved to have teen weakness in the morning, closed firm this afternoon, begun A.D. 413. It seems probable that this passive and higher, at \$15.32 March, \$15.55 April. Lard in St. Augustine suggested the notion either to Ports. also showed quite an improvement, closing strong at Bembo, or some carly Italian writer and that thus the \$10.10 March, \$10.22\frac{1}{2} April, \$10.32\frac{1}{2} May, which is an advance of 10c to 150 per 150 pounds on yester-day's closing quotations. Hogs were easier and 5c lower, mixed packer's selling at \$5.70 to \$5.95. The following is an account of the New York lard market: - Speculators have got full swing of the market at and the one be turned in a particular direction, the print; of course they are greatly assisted by the other will sympathetically move parallel to it.

active export movements, which represent still a full then directs each of these needles to be poised and English and Continental trade. After prices opened mounted on a dial having the letters of the a phase a little easier they were permitted to drop a arranged around it. Accordingly, it one person tax little with the pleasure of the leading operators one of the dials, and another the other, by a little preat the Yest, which point first felt the reaction, but toward the close the bent was upward again and prices were carried upward about 12 fc from the lowest pointing the needles to the letters of the requisit prices of the day, and shewed a gain on the close of yesterday of \$66/67\frac{1}{2}c. The 'shorts' continue cager to cover, and there was noticed as making up a fair portion of the business for the day a fair number of fresh orders. Refiners continue in for the early deliveri s, but they were in instances selling the late months. In this market there was no change from the strong position formedly noticed on all kinds

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A Oak A con-tar, ke ore gatists to 46 m + 1-24 mary ( milit only to 1 eral trade to impro ttade wa the deta ex ction hold its perceptif

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and the Dear the few of any to the few and would and white the choice grades will a recomb
they did a week see there is not the san a reprices. We hear of sales of ladlespace of both see that would have sold at 1th bye or exclussome gard freshly-trade ladle butter, a highest color, has sold at 22; per lb. We quote to the coramertos at 35 to 3'c without or two transfers. at a little higher tigure . Northern creamer. os st - 2 32c | freshly-made West-rn dalries . 3c to 2c made ladic-packed butter at 20c to 25; fin Nerfall-made butter at 25; to 20c; a raight Nerfall-made butter at 25; to 20c; a raight Nerfall-made butter at 25; to 20c, and Western rolls, 15c to 20c per ilb. Ti market presentano new features of interest the engine being pretty well over so far as the situat; at eaconcerned. The market in England keeps at six a may probably relieve holders of their sto k. w. ... much loss, and possibly with a little profit in the instances. It is almost certain, however the big fortunes realized by shippers last vertil not be repeated this. Last season it. m 11. men made most of the profits, but the farm remains : to take care of that part of the business during season now drawing to a close. The ship was choese from this city since the 1st of January 22,879 boxes. We quote jobbing prices 1 to Butter—Wholesale prices. Creamery, tancy tool p 1b 25c 427c., Townships, fair to fine daines p. 200 a 22. Morrisburg, fair to fine dairies jet 11-2 ... 22c. Brockville, fair to fine dairies, per lie in 12. Western dairy, fair to good, per lb 18c 6200 | Key, aska, per lb 16c 6217c | Rolls, per lb 17c 6220 | Com--Finest September, per 1b 13c d 14c. Mol. good, per lb 123c 213c.

Beerbohm a advices this morning were as f. II As =

Floating cargoes-Wheat and maize quiet and at his Cargoes on passage—Wheat and make, rather as Good cargoes red winter wheat off coast, were kind to 46s, now 45s 6d do California was 45s to to now 45s London fair average California wheat Mostreat, February 18th, 1841.

At the Stock Exchange yesterday the market was generally strong, with business quiet. Hank of Montreal opening at 1803, advanced to 1814 in the early part of the atternature, and closed with buyers at 1814, sellers at 1814. Merchants unchanged at 1174 and 1184. Commerce roled at 1334 bid until near the close, when stock was offered at this figure, with 1384 bid. Ontario declined 4 per cent. to 97 and 974. Mol. sons advanced 4 per cent. to 1074 for buyers. 198 for

GROWTH OF INVENTIONS

Thominion Telegraph sold at 94½, closing at 94½ and 95.

Richellen Navigation Co. was conspicuously strong, improving 2 per cent. to 58½ bid, 56½ asked. City Cast Co ruled at 182 and 1.3½. Other stocks unchanged.

The amount of breadstuffs on passage to the United Kingdom is 2,450,000 quarters of wheat.

The post addition of the sixteenth of the chimerical correspondence between two friends is the control of the control of the sixteenth of the chimerical correspondence between two friends is the chimerical correspondence. But Thomas Brown in the control of the control of the chimerical correspondence between two friends is the chimerical correspondence. to a magnetic telegraph is the "Natural Magic C Change were 100 bris medium bakers' at \$5.35; 50 absent friend, even though he be confined by prices two compass needles circumscribed with an alphabet It is stated and believed by many in the trade, both In the eighteenth chapter of the same book he de-It is stated and believed by many in the trace, both the second in the experiment of putting a magnet under a first the experiment of putting a magnet under a first the experiment, as Porta remarks, was known to afternoon from Chicago, higher prices will rule to.

Angustine, and an exact description will be found in arrangement as to details, a correspondence can be maintained between them at any distance by simply words."-Design and Work.

> -According to the recent consus, Switzerland possesses a population of 2,890,000—that is, 120.00 more than in 1877, when the last census was taken

-Pagans and Agnostics considerably outnumber the believers in any form of Divino revelation. While the strong position formedly noticed on all Ridds of how products. New Canada mess is firm at \$18.50 in the heathen and those of no known creed are computed \$796,339,255, there are 260,000,000 Roman Catholics, Recently a quantity of Princo Edward Island mess pork amounting to about 100 brist, was disposed of on this market at \$17.50 per bil. It is a very unusual 6,000,000 Jows.

#### THE LUMBER TRADE.

the present rate is 3} per cent. Freights have flucsuated considerably, and for some time in the autumn ruled high. The import, taking the average of several teats, has been small in comparison, and compared with the two previous years is in excess; but considering the small stocks held over at the districts usually nected from, it is not more than will be required before the new import begins. The consumption shear a considerable increase, but it is not in proportion to the large import. Had this been more moderate abroad would have been slightly increased, " sereas so light for very many years. Prices of all kinds now obtainable, with the cost of freight and charges, are much higher than present stocks are now held here at and this should not be lost sight of by the trade and onsumers.

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-The lumbering business in the Ottawa district will be extensive this scuson. A Caldwell & Son will cut 1 ... o feet in the township of Canonto, Frontenac countr, to be sent down the Madawaska. They did not cut last season. Hilliard & Dickson, of the same locality will take up about the same amount. B. Caldwell on will cut 400,000 feet of equare timber on the Malawasia-about double their product of the two previous seasons. On the Mississippi Peter McLean will have from 300,000 to 400,000 feet against 150,-Lanark, A Caldwell & Son will also cut about 200,000 feet of square timber.

### JAS. ROBERTSON & CO. Dominion Saw Works



(MSERTED TOOTH SAWS A SPECIALTY. All Saws wat-rated to be made of Very Best Material, and only First-liass Workmen employed.

SAW MILL SUPPLIES OF ALL DESCRIPTIONS SAWS REPAIRED

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ST. CATHARINES. Ont hale Manufacturers of the gennine MAN'AND IM-FROVED DIAMOND, IMPROVED CHAMPION and The NEW METERICED CHAMPION CROSS-CUT NEW, We also make all other kinds of Cross-Cut Sawe. Hand Saws from the cheapest to the very best.

THE LARGEST SAW WORKS IN CANADA.

THE WONDERS OF THE OURF STREAM. (

to improve from the autumn of 1879, when the from thica, It dows into the Atlantic from the thelt of in reach to 1992 agree to it by Mixico, Is those lists the Atlantic from the thelt of in reach year of 1918/25/198 cikinettes. The finde wise the first to fiel an impetua given to it by Mixico, Is twen klorids and tube, and runs norther following table shows the number on which text decisions from the United States, and, with the ward nearly parallel with the American coast until it was published on its past effects fixed at the past of the last states and the fixed the shows the fixed to fixed to fixed to the Nova Sectional Newfoundland, where principles are sentenced to fixed the state thank for any and the Nova Sectional Newfoundland, where principles are ho! I the own The coal trade, though not quite so the a great bend, it throws one branch downwards perceptible in its improvement, has tollowed in its towards the Avores, while the other spreads and perceptible in its improvement, has also experienced, while shows northwards towards the British Islands, it is general manufacturing trade of the and thence to the Polar Sa. The banks and bottom of this great river are of cold water, and its the semanted features have helped the wood trade, and stream is of warm water. It is 70 miles with a tree continue to exist so will the improvement go and Jama first deep. The current is switt in the full is the series will alwance, conditionally that over on and prices will advance, conditionally that overof Florida and slow at the Azores. In color it its inpreduction does not take place, or money become dear digastiluous for an the coast of the Carolinas. The producing a weakened market, as in past disastrous edges, making a ridge upon the surface of the ocean, years, and probably bringing about disaster. This was land this wonderful vives those up but to one but it. which latter will naturally follow expansion of trade; middle of the stream is considerably higher than its port came forward, crowding our docks, which, with five or six feet in the mile. But the most interesting at same time a failure in Barcow and one small one in features of the stream are its temperature and influ-Ityrpool, quite paralyzed the trade. The money ence on climate. Even in the frigid regions of the far-market has ruled low all the year, and the bank rate north it preserves in winter the heat of summer, and of interest has ranged from 2) per cent to 3) per cent. the west winds disperse its warmth over all the west per annum, the average of the year being 2) per cent; coast of Europe, softening and ameliorating the climate. Some recent observations and discoveries de servo attention. At the annual meeting of the American Geographical Society in New York, the other day, Commander Bartlett, of the may, read an interesting paper on the late investigations of the Gulf Stream by the United States Coast and Geodetic steamer Blake. He assumed that the equatorial current was the source of the Gulf Stream, and likened that current to the heart in the human body, supplying the Gulf Stream with fluid as better prices would have been obtained, and the stocks through the arteries, the water finding its way back abread would have been slightly increased, whereas naturally by the Polar and colder currents or veins to tocks here are rather large, and in some articles ox-tocks here are rather large, and in some articles ox-court. It is worth some consuleration that for open trade winds, and these again receiving their power water supplied it is reputed that fully 100,000 stand-mater supplied it is reputed. ard are that in the north of Europe, while deals in plane wire, which was carried to the bottom by a shot New Brun with are fully 70,000 standards deficient, so weighing sixty pounds. The shot was it fit at the lot-that consumers should remember before any extensive item and the wire recied back by steam; a brass cylinquantity can be brought forward the summer will be der passed through the shot and collected a specimen far advanced, and this deficiency will have to be filled of the bottom. Observations of temperature were also up before we are equal to last year; as far as the St. taken at different depths, also of the surface and lawrence is concerned, the stocks held have not been under-currents, and of animal life from surface to bottom. The bottom obtained in the soundings directly on the ridge connecting any two islands, was generally coral sand or dead coral; on each side, in deeper water, pteropod coze. The substance is described as the accumulation of innumerable small shells which had lived at the surface, and when the jelly-like ani-mal inhabiting them died the shell sank to the bottom. Between Martinique and Guadaloupe a peak in midchannel was found with only forty fathoms, deepening on all sides to hundreds, and within ten miles to s thousand. Inside t e ridge connecting Cuba and Hayti at the Windward Passage, the temperature was constant at 394 degrees from 750 fathoms to 1,000 fathoms within ten miles of the ridge, and to 3,000 fathoms further on. The bottom was found to be hard coral rock. Everything that could be swept confect last season. The yield of sawn lumber on the away lby a current was wanting on each side of the Mississippi will be from twenty to twenty-five million ridge in 1,000 fathoms; the bottom was pteroped feet On the Clyde, in Lavant township, county of come. A deep valley of over 3,000 fathoms, extending from abreast of Santiago de Cuba to Misteriosa Bank, was discovered The Cayman Islands and the Misteriosa Bank were found to be a submarine extension of the range running along the south-eastern side of Cuba. The bottom everywhere in the Western Caribbian is pteropod cose, with a slight mixture of coral sand. Commander Bartlett builds up a theory. He thinks that the temperatures obtained at different depths, especially on the ridge at the Windward Passage, together with currents observed, afford enough facts to lay out a possible course for the equatorial current from a point south-east of Barbadoes to the Yucatan Passage. A very large vol-ume of water pours through the Windward Passage, flowing south of Culm and so on to the Gulf of Mexico, and the temperature of the water at different depths serrors at the same season with that of the thalf Where does it get this temperature ! The temperature below 800 fathoms in the Caribbean sea and Manufacturers of Superior Quality Circular Saws, Circular tween Hayti and Jamaica, but at the latter point there is no current setting that way. His theory is that the ibbean, and that a current flows around the entire boundary of that great eea. The equatorial current, strik-ing against South America, is deflected north, and when it reaches the Island of Tobago, all that can flow between this island and the mainland south of Gren-AT BUER DELTING, LEATHER BELTING.

FILES, FILES RE-CUT.

EMERY WHERES, GRINDSTONES,

FAUSITT METAL, LUBRICATORS,

PAURING, FELTING.

IRON TUBES, WHITE LEAD, ETC.

BY A CONTROL OF CONTROL whenever it mosts a passage. The theory that the equatorial current makes the circuit of the main Caribbean, and is warmed in its pessage over aboats and banks after travelling nearly 3,000 miles, requires many more facts (especially in the way of temperature), as Mr. Bartlett admits, to fully substantiate it. The facts developed by the survey are interesting and important; and Commander Bartlett's ingenious theory as to how the water for the Guif Stream is SAWS theory as to now the water for the bounds of probability.

#### RENDERING IRON FIRE PROOF.

Iron, as is well known, is in some respects the very heat material that can enter into the construction of a building, and in other respects it is the worst; of the latter phase we would speak. It is hardly necessary to refer to the feet that iron pillars and joiets are very susceptible to the influence of heat, and that a fire of amail magnitude will scon warp and twist them to such an extent that the fall of the whole structure becomes a certainty. Iron will endure pressure and strain under ordinary circumstances, but will quickly succumb to the influence of heat. guerd against this and to place it in the front rank of materials used in construction, it is proposed, with reason, too, that in all buildings in which icon is a factor, it be encased in some non-conductor of heat. Terra-cotta has been suggested as the remedy. It may detract from the appearance, but that should be aubeldiary to safety. If fron can be rendered a salathe construction of building- lightness, strength and beauty - Insurance World.

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#### A NATION OF CIGARE CEE SMOKERS.

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The United States now ranks as at heaviest eiger ette-producer in the world, France coming next. The annual sale of eigarcties in France is estimated at 900,000 pounds, or 300,000,000 clearettes. The prota years, and probably bringing about disaster. This was and this wonderful river flows up hill, in one part of ise to-day is that the American eigerette industry will strongly noticed in November, when an excessive im- its course the gradient of its bed being not less than steadily in rease. The foreign eigerette meets with a very limited demand in the United States, this country exporting annually very many more millions than it imports In nearly all parts of the globe where cigarettes are smoked those American manufacture are fast gaining popularity .- L'ea latreel' .

#### SOLAR CLOUDS AND SUN SPOTS.

Some recent studies of solar spectra in connection with aun spots and other features of the sun's envelope have fed Mr. Cha.les S. Hastings, of the Johns Hopkins University, to form a somewhat novel theory of the sun's constitution and the conditions producing the more notable phenomena familiar to colar students Mr. Hastings finds, contrary to the received opinion that the spectra of the centre and the outer edge of the sun's disk are not precisely alike, though the differences are so minute as to escape all but the most perfect instruments and all methods which do not place them in close juxtaposition. Certain of the Fraunhofer lines, the thickest and darkest in the spectrum, notably those of hydrogen, magnesium, and sodium, which appear with a haze on either side in the spectrum of the centre of the solar disk, are sharp and distinct in the spectrum of the limb. Certain very fine lines are stronger at the limb, while other very fine lines are stronger at the center. The ordinarily accepted theory of the solar constitution and the origin of the Fraunhofer lines fails to explain these phenomena. The probable reasons for this failure Mr. Hastings discusses at considerable length in the January issue of the American Journal of Science and then proceeds to frame a theory of the sun's constitution, which he thinks, will satisfactorily explain all the observed phenomena. The limit of our space forbids more than the briefest summary of his conclusions. His theory differs from that of Fave chiefly in localizing the phenomena of precipitation instead of regarding it as proper to all portions of the photosphere, and in suppooling the precipitation contined to one or two cle He attributes the granular appearance of the ments solar surface to ascending currents directed generally from the center of the sun About these currents ar necessarily currents in an opposite direction, which serve to maintain a general equilibrium in the distri-bution of mass. The ascending currents start from a where the temperature is probably above the vaporizing temperature of every substance. As they move upward the vapors are cooled, mainly by expansion, until a certain element (probably of the carbon group) is precipitated. This precipitation, restricted from the nature of the action, forms the granules The precipitated material rapidly cools, on account o its great radiating power, and forms a log or smoke, which settles through the spaces between the granules till revolatilised below It is this smoke which pro-produces the general absorption at the sun's limb, and the "rice grain" at icture of the photosphere. The reasons for supposing the precipitated element to be of the carbon group (carbon or silicon) is simply that no other substances present the properties indicated by the cloud masses of the photosphere. It is pretty clear that the substance has a boiling point above that Gulf of Mexico, says Commander Battlett, could only of iron, for iron vapor at a lower temperature exists in its immediate neighborhead. The element is not a lower temperature exists in its immediate neighborhead. Its vapor there are few elements found in abundance above it, and those in general of low vapor density. It is possible that the light coming from the sun is radi ated from solid or liquid particles of carbon just at the point of vaporization; but Mr. Hastings is rather in-clined to think that the photospheric material is silicon. There is also good reason to suppose, he thinks, that carbon is precipitated at a higher level. possibly along with the less common element boron The clouds of cathon or other smoke would naturally be drifted into spaces of downward flowing currents, thus forming sun spots, the characteristics of which are readily accounted for by the necessary behavior of smoke clouds sinking into regions of higher tempera ture. This explanation of sun spots and their allied phenomena is certainly plausible, and we shall look with interest for what older students of the sun shall have to say about it.

#### influence of climate on Manufactures.

The sturdy effort towards manufacturing independeace which Canada is now making, under the infu- would be a general rush for the woods, and every man once of her new protective tariff, finds a notable counterpart in the present status and industrial prospects of our southern states. The scattered and limited the coming of spring so many millions would be ready population of the Dominion, hampered in some respects by the rigors of the climate, while arousing the the lumber operators would incur heavy financial losses hostile criticisms of England, by what is there regarded as one of the results of their winters work. But at as an ungrateful return for past and prospective kind- present, as far as this section of the country is concernness, is steadily laying the foundations of solid indus- ed, neither of the above suppositions are likely to trial prosperity. But it should not be forgotten or become true. Atout the same number have gone into overlooked that even an extremely cold climate has the woods as last year, and there is now, apparently, its advantages, in the case of an isolated country like Canada, under a protective tariff. Many acticles of apparel and house-furnishing are required by the people, in consequence of the climate, to a much greater degree than would be the case in a warmer country. Houses, too, must be made warmer, and buildings must be betier sheltered from wintry blasts. All of these things, while they may not afford Canadian manufacturers equal advantages in supplying mander, it is certain to rise in favor, because it posother countries, suffice to give them more business at
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بمنتها المعاريب والمراب والمساوعات والماسان والماسان والماسان | hores manufactures in those states, while shielded Schulling has established thus far failed to unfold the American may be said to have become a mar by a protective taril, and the needees bound to note Senting has specified and the search of the first annual the search of the search of the first annual the search of the search of the search of the first annual the search of the se the cost trice at which cotten goods, and many varieties of general manmactored goods, can be predo of, with reterior to supplying foreign markets. In this connection, the industrial fastory or inclusive use in point. The tutoties of machine preclued wares in Hindoston show a very rapid increase in event years, approximating an amount quite sufficient onflect the markets of the world. Nor can it be said hat the ignorance and heatherism of the operatives of that country account for the low-rates at which labor can be obtained. The warmth of the climate, the fertility of the seil, which usually accompanies such climates, and the correspondingly low cost of living, are positive advantages, which not even the accumulated burdens of ignorance, heathenism, bad businews management and centuries of misgovernment can wholly weigh down -American Machinist.

#### ANCIENT HISTORY OF THE BEAN

This innocert vegetable, which with us certainly awakens no luguirious thoughts, was formerly conse-crated to the dead. It was offered in sacrifices to the infernal gods, and its mysterious virtues evoked by night, spirits and shadows. The Flamen of Jupiter could not eat it, and he was torbidden to touch a bean or even to pronounce its name, for the fatal plant contains a little black spot, which is no other than a noxious character—a type of death. Pythagoras and his followers carefully avoided this diamai food, in the fear of submitting a father, sister, or beloved wife to the danger of a caust mastication; for who knew where wandering souls might rest during the course of their numerous transmigrations. Grave writers say the cause of this s betincuce is, that beaus are difficult of digestion; that they stupely those who make use of them as food, and that hens who eat them cease to lay eggs. What more shall we say? Hippocrates, who as he certainly was, had some of these strange fears, and he trembled for his patients when beans were in blossom. In spite of such ridiculous presudices, this plant had numerous and enlibgioned defenders. When green, it was served on tables renowned for del cacles; and, when fully ripe, it frequently re-placed both wheat and other corn. One of the festivals of Apollo—the Pranspira—owed its origin and pomp to the bean. This vegetable then obtained pre-emi-nence overall that were boiled in the saucepan, and offered to the God of Day and the Fine Arts. possible to imagine a more brilliant rehabilitation? If we are to believe Is dorug, this plant was the first culinary vegetable of which man made uso; he was therefore, bound to preserve a grateful remembrance of it King David did not deem it unworthy of him, and the prophet Exchlet was commanded to mix it with the different grains of which he made his bread We possess few certain indications proving the different culinary combinations to which beans gave sise among the ancients. All we know is, that they are them bolled, or raw. Two kinds especially attracted the attention of true connoisseurs of that class of gourmets elect, whose palate is ever testing, and whose sure taste detects and appreciates shades of almost imperceptible tenuity—first, the bean of Egypt, recommended for its rich, nutritious and wholesome pulp, this bean was also cultivated in Syria and Cilicia; and, secondly, the Greek bean, which passed at Rome for a most delicious dish. Certain gastronomists, however, preferred another vegetable of which we are going to speak. Ever since the Middle Ages the bean has played a very important part in the famous "Twelfth-night cake," almost all over Europe The ephemeral royalty it bestowed was often sung by the poets, and consecrated in chronicles. Thomas Rand-lph informs us that Lady Flemyng was queen of the bean in 1563. Some days after, the Duke of Quise was connected by Policot. History has its puerlities as well as its great tragedies. The Spaniards had ale their Twelfth-night cake. When John, Duke of Braganza, had obtained the crown of Portugal (1640) Philip IV of Spain inform Count Olivares of the event, and added, as if it were a consolation for the loss of a kingdom, that this new coverign was nothing more than a "king of the bean" Philip was mistaken. though precipitated below the upper natural limit of In England the cake was often full of raisine, among which were one bean and one pea. "Cut the cake," says Meliberus to Nies; "who hath the beans shal be kingo; and where the peaze is, shall be queene. At the present day the bean is one of the vegetables most cultivated in Egypt and Italy. At Naples, as in Egypt, they are eaten raw when young, and the large ones cooked and grilled in the oven. They are publicly sold already cooked."

> -The loss to merchants by the blockade of streets in New York, consequent upon the fey condition ren-dering trucking exceedingly slow and difficult, is said to be one hundred thousand dollars daily.

> -According to Brakereets, the amount of lumber manufactured in the leading Michigan districts during the year 1880 was 3,938,187,227 feet, an increase of 651,510,514 feet over the production of 1879. More than one-third of the demand, or about 6,000,000,000 feet was supplied by Michigan, Wisconsin and Minnesota.

-Last fall, when lumber was bringing a good price. it was thought that with the coming of winter there who could haul a 1,000 feet on the roll-way would do to. Others predicted that in consequence thereof with for shipment that the market would be glutted, and ed, neither of the above suppositions are likely to fewer number of feet browed than there was this time last winter. Measts Beseridge Bros. expect to have, by the end of winter, about 3,000,000 feet. Mr. Gleo, T. Barri about the same, and Mr. S. P. Walto, for the first time, experiments in procuring a few hundred thousand. It is impossible, at this season of the year, to estimate accurately the number of feet that will be ready when natigation opens, for rading and drifting to market. Still it may be roughly calculated that the number of feet that will float down the Saint John home than an equal population elsewhere would require. In the southern states of this country however,
widely different conditions obtain. The promoters of feet.—St. John, N.B., Telegraph.

#### THE METAL TRADE.

We are free in up and therefore unable to do much to once is work this work. Moreover, during my hoof the week we have also been account up. But that is not all. open disance of fetween meeters and men in the West Landachire cells by distinct and the emorgical 828. In following were the classical pension of a distinct there has in that part of the don metal market famous 21, 1881 dogdom beau of the H off tool he the stopping of fromworks and manufacturies dependent upon the af-fe ted districts for their field. Certainly the first three weeks that have expend has brought yers little new business. And if the weather we are now having, which is sowerer than it has been for twenty years past, along long continue, the contract between this time and the corresponding period a year ago, already well defined, will be very striking. Numerous finished fromworks face wholly stopped in different parts of the kingdom for want of fuel usually brought to them from the pen in canal The too be which the capala are sealed in the result of incovert freezing during eleven days and nights. The reliwoys can render but inefficient aid Wanting unfrox-n water certain of the lines are running only part of their usual service of trains. First over the Employers' Liability Act and next over the terence of the military four days ago, and to day detachments have been sent off to two other colliery towns, where the Wigan boys are a weed bit ugly. So soon as trade revives, it is clear from the temper which the operatives are now manifesting, that there will be the off checking fusion. present appearances tend to show that even if trading breates. had not became enfousive impeded by the rigors of winter, the necessities of consumers, or, it may be, Charcost, I their ability to purchase, are so inconspicuous that in I. C. Coke new orders the week would have been a comparative

United States steel sail orders are contribution appreciably to the work upon which the firms in the Sheffield district are engaged. The order for 30,000 tons, placed by Mr Vanderbilt, was allotted, half of it to the Cyclops works in Sheffield, and the other half to a works cutable Sheffield. At both establishments the milk are busy in the execution of this order.

A mild excitement a out United States orders is setting in throughout South Wales. It has become known that a States buyer who was not unsuccessful in his purchases here a little over a twelvemonth since, has again notified his agents in Wales that he is once more under weigh bo confident are those here who know lies, that he will drop some good orders, that before his arrival purchases of raw materials are taking place with considerable spirit.

The steel rail mills generally are well on, but the im-incre outlook does not all round become more chiering. Nevertheless such is the demand from the home and export merkets for high-class from suitable for rail-making that the Barrow hematite pig firms have but up pige 2s 61 per ton. The advance is upon the minimum rate which before ruted. It brings the grey forge qualities of the West Coast up to the per-ton delivered in the Mid ands. Consumers will not, however, advance upon the 67s Gd. at which a few were last week prepared to buy,

This week warrants in the Glasgow market have seen a decline of about 1s per ton. Yesterday (Friday) afternoon the tone of the market was flat, and business was transacted at 52s fed do 52s 6d one month, and as low as 52s 41d cash. This last price is a decline of 1s 14d upon the previous Friday. Makers prices, however, kept up very well. It is not easy to trace the exact cause of the drup, since it may be said that the general demand has been good, though scarcely so scrive as last week. The Continental demand is stopped by the freezing up of the canals, and ship-ments are therefore small. They are much below the opening weeks of last year—10,000 tons less during the first fortnight. Without doubt the preduction is still far is excess of the legitimate demand. 124 furnaces are alight, which is an increase of 20 over a year ago. Connai's stores now reach the enormous total of half a million tons. Manufactured fron is steady, and a large business has been done since the beginning of the year at unchanged prices.

The Cleveland Iron trade has again seen a dull week, and prices have fallen to almost the same extent to 12 cents per pound, as to quantity purchased; as have those of Scotland. At Middlesborough market crucible machinery steel, about 7 cents, and Bessemen on Tuesday, a very small amount of business was done, and the price for No. 3, prompt delivery, was nominally 41a. Sales took place at that figure, as well as at 40s 45 cents.

14. The Ley note atruck by these prices on market of the Ley note atruck by these prices on market of old Rails.—There is no quotable change in prices of old rails, but they are weaker in this market in the market in the market in the market in the contract of the cont terday at Middle borough prices were nominal at 40s tel for prompt deliveries of No 3, huyers offering 3d and tel loss. The sales concluded yesterday were almost nil Yest uday's prices were a drop upon those of the previous Friday of between 9d and 1s per ton Makers are more independent of extraneous influences than merchants, and are firm in their rates. Very few will sell for prompt delivery at below 42s for No 3, and 41s for No. 4, while for deliveries up to April 64 per ton more is asked. Makers allege that the low prices of this week are the result of the "hearing" operations of merchants, since it is only by causing fluctuations in price that the speculator is able to make his money. A quiet, steady market, tells against the class of trade done by middlemen. There is thus a desire to keep things "moving, cither one way or the of the market this week than they have been since other, and as often down as up. The shipments during December Sellers do not speak with the same assurthe last ten days have been much below the average, ance of an improving market as they have been wont by reason of the inclement weather, so that instead of aending away 3000 tons per day of Cleveland pig fron from the Tres the average has been but 2000 tons. During the week ending Thursday night, the exports from Middlesborough totaled 11,535 tons of pigs, whith was 830 tons less than the week before. These decreased shipments will of course lead to increasing stocks In Connal's stores there are now 132,770 tons of Cleveland pig. or 1250 tone increase upon a week

To-day the return of the accountant to the North of England Iron Trade Arbitration Board is available, showing the prices which have ruled in the overter ending 1880. The net average price of angle, hars gins. It also would appear from the statements of and plates was £6.4s. 4d., which is a reduction on the plates with the proceeding of 3s, 9d per ton. The net average price of 1 tes was £6 to 10d.; wars, £5 Sellets profess to be satisfied with the volume of business and prices. £5 the £5 the £6d. The £6d th 18s. 7d; angles £5 11s. 3d. In the September quarter tells prices were: Plates, £6 12s. 5d.; lars, £6 4s. 14c. being done in from one hundred to five hundred ton and angles £5 15s. 5d. The reduction in prices carrie. lots in gray forge froms, which generally command with it a drop in wages for the three months ending \$19, with prices running up to \$21 at furnace for finer

THE METAL TRADE.

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#### THE LONDON MARKET

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PRELIER (per ton) English (Swansca) . . . . . . . . . . . . . . . 17 19 0 2 0 0 0

#### UNITED STATES MARKETS

#### (American Manufacturer.) Pittaburgh.

Pig Iron-It can scarcely be said that there have been any advances in prices since those noted last week, yet the condition of the market seems to warrant a discontinuance of the minimum prices then quoted for the better grades of fron, in respect of which there is more firmness. It is thought by consomers, however, that prices cannot advance much while har from remains so low. The text is, producers of ore are the once who are realizing most of the money at the present time; the high price of ore make ing the production of pig iron costly, while the price of the same is kept down by the low prices realized for inished fron. There is considerable complaint at present as to the quality of some of the so-called red. short from, which when worked do not prove to possess the red-shortness usually expected of such iron. It is possible the narrow margin on that class of from has tempted some producers to use a little ore that would better have been used for making iron of a different class. We quote as follows: Cold-short, \$21.80@22; neutral, \$22.50@23; extra neutral, \$24; cinder-mixed red-short, \$25; all-ore red-short, \$2760 cinder-mixed red-short, \$22: all-ore red-short, \$27.50; Bessemer, \$28.50; No. 1 foundry, \$23.50@22; Missouri and Lake Superior warm-blast charcol, \$20; Hanging Rock cold-blast charcol, \$42@46; Hanging Hanging Rock cold-blast charcol, \$42@46; Book charooni foundry, \$20/632, as to quality-all 4 months' time.

Manufactured Iron-There are no changes to report In respect of manufactured fron. We quote as hereto-10re: Bar, 225, sheet No. 24, 4@4.1; tank, 3.1@3.2 -ueval terms.

Nails-A meeting of the Western Nail Association was held in this city on Wednesday. Prices were left as they were, as follows: \$2 85 for 10d. to 00d, less 2 per cent. for cash, with an abatement of 10 cents per keg in lots of 250 kegs.

Rails—There are no changes to report as to rails. Steel are still quoted at \$60 to \$61 at mill, for delivery throughout the year; while light iron rails remain at

\$48 @50 per ton. Steel - The works continue busy, although new orders are coming forward at only a moderate rate. Prices have undergene no change, and we repeat quetations, as follows : Best quality refined cast steel, 11

the Castern markets they have declined about a dol-lar a ton since our last report. Tees, \$316131 50, and double-heads, \$32/632.50

Scrap Iron—Since our last report, No. 1 wrought scrap has sold at \$20 per net ton, an advance upon previous prices of from \$2 to \$3, railway machinery scrap is worth from \$30 to \$32 per net ton. The ac vance in scrap is due to the cold and snow which have so long prevailed, these causes operating against the collection and transportation of this material

#### Philadelphia.

Pig Iron-The market bas not undergone any important changes since last week. Large buyers are much better pleased with the condition and prospects of the market this week than they have been since to do. There has been no advance in prices nor any decline, and no anxiety on that score, Manufac turers, except for best grades, are not satisfied with prices, and argue that the mere active demand which it is expected will surely follow the breaking up of the ice blockade, will be accompanied with prices one or two dollars at least better. Inquiries as to the condition of stocks elicit the fact that there are no accumulations, and if there be any, it is probable they are of new and more common brands - be far as the facts can be arrived at by inquiry the production is all taken up by current wants, which fact affords some hope to those said to be working on little or no mar-

To of got ton long weight. The return shows vigorous semand the process to slow. No 2 sold this To sold at the price quoted—beyond whit have the figure at whi h most has been sold.

Mercie

Bessemer Iron-Thorol as been no heard of trans-

asked, and, in certain cases, obtained
Blooms—The works are all nicely sold ahead. Today one titm sold three car loads at \$15 here, and retused to sell slab blooms for boiler plate at less than that figure. This week there are a few inquiries from new buyers. Anthucite is still quoted at \$55, and sunken serap. \$45

Nails—Nails are firm at \$2.90, but tew shipments, owing to the weather. An active demand will very probably follow to compensate for the enforced dulls

The reported favorable condition of the sheet mills still continues and a greater volume of business is being done at this time than is usual. Prices are fairly maintained, with slight concessions for large lots. Quotations are as follows .

All net prices wholesale; retail prices ic additional on all the above. Iron Ratis-There have been transactions since

last report, amounting to several thousand tons for Western delivery in the summer, and there have been inquiries which have fed to negotiations, but as yet to no business. The difficulty is in old rails. The transactions referred to were made on a bask of \$47, which shows a slight advance over previous actual selling prices. If terms can be agreed upon, the iron rati mills will have abundance of work for some time to

hteel Ralls-Apert from inquiries for 20,000 tons received late last week, there have been no transactions of importance. It is stated that buyers are looking abroad for more prompt delivery, but the advantage in price, after risks, is very trifling. There are inquiries at all times on our market, and every accommodation is extended to secure business, but the mills are so far sold ahead that it is out of their power to do more than tell new customers to take countries:—
their turn and have patience. Those who have got orders placed may have reason to congratulate themsolves. Selling prices are not stated, but ere near

Old Halls-There has been a alight weakening among holders, who certainly expected consumers to rush wildly after them with their pocket tooks to their hands. As they have remained coolly in their offices the hold re aforesaid have partly repented of their evil course and are disposed to accept less figures. Still buyers are not appeared and decline to buy except in small lots at about \$29.50 for tees here; \$28 in New York, and \$30 for doubles here. The bar mill men are the buyers. The rail mill men are holding off. Some hope to see some offerings in order to save the 10 per cent added to duty after one year's storage in the bonded warehouse, but the holders can easily afford to pay this, and will There are parties offering \$28 for teen here; \$29.25 for doubles were offered and refused for 1,000 tons this morning.

Scrap-Scrap is still firm at \$31 for selected. Fair No. 1, \$30; No. 2 wrought pipe, \$23. To-day 500 tons were shipped to Pittsburgh. Stove plate, \$18.50 offered and refused; \$17 asked. Much more could be sold, but delivery is expensive.

Tin-Banca, 240; Straits, 2010; Australian, 2010; English, 201c; merket opened active.

Spelter-5]. Fig Lead-5]@3]. Ingot Copper-191.

#### New York.

positive change in any respect, the volume of business praying to be all that could reasonably be looked for, while prices are steadily maintained throughout, In Buyers seem very cautious in their movements, and, while the difficulties attending transportation unquestionably retard business somewhat, it is not wholly probable that purchases would be on a very extensive scale under the most favorable circumstances. Nearly all reports coming direct from the furnaces indicate that the basis of \$26 for No. 1 X foundry, delivered at Perth Amboy, is bottom price, and there are dealers here who allege there is nothing to be had at less than \$28@28.50. Among the commission men it is saserted that more stock can be secured at \$25 than there appears to be buyers for. This price, they state will secure prime Lehigh brands, while a few lots of some inferior product, it is said, can be procured at \$24.50. In explanation of these differences it can be said with fairness that the commission men in ques-tion have no axes to grind, while on the other hand most of the dealers and makers show a disposition to slightly exaggerate when it is apparently to their in-terest to do so. Among sales reported beyond the ordinary small parcels, there are 2,300 tons No. 1 X foundry and 5,000 tons gray forge, mostly for delivery during the next three months. Current quotations are \$25/426 for No 1 X foundry, \$22/423 for No. 2 X foundry, and \$20/cr22 for gray forge.

Scotch : Beyond a few small lots from store, aggregating probably 500 tons, there has been no business of importance. The importations are running light. however, and prices seem to hold steady, despite somewhat unfavorable advice from abroad. Hiere prices are about \$22.50 for Estimaton, \$23.50 for Glengarnock, \$24 for Cartalierric, and \$24 50 625 for

English No transactions of importance come to netice, and there is almost an absence of demand as well. In the absence of business, about \$19 for No. 3 Middiosboro' and \$27 for Besseme: is quoted

Old Rails-The demand has been moderate and sales few, but it does not appear that there is much with it a drop in wages for the three months ending pas, with increasing approximation of the state of 3d per ton as to puddlers, and 24 per brands. An equalising process is gradually going on yielding in prices. About \$28,50 for Ta and \$30 for ville & Nashville ent. as to the mill men. I'nddlers' wages now be of grades below No. 1 to it, but in the absence of a D.H are the general quotations. A lot of 1,500 tons graph Company.

Strap Iron -A few small lots of No 1 worlds

the figure at which most has been sold.

Northing is being done in English from Scotch prices withheld. The demand is still reported on the northing is being done in English from Scotch prices withheld. The demand is still reported on the northing is to be Englished and Scotch prices with the demand is still reported on the northing in the second second in the second second second in the second sec heavy section from at mill.

Bissemer Irea—There I we be no heard of transnctions of moment in Proceedings from Askins price importance, and prices remain without decay.

Is \$27.25. The rease offers to take at semething less Quotations are sufe spot for Straits; sufe for Asia.

Muck Iron—There we no lots being offered, but busers are around, and Sis is the lowest price at which muck from his been offered. Some holders selling somewhat better for fut ire delivery at a large holding at \$28.50, and for better quality \$19.18 prices. There is, however, but a moderate modern and and the contain makes obtained. Tru-In ply sin there has been no reprovement of stock from store Quotations are as follows 1 charcoal, third cross assortment, \$7.770.5771
Allaway grade, and \$0.123400.25 for Melson erecond tin at \$4.873605 for B. V. grade, and \$7.140. Yapitty grade, charcoal terne at \$5.123 45 2, 67 11 20 Allaway grade; and \$11 for 20x26 do, and terno at \$1 473/45 for 14x20 Glais grade and \$19.4 0x28 do .- all round lots.

Copper-Lake ingot remains quite firm at to is selling only in a jobbing way. Manufacture je .. ed as fellows: Braziers' copper, over 16 ez. proft., 28c; do. 12 6z, to 16 oz., 30c; do. 10 oz. to 1; 32c; do lighter than 10 oz., 34o, circles, segment of pattern sheets less than 84 in, diameter, 31 do over 84 in, 34c; locomotive fire-box elects, 3, sheeting copper over 12 oz per sq. ft., 26:, do t 28c; copper bottome, 31c.

Lead there have been sales of probably 350 teres occuts for common and 64 cents for reined, and to markets hold steady. Manufactured lead quoted is follows: Bar, no; pipe, ogc; sheet, 7c—l(as 1); cent discount to the trade—and tin-lined pipe; Shot, 7ge for drop, 8ge for buck, and 8ge for sate chilled—leas 1 per cent discount to the trade for small and for large leafs. lots, and for large lots 4 per cent.

Spelter-Common domestic le quoted at the and Silesian at 52 75 5c, with the market firm moderately activa.

Antimony-A moderate folibling businessat is

#### THE BRITISH IRON TRADE.

Mesers, James Watson & Co. give particulars of t Scotch pig fron exports during 1880 and other

Exports, shipments and railway deliverted show an increase of 107,000 tone as compared with loc year. There have been shipped coastnine, 2004, tons, as against 200,133 tons in 1879, and 161,620 tons la 1978. Foreign 440,200 tons, as against 340 : tone in 1879, and 233,908 tone in 1878. The toreign ahipments have been to the following

	Ton	fara Tone	15. c
France Germany, Austria and Holland.	25,46A 106,343	23,936	110.2
Belgium, Denmark, Sweden and	18.552	19.757	
Rusma Spalu and Portugal	23,520	22.13	1 20 (3
Italy Introd States	31.135	7 721 22 1AT	1. 1
l British America	24,417 29,249	139,147 21,968	1
East Indies, China, Australia, South America, etc.	24.753	20.0~1	10.5

In consumption here, we have a gratifying increase of 82,000 Scotch and 20,000 tone of English pig too Foundries have taken 189,000 tons Scotch and 212.000 tons English, as against 155,000 tone Scotch, and 22 000 tons English in 1879. Malleable and steel works have taken 195,000 tons Scotch, and 123,000 tons English, as against 147,000 tons Scotch and 93 tons English, in 1879. The production of manufac tured from and steel has been 292,000 tous. As to shipbuilding this important branch has been partie larly active, and the prospects are of the brightest for hext year, more vessels being contracted for nev than at any similar period. This is undeubtedly the most satisfactory feature of the fron trade at the present time. There were built in 1880 about 218 icen and steel vessels of about 241,668 tons, against 177 180,576 tons in 1879, and 248 of 214,278 tons in 1879 English, 201c; market opened active.

Tin Plate—I. C. 10x14 and 14x20, \$2@625; I. C. And there are now building 180 from and steel vess charcoal terms, 14x29, \$5.50@5.75; coke terms \$5@ of about 318,789 tons, against 146 of 208,601 tons \$5.25; I. C. 20x28 terms, best charcoal, \$11.75; coke, 1879, and 71 of 97,260 tons in 1678. And there are now building 180 fron and steel vesse's

#### ENGLISH STEEL PRODUCTION.

Iron, in an claborate article on the English ttotrade, makes the following estimate of the steel pri-Pig Iron-American . The market has been without duction of Beasemer and open-hearth steel for the year

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l m . m . s	1979	1541
Bbefield	210,443	Prat, 10+,
bouth Wales Issucashire and Camberland	2.2.73	,910 ·J
Twocastie and Competiand	279, 203	4 Print
Cloveland	85 240	31 17
Staffordshire	7,:00	
Total		
1 A 1		1,30 "
Oben-pertu steel	175,000	20.0
Total	***	
Total	111,600,	1.55 (0)

In the course of its argument it contracts the is: that the 114 converters in England possess such a small capacity, when that of the American works: so great. The following passage will seem curioes is view of the fact that our works have reached a production of 3,000 tons per pair of convertors per week. A few years ago, in the last burst of prosperity, the American steel manufacturers were considered to be working with a kind of miraculous power when the turned out 500 tons of ingots per week out of a pair vessels. Now that rate is common enough to the country in times when there is no prossing indament to increase speed,

-The Irish Land Bill is not likely to be introloss in l'arliament before March. One part of it will d'a' with the interests of occupying topants and the other will facilitate the purchase by tennuts of their holdings. The Arms Bill will provide for the searching premises and persons for arms.

-It is announced that a new bank called " United States Bank will soon begin business in York, under the management of Mr Logan ( Murray, who has resigned his position of President the Kentucky National Bank of Louisville for the f sinc. The President of the new bank will be Will Victor Newcombe, of Louisvillo. General Grant V Logan C. Murray, Mr. W. R. Travers and Mr. H. Newcombe are among the proposed incorporators 1: capital will be \$400,000, with a privilege of in rea-to \$3,000,000. It is reported that the new lank we be supported by many prominent capitalists and to number of Southern corporations, including the Icare ville & Nashville Railway, and the Consolidated 1.

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on the remarks, whether ruel or ore. To the posed to have been a disarrangement of the nersous of my proprietor the demand for the most a-cital or spaces. I to tale his always, since Dad Dudley taught us fts ting qualities been a subject of intimata interest, to metallur, it et anglet the owners of blast furnaces anoti s ton of stone at a much smaller consumpand to I than was at one time deemed necessary, but in the product of the blast furnace new needs the Secretary of the Office of Works, have been prepared and issued by the product of the blast furnace new needs the Secretary of the Office of Works: but in its space of the blast furnace now needs in the first far than ever. And the tendency of invention first far than ever. And the tendency of invention of than ever, and the tendency of invention of still further diminution. With much direction, therefore, we note that the present yield every first in the likely to be augmented to an extent at every first interesting the consumers of iron and steel, none have of all the consumers of iron and steel, none have of all the consumers of iron and steel, none have pipes to be carried to points removed from chimney stacks. past will not, however, suffice them. Italiway engi-neers views have greatly changed since the time when past will not, hewever, such that the line when never ties and for the general purposes of the the list the fron rails of the old Grand Junction line the laid the fron rails of the old Grand Junction line the laid the fron rails of the old Grand Junction line the laid the fron rails of the old Grand Junction line the laid to be replaced by sleepers of the district. The stone was much too fixible and it had to be replaced by sleepers of timber, and upon sleepers of timber placed, some timber, and upon sleepers of timber placed, some to the views of the engineer, it has now for many years leed until to lay the rails of all our trunk lines. Oreat attention shall be pull to insuring thorough years of the timber sleeper are numbered. The more enduring stool rail, which has replaced the rail of fron, has sounded its knell. A well seasoned and thoroughly pickled timber sleeper accountation of stagnant air. replaced the rail of 100, has sounded its kitch.

well accouncil and thoroughly pickled timber sleeper injust be fairly expected to need no replaction.

might be fairly expected to need no replaction, the accumulation of stagnant air.

8 All main drains should, where practicable, be formed outside the building. In the event of its best much the compared with the endurance of building, it must be trapped immediately outside the building. metal, but compared with the endurance of an ordinary steel rail, that of the best available timber sleeper would be very disproportionate. If, therefore, the steel rail is to ensure the railway engineer all the economy which its use makes practicable, it must be laid upon steel sleepers; for sleepers of steel are very fiexible, and may with good reason be regarded as endowed with powers of longovity outlasting the toughest of rails. The greater cost of steel over the timber sleeper would be amply compensation. If, the proper steel with the more protracted endurance of the sleeper.

A contibled page of instant another and another timber sleeper would be amply compensation. It is a steel with the more protracted endurance of the sleeper. sated by the more pretracted endurance of the sleeper and the diminished expenditure under the head of relaying elcepers which have become decayed. Railrelaying elegaters which have become decayed. There a lieu in the neighborhood of san granusses; may engineers upon the Continent are ahead of us in laying eggs and hatching chickens the flesh of which its in the neighborhood of san granusses; it is as black as that of grouse.

A crab was taken lately at Galveston inclosed in an unusual sort of shell, being a cellec put into which he handed Engineers, correctly enough pointed out.

Me handed Engineers, correctly enough pointed out.

Me handed Engineers are the Gassa a Rigidon tribe, when a wife in that some seventy thousand tons of steel sleepers have Among the Gatos, a Hindoo tribe, when a wife is been laid down as an experiment in different parts of dissatisfied with her husband she can legally pack up, the Continent, and that at Dusseldorf they are being leave him and marry another, after announcing her manufactured in large quantities. We fully share the centainty expressed by Mr. Cowper that steel sleepers

at about to come into use in this country, and that controls new demand for steel will consequently taking two days for the journey. Now we go over the steel Fvery ton of steel ralls laid down in this same distance in an hour! country but hastens the day when the use of the In 1013, Pocahontas, the historic Indian maiden, steel sleeper will be begun here. As a fish-plate of was purchased by Captain Angeli from her tribe for a steel has become a necessary adjunct to the steel rail, copper kettle! She was afterwards married to John so too will the alcoper of atcel. We possess no more conclusive testimony of the progress which is going to the consumption of steel ralls than the returns of what we all know of the practical annihilation of the now cannot be said to have surpassed them from rail industry in England. In 1874 about fifty

The attange and wonderful city of Timbucton, for cent of the total quantity of rails made in fermany were of iron; four years later the propor-tion had dropped to aix per cent.; and last year all nimost equal to any at Constantinopic. It was fo the rails made in Germany were of steel. Steel in the year 1176, by the ancient North Africans. makers have our warnest wishes for their success in sucheapening the cost of steel suitable for sleepers that upon the score of cost the railway engineer may at first sight be impressed with the wisdom of aban-doing eleopers of wood. Meanwhile, from smelters should not relax their efforts to provide suitable blocks with which to pave the thoroughterss of busy towns. Upon the occasion which we have already cited the president of the Mechanical Engineers incominged further efforts, by stating that certain attempts in this direction in some parts of London had been " very nearly successful," — Colliery Guardian,

#### A CONJURER'S REMARKABLE DISEASES

Mr. M. Hartz, the conjurer, has just recovered from a disease which for three years and eight months rendered him helpiess, and part of the time speechless and blind. After selling the shop in Brosslway near Wallack's, where he sold apparatus for conjuring, he set out in August, 1877, on a trip to South America. In the beginning of May, 1877, he was obliged to stop his performances and was brought back to New lotk, arriving on June 26. He lived four weeks in the house of a relative, during which time he became helpless. Then he was taken to a boarding-house in Fifth avenue, where he was kept a year, then to a house in Brooklyn, where he lived nine months, and lastly to a house at Mount Eleco, where he remained till a week ago. According to his account of his dis-case he lost power of action almost entirely, his skin became finty and so soft that the slightest touch sused him infinite pain. He became unable to speak, could not open his eyes, except for a wink, and the fiesh wasted away from his arms and the onlyes of his legs, though his body grow slightly stouter. He could not beer any light, and his sense of hearing was could not bear any light, and his sense of hearing was readered wonderfully scute. While in Brooklyn his neighbors of in subsidising railway projects designed to comeet the two oceans with iaud grants. The 100m was in the front basement. He says that he was able to hear every word spoken in the dining-room. tie says his memory also became so retentive that he could repeat all the conversations he had heard in three years. A footstep seemed as loud as the detonation of a cannon, and he waited with dread for hours beforehand for the report of the sunset and sunrise guns on Governor's Island. He was not able to swallow always, and he says he frequently expected to die from that cause. Sometimes as many as six-teen days passed without his drinking. He also ate very little, fasting on an average ten days at a time. file sense of taste was entirely gone, and he is only beginning to receive it. After he had remained awake six months is occurred to him that it was strange he should live without sleep, and he wrote with a pencil an order to his attendant directing the latter to wake

him whenever he appeared to alsep. This occurred only a few days. His heard grew to a length of 18 inches and his heir reached to his shoulders. His increased in the state of the s

> SEWAGE ASP BULES FOR PUBLIC BUILDINGS

The following rules, to be observed in the construction of all buildings erected under Her Majesty's

3 Separate cisterns shall be constructed for the

The Desert of Sahara covers an area of about 125 40

A coal-black negro in Georgia has one white hand

There's a hen in the neighborhood of San Francisco

In 1913, Pocahontas, the historic Indian maiden,

Holfo, an English planter.

Up to the last half of the last century we had not reached to the excellence of the locks that were used the tierman steel rall trade taken in connection with in Egypt and China thousands of years ago, and we

called the "queen of the desert," is a most interesting spot, containing 20,000 people, and some mosques almost equal to any at Constantinople. It was founded

The streets of Constantinople are narrow, dirty and irregular, and paved with such large boulders that in most places it is impossible to drive a carriage. With a population of between 500,000 and 600,000, the city has 10,000 pricate, mostly Greeks and Mohammedans.

-Fernando Wood is dead.

-Havana is very unhealthy again. The death-rate last year amounted to 40 in 1,000. It will doubtless raise a heavy crop of yellow fever this year.

-The Hawalian Government has appropriated \$10,000 to encourage impligration, and would object to receiving a few thousand negrees from the United States. The Sandwich Islands produce a great deal of delightful weather.

-The Grand Junction, Railway Company is applying to the Local Legislature for a charter to enable it to extend its line from Tweed eastward to Perth, where it will connect with the Canada Central, and from Omernee weetward to Toronto, where it will connect with the Credit Valley and other roads. If the charter is granted, the company will have its new lines completed in eighteen months.

-There was quite a sensation caused by the employes of the reeling room in the Dundas cotton mi atopping work recently. The strike was caused by the foreman of that room, Mr Yates, receiving notice of diamiseal, and those under him, numbering upwards of thirty-five, would not resume work under a new foreman. Quite a number of strikers went to Hamilton this afternoon in search of work. If the strikers do not resume work in two days the whole mili will have to suspend work on account of material running out.

-The figures given below, which are taken from figures represent acres :--

St. Paul & l'acific	1,248,636
Branch do	
St. Vincent Extension do	2,000,000
Union Pacific	12,000,000
Central Branch do	
Kanesa Pacific	6,000,000
Denver Pacific	1,000,100
Central Pacific	8,000,000
Do. connected with Western Pacific	1,000,100
Slouz City & Pacific	80,000
Northern Pacific	47,000,000
Oregon Sranch Central Pacific	
Atlantio & Pacific	42,000,000

Southern Pacific..... 9,350,000

POSTAL TIME-TABLES.



## Post Office, Ottawa.

ARRIVAL AND DEPARTURE OF MAILS.

Mair.	}	4 (->0		t Pete 1	vered
	4.A.	1: 4	PY	4,4,	. Y.M.
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Registered matter must be posted half an hour previously Office hours from 30 m. to 8 p.m. For Savings' Bank and Money Order business, 8 a.m. to 4 p.m.

G. P. BAKER, Postmaster,

MOTTER IL, July 5, 1980.

## Post Office, Montreal.

DPLINFEN. MAILS. CLUSING. ONTARIO & WESTERN PROVINCES Strawa by railway Provinces of Untario, Man-itoba & British Columbia Offawa Biser Boule up to Carillon 6 00 QUEBEC A RASTERN PROVINCES. Quebec, Three Rivers, Herthier and Sorel, by Q.M. U.
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By Cunard (Mondas).

Supplementary, see P.O weekly notice.

By Packet from New York for Lingland (Wednesday).

By Hamburg American Packet to Germany (Wednesday).

\*Pastal Car Rigg open till \$45 s m and 2.15 p.m 0.00 p.m. The Street Boxes are visited at \$15 mm., 12.30, 6.30 and 30 t.m. 7.39 p.m. — Registered Letters should be posted in minutes before the hour of closing ordinary Mails, and 30 Linutes before closing of finglish Mails.

WEST INDIES.

Letters, etc., prepared in New York are for-warded daily on New York, whose o mails are despatched For Hawaha and West Indice, via Hayana every Thursday jum

#### TO MALTSTERS.

This undersigned bog to inform mainters and the trade that, having lately added new and powerful steam machinery for the aspecial purpose of wearing extra strong STERL WIRE CLOTH for malt and drying kiln floors, are new prepared to quote prices for the above goods. These floors are much more corromisal than from tiles, saving from 30 to 40 per cent. In fuel and labor, and producing a brighter sample of mait.

TIMOTHY GREENING & SONS. DUNDAS, ONT. (8-28 RAILWAY TIME TABLES.



### Canada Central Railway

CHANGE OF TIES.

Or and other MOND AY, 21st M. NE, trans well one as

\*Hestory Paper - To one maker peleop occupantion with tipoud Trank Rudway for fronts and all India West, arrestors to Torrator it II I from Hold in Poultrike Express Tailor expression at United and Junction with trainers Poultrike, Smiths' Lille and booksalie

Property Train from the West, Icarica Toronto at 6.65 p.m.

\*Express Irain from the west, leasing foreste at T. S. 2 m

Express Train from Brockville, Perth, Pembroke, and all fatermediate stellons.

Trains run on Montreal time.

These trains make only four stope 2-treen Ollaws and Brockville Junction.

Connection mode at Brockville with the I ties and Black River R.R. for New York, Albany and all points rooth T. A. McKINNON,

Superintendent,

Brockvillo, Ont. (21st. inc. 1800).



#### ST. LAWRENCE AND OTTAWA RAILWAY.

On and after THURSDAY, 10th JUNE, 1860, trains will run as follows.

LE UVE OTTANA.

For the East, West, South and South-East 11 15 a.m. For the East 2 00 p.m. For both East and West 10 30 p.m.

For both East and West 10 30 p.m.

ARRIVED IN OTTAWA.

From hoth East, South and South-East 400 p.m.

From the East, South and South-East 400 p.m.

From the West 60 II a m. train, Ample time for dinner at Presents Junction.

Sure Connections with Grand Trunk Trains to and from both East and West, and with those of th. Rome, Watertown & C. teneburg and Lake Champlain and Utica & Black River Railways at Undensburg, to and from New York, Boston, and all points South and East.

A Steamboat Express Train will leave Oitawa on Tuesdays, Thursdays, Batuniays and Sundays, at R a m, connecting with the different lines of steamers on the St. Lawrence, for both East and Ment.

A Rofa Car will be run on the Night Trains between Ottawa and Prescott Junction.

Trains are run on Ottawa time.

WALTER SHANLY General Manager, Ottawa.

Ottawa, July 20, 1040

Orrewa, July 20, 1980

## Q. M. O. & O. RAILWAY.

CHANGE OF TIME. COMMENCING on Wednesday, June 23rd, 1880, trains will you as follows -

Mail. Express. Mixed. 9.30 a.m. 8.15 p m. 8.25 p.m. 8.20 a.m. 8.25 p.m. 8.25 p.m. Night Passenger 10.00 p.m. 3.00 p.m. 8.30 a.m. 9.20 p.m. 9.30 p.m. 9.30 p.m. 9.40 p.m. 6.30 a.m. 4.40 p.m. 100 a.m. 10.30 a.m. 1.00 a.m. 10.30 a.m. leave Hochelaga for Hull Arrive at Hull Leave Hull for Hochelaga. Arrive at Hochelaga. Leave Hochelaga for Quebec 8.00 p.m. Arrive at Quebec for Hochelaga 8.00 s.m. Arrive at Hochelaga for St. Lawren Hochelaga for St. 5.30 p.m. Arrive at St. Jerome 7.15 p.m. Mized. olage

6.45 a.m. 6.00 a.m Arrive at Hochelaga Hocal trains between Hull and Aylmer.l
uns leave Mile End Station seven minutes later.
W Magnificent Palace Care on sit passenger trains and elegant steeping care on night trains.
Trains to and from Ottawa connect with trains to and from

Quebec.
Hunday trains leave Montreal and Quebec at 4 p.m.
All trains run by Montreal time.

GREERAL OFFICE, 13 Place d'Armes Squape.
TICKPT OFFICES, 13 Place d'Armes and 202 St. James St.,
Montreal, and opposite the St. Louis Hotel, Quebec.
L. A. SLNECAL, General Superintendeut.

## INTERCOLONIAL RAILWAY.

SUMMER ARRANGEMENTS, commencing 14th June,

SUMMER ARRANGEMENTS, commencing 14th June,

180.—

Through Express Presenger Trains run daily (except Sunday) as follows:—

Leave Point Lev.—

River du Loup 1.00 p.m.

Arrivo Trois Pistoles 2.05 p.m.

River du Loup 2.05 p.m.

Rimouski 2.05 p.m.

Palhousio 3.1 p.m.

Palhousio 8.1 p.m.

Newcastle 1140 p.m.

Newcastle 1140 p.m.

Newcastle 1140 p.m.

Moncton 2.10 a.m.

Not John 10.15 p.m.

Halifax 10 p.m.

The train connects at Chaudiero Curve with Urand Trunk train les ring Montreal at 10 p.m.

The trains to Halifax and St. John run through to their destination on Sonday.

The Pullman car leaving Montreal on Monday, Wederination on Sonday.

The Train leaving Halifax at 9 p.m. and St. John at 10,25 p.m., and which reach Montreal at 0.00 a.m. by connecting at Chaudiero Curve with the Hrand Trunk train at 8.60 p.m., p. remain at Campbellion over Punday.

Low The Information in regard to passenger farces, tickets, rates of freight, train arrangements, etc., apple to CAPT. MatCUAIU, Sperks St., Otrawa, D. POTTINGER, Chief Superintendent.

#### DUNDAS FOUNDRY AND ENGINE WORKS. ESTABLISHED 1909.

THOS. WILSON. HANCFACTURER OF

STEAM ENGINES, BOILERS

AND ALL KINDS OF MACHINERY.
DUNDAS - - ONTARIO. 25 SEND FOR CATALOGUE.

#### TO LUMBERMEN.

The undersigned is prepared to quote prices to Lumbermen for shanty and all other description of Blankets.

\*\*Solution\*\* Noney can be saved by purchasing direct from the manufacturer.

RTHUR TOOMET BLANKET MILLS

#### THE PETROLIA MARKET

- sue l'étrolla Abertus contains the following toute - It o demond is steady, prices raicing four \$1.15.1.\$1.55. Very few sales have been made durfor the past weed. Berned of the neight to entire for the second of the year. Apotations for to the Billing operations, which has been very dulf on account of the marrier of water have received an major the since the recent them. Shipments—there the C.W.R.—trade, 2020, title distillate, 1.120 title, coincil, 15.7.1 title tiver the C.S.R.—trade, 1.085 bills refined, 1 at 2 lots Reportatione been current of a large strike in and Springs, of a 10 barrel. The stelle thoughour ully good, has been greatly exaggersted. On a court of the distance from the markets, on the difficulty of shapping this production will not made affect the parameterizade. The long anticipated Sarairs them has at lest made its appearance. Note with standing the dan ulty pelestriane have in moving around, it was meatly needed. On account of the carelly of water, operations in the territory have been considerably retarded, but now that this difficulty has includability we expect to see them, resume in full

-California is counting largely on the future of her petroseum trade. There are at present 22 wells in the btate, which yield about 400 barrels of oil a day The wells are in the Saurs Ciuz, Pico Canon, and Jentura districts. They are controlled by three men, Felton, Ferris and Schofield. The wells are put down from 800 to 1,200 feet. The oil is in crevices. Its gravity is 44, and it yields 75 per cent. of illuminating oil, 10 per cent. of naphtha, 10 per cent. Jubricatin", 5 per cent being waste. As yet the home demand is barely supplied by the product of the wells and refineries, yet California has her eye on the trade with Japan, China. Java and the Pacific coast, amounting to 30,660,966 gallons annually. At the present rate of development of the territory it is not likely the present fountsin of supply will be disturbed for some Toars to come

OIL IN RUSIA. Russia is likely soon to deprive this country of one of its stap's monopolies. A rear or two ago one of our observing Consuls in Germany noted the fact that Russian petroleum was beginning to appear in the western markets of Europe fic gave no hint, however, of the extent of the oil deposits that our rival had to draw from. Consul Dyer, who has been in Odessa for many years, now supplements his col-league's announcement with some figures and facts that may set our Pennsylvaula producers pondering. It has been asserted that many parts of the eastern dominions of Russia abounded in oil secretions, and it was one of the main grounds of British opposition to the Muscovite possession of the eastern coast of the Black See that the oil produce of Lower Armenia might go wholly into her cival's possession and that the possession of Batoum would facilitate the trade in Black Ness that the oil produce of Lower Armenia might go wholly into hec cival's possession and that the possession of Batoum would facilitate the trade in it. The oil region now working is farther northward, on the Caspian Sea, and covers the country about lish u. In 1872 a company set to work for the first time to make use of the abundant deposits, which answered to the most primitive method of collection Of wells, in the American some of the word, there were none. Mere holes pumped into the ground answered all practical purposes for the emission of the liquid into such rade receptacles as the company provided. When Consul Dyer wrote, early in the autumn, there were between four and five hundred and fifty to seven hundred feet. These are in many cases described as flowing fountains, yielding as high as all the properties of transportation so great that the yield, though unfilmited and apparently ineshaustible has hardly created an effect on the market. The wells are so far from lines of transportation, rail or writer, that for the ment the oil is large; wasted, or, if not, sold at such a price as to barely cover the cost of production. This, however, is now to be changed, three hundred and sixty miles long, is in process of construction, which is to be provided with oil tanks, and within the next two years the European market can be faily supplied by this immense reservoir. Today it sells in the city of Baku for algench as a sort of parement, hardened instantly and ferming a compact conting capable of two or three days' endurance. In addition to the railroad projected a standard for interesting a company to the railroad projected a standard for interesting a company to the fact of the standard for the sound for ing a compact coating capable of two or three days' endurance. In addition to the railroad projected a pipe line from Tiffis to Path, on the Black Sea, is a scheme of the near future which will enable the company to put the oil into the remotest l'uropean market for about half the lost of the American article Even as it is the prices are perilously close to the American article from Baku to London \$1.10, or about \$4.50 per burrel .- Chacago Journal of Commerce.

#### THE EARTH'S POPULATION

Behm and Wagner, in the last edition of their back on the population of the earth, estimate the entire population of the inhabited globe at 1,456,000,000 persons. Europe, without counting Iceland and Neva Zembla, is believed to have \$15,929,000 inhabitants on an area of 176,349 9 German square miles, or at the rate of 1,731 persons to the German aquare mile; Asia is put down as baving 834,707,000 inhabitants on 869,478 square miles—that is, 1,031 persons to the square mile, Africa as having 205,579,000 Inhabitante on 543,1%? square miles, or 378 persons to the square mile. America as having 95,495,500 on 297,138 5 square miles, or 137 to the square mile. Australia as having 4,031,000 on 102,000 square miles —that is, 24 persons to the square mile; the Arctic regions are assumed to have 82,000 inhabitants on 12,001 square miles, or about one person to every square mile. The sum total, as observed, is 1,455, n23 500 persons on 2,470,903 4 square miles, or at the rate of 58% persons to the Oerman square mile. The German Empire comprises v.315 1 square miles, with a population, In 1878, of 44,210,948 persons.

-Four convicts escaped from Kingston Penitentiary on Sunday evening. All of them have been

-The tirst annual meeting of the Lawlor manufacturing Company was held at their new store, 374 Notre Dame street, on the 8th inst. The old directors were clays will be in a position to manufacture their superior sewing machines on an extensive scale.

#### THE MONEY MARKET.

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TO MERCANTILE AGENCIES.

The New York Court of Appeals, in the case of Eston, Cole & Burnhain Company vs. Avery, says the Tobarco Leof, have just made a decision of great importance to the subscribers of Mercantile Agencies The action was one for deceit in obtaining the sale and delivery of goods to a firm, of which defendant was a member, by means of false representations made by the defendant, as to the pecuniary condition of his firm. The representations were not made by him directly to the plaintiff, but were alleged to have been made by him to the Mercantile Agency of Dun, Barlow & Co., and were by them communicated to the plaintiff. The plaintiff claimed that he delivered the goods to the defendant's firm, on credit, on the faith of such representations. The defendant contended that the plaintiff could not maintain an action for false representations made by him to Dan, Barlow & Co. and that, assuming the representations to have been made, they were not sufficiently connected with the

dealing between the plaintiff and the defendant to enable the plaintiff to recover. The Court (Rapallo, J., writing the opinion), after remarking that the business of the Mercantife Agency is so well known, and has so often been the subject of discussion in adjudicated cases, that the courte can take judicial notice of it, says --- A person furnishing information to such an Agency, in relation to his own circumstances, means and pecuniary responsibility, can have no other motive in se doing than to enable the Agency to communicate such information to persons who may be interested in obtaining it, for their guidance in giving credit to the party, and if a merchant furnishes to such an Agency a wilfully false statement of his circumstances, or pecuniary responsibility, with intent to obtain a standing and credit to which he knows he is not justly entitled, and thus defraud whoever may resort to the Agency, re-elected with the exception of one, whose place was and in reliance upon the false information there lodged filled by G M Kinghorn, Esq. The Company base extend a credit to him, there is no reason why his huilt a new factory on Nazareth street, and in a few liability to any party defrauded by these means should days will be in a position to manufacture their superior not be same as if he had made the false representations machines on an extensive scale.

The de-

LIABILITY FOR FALSE STATEMENTS MADE | fendant knew that Dun, Birlow & Co were a Mercan tile Agency, whose business it was to give information as to the standing and means of dealers, and that it was resorted to by merchants to obtain such information By making a statement of the financial condition of his firm to the Agency, he virtually instructed it what to say if inquired of. Can it make any difference whether he spontaneously went to the Agency to furnish the information, or whether he gave it on their application? He must have known that the object of their inquiry was, not to satisfy mere curiosity, but to enable the Agency to give information, upon which persons applying for it may act in dealing with the defendant's firm."

The jury having given a verdict for the plaintiff, the judgment entered thereon was affirmed by the Court of Appeals. The opinion of the General Term of the Supreme Court is published in 18 Hun 44,

-It is said the Grand Trunk lost \$30,000 by the collision at Prescott Junction on Friday last. The principal damage was done to the engine and cars.

A Washington despatch contains the following preliminary exhibit of re-instating bonded indebtednees of the 300 cities and towns of the United States containing a population of 7,500 and upwards Population, 11,350,722, boaded debt, \$604,246,919; per capita, \$53.53.

-The President of the Orange Free State telegraphs that he has sent nord Kimberly's despatch regarding the terms of settlement to the Boers. The Standard rates of tare. A Bill has been introduced in the like believes the conditions which the Government denois Legislature to compet the company to the cided to offer the Boers include complete

-McLeod Stewart, Vice-Consul, has received a letter from Consul Bentley, of Brazil, stating that he had succeeded in the organisation of a joint stock company to run a line of steamers between Brazil and Halifaz. for this service. It is understood the capital of the company is \$500,000.

## DOMINION TRADE. REGISTER

INDUSTRIAL DIRECTORY

AGRICULTURAL IMPLEMENTS A S WHITING MANUFACTURING to the few out of Manufacturers of souther, to the few of the COTTON MILLS

DUNDANCOTTON MILLINGO, Bardan, that have to the total for the state of HAMILTON COTTON MILES CO., Honelt of

ENGINES AND BOILERS

O. C. MORRISON, Hamilton, -Fosties, & Ar hatemers, etc.

FILES THOS OR IN IN. Toronto - Manufacturer and re the odraw FURNITURE.

Dell 4W 4 CADINIT CO., Oshawa, Ont - Porture, W. Iacturers - London Drauch, 97 Your St. G., Lanch, 44 and 44 Notre Dame St.

GLASSWARE
RAMILTON OLASS (V., Hamilton - Manuta),
tint and green glassware.

W. H. STOREY & SON, Acton, Out — Manufactore, and gloves and mittain overs variety and style

IRON WORKS.

CANADA SCREW CO. Dundas.—Manufacturere : and brass screws, bolts and rivets. COWAN & CO., clair, Manufacturers of every her; of wood working machinery.

DOMINION BOLT CO., A? St. Peter St., Montreal - Mar-facturers of every description of bolts, hot present railway spikes, bridge, boiler and fron strets - Meth., Toronto. HAMILTON BRIDGE & TOOL CO., Hamilton - In a may and highway bridges and from working machinery.

McKECHNIE & BERTRAM, Dundas.—Machine to the machine to the mood working machinery.

OSHAWA MALLEARLE IRON CO., Orhawa, Ont - v., nfacturers of malloable from also Coe and Tafi 13., serow wrenches.

RNITTING MILLS.

8. LENNARD & RONS, Dundae.-Manufacturers of plants and fancy hosier).

EATHER BELLING.

DOMESTICS AND TANK HOUSE.

DOMINION BELT AND HOSE CO., Toronto.—Oak to the belting, lace leather, etc.

DROAM BUILDERS.

BOLTON & SMITH 167 Mountain St., Montreal -T 114 and repairing attended to.

DANIEL BELL & CO., Toronto.—Manufacturers of the Excelsion" organs.

4. R. WARREN & SON, Toronto, -Manufacturers of the organs.

PAPER MANUFACTURERS. CANADA PAPER CO. (Limited), 374 370 & 378 St. Paul Montreal — Manufacturers and importer of all hind papers. Mills at Windsor, therbrooks and Portneur DOMINION PAPER CO., 57 St. Poter St.. Montreal—Manufacturers of maniflat, book and news print, tari boord middles and colored papers.

JOHN PIRHER & SONS, Dundas—Manufacturers of pro-tox and wrapping papers WM. BARHER & BROS., Georgetown,-Manufacturer-book and fine papers.

SAW MANUFACTURERS. SAW MRRUFACIUMENS.

R. H. SMITH & CO., St. Catharines.—Manufacturers of kinds of saws, plantering trowsis, Phase knives, etc. >-> manufacturers for the Dominion of Canada of the commanded "Simond's Raw."

BHURLY & DIETRICH. (Inl., Ont.—Manufacturers—of colleges and cross-out saws, plastering trowsis, etc.

CANADA SCALE WORKS, Jas. G. White & Co., Torce -- Manufacturers of all kinds of standard scales is tory, 102 Adelaide St. Past. SPICES, ETC.

R. D. VAN DE CARR & SON. Toronto. — Manufacture-and importer of coffees, spices, cream tarter, muster etc. STEREOTYPERS, ENGRAVERS, ETC.

F. DIVER & CU., Totonto. Ricctrotypers and sterrossiste Designers and engravers on wood. TELEPHONES.

HOLT TELEPHONE CO., Toronto -Telephones sold right 25 to 220 per pair: wire 3c to 5c. per rod some two miles. WIRE WORKS. B. OREENING & CO., Hamilton, Ont.-Manufacturer-wire ropes, cloth and general wire workers.

WOODEN SCOOS.

C. T. BRANDON & CO., Toronto-Have special frand machiners for the manufacture of all high wooden articles. Correspondence solicites.

WOOLLEN MANUFACTURERS. J. ROUTH & CO., Cobourg. - Woollen Manufacturer. JOHN WARDLAW, Galt, Onf.-Manufacturer et aggering, wheeling and knitting purpose

WOOLS AND COTTON WARPS. WINANS & CO., Toronto - Dealers in wools and



-Maine has built un average of over 40,000 tone shipping per annum for the past six or eight rear and yet a contemporary refers to it as a shiphuid it State which builds no ships

-The Bill for the better protection of railred ex-ployes, introduced by Mr. Fraser, provides for a creat space of seven feet from the top of a freight car to the lowest section of overhead bridges for the impor-ment of the running loands on the top of freight but cars, and for the filling in of frogs, wing rails at: guard rails.

-It is not unlikely that the Pullman Palacia. Company will be forced, in face of the effects but made in some of the States, to reduce their exertitae down" in their fares, as far as that State is con-orn of and nome of the Chicago papers ager that it will in tainly pass.

-The Deputy Sheriff of Ottawn counts, who well up the Gatineau to serve write in Lowe township, 'te Creek settlement, where the people retuse to pay tase It will be remembered that both the Canadian and Francisco Governments granied a subsidy of \$50,000 compelled to eat and swallow the write, after who for this service. It is understood the capital of the from the Dor inion to compel the service of the will

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#### THE DRY GOODS TRADE.

NEW YORK ADVICES

No. all Premount and Dry Goods Reporter braiderfe time howns, and the best makes Litter Cottonades were in fair deliveries through was stopen aberiefs and plaid estudiums continue tical quotations, with a fair supply in first and hands, Corect feans, satteers, roll and it catalistics, efficies and wigans are in moderate tion at steady prices. The best makes of usel satteens are well sold up. Tekings are vot others in ample supply. Prints were from at proportations, and there was a fair movement from that would hands for staples, fancies, shirtings, mournings, solids, judgo blues and Turis a all, and indications are it will about all be detributed. The piece trade in prints is not as animand as politors would like to see. Ginghams contal telow the requirements of the market. Amorkeag stories have been advanced to 11c. per yard. Press gingham are having a wide and active distribution at arrest quotations. In printed dress goods, includin; lanus, percales, momies, crotonnes, foulards, etc., the movement at present is less active, as package have to for the time being have completed purchases to freent wants. Prices are very firm in first and se and hands. Worsted and cotton dress goods are also in more moderate selections for the same reasons. In wellen goods the market is quiet but steady making fair deliveries of light weight cichian woollens, on account of lack orders and records a some duplicate sales for immediate wants. In hear weight fabrics transactions are limited tions low grade cotton warps and medium wool cassimals and suitings have been sold, but more on could of special styles than from any actual It is somewhat too early for any active coment in heavy woollens to be expected. Agents seem confident of higher prices when the season fully opens. In tweeds, suiting flannels, ulster and cashmarettes the present movement is chiefly in the execution of previous orders. Satinets and hentucky loans are firm at current quotations Finnels and blankets continue in moderate distributton at steady prices. In hosiery and underwear the market is less active, as the large buyers have completed their orders for spring and summer goods, and are closing out winter styles remaining at reductions. Wool shawle and winter akirts are dull, and are job datapecial prices to close out stocks on band Apate are opening attractive spring lines at satisfactory prices. Trade with importers, though by no noise very active, has nevertheless been steadily looking up and widening and extending as regards th distribution of goods adapted to the spring and numer season. A large number of out-of-town buyer-are in the market and have been giving the vail Mc-ks fair attention. The inclemency of the weather for some time past has doubtless greatly interfered with the prompt distribution of many styles of spring goods. While assuming that importers, from their experiences of last year, expected but a fair licalthy trade the present season and made prodent preparations accordingly, a look at the figures. which our imports of foreign dry goods since Jahua: y lat present, and making a comparison of the seme with those for the same time last year, would seen to carry conviction that such was the very reverse of the fact. Since January 1st the value of the fereign goods entered at thus port amounted to \$10,128,480 against \$7,809,335 for the same period last year. making an excess so far in favor of the present year of \$2,25%,151. The value of the goods thrown on the market during the same time was \$10,500,729 against \$1,775,108 for January, 1880, making an excess of \$2,725,561. This certainly shows that notwithstandbeen moving a little more freely, and the lower grades especially are somewhat easier in prices. The finer qualities, however, rule pretty steady as to selling values. Colored silks have also been in a little bet ter request. For some styles of tancles and novelties also trimmings, there was apparently more attention given by buyers. Aside from this we see nothing of much interest to note except that the weather has been much against trade the distribution of stanle dress fabrics has shown a slight degree of improvement, although the market still rules quiet. Prices are also low but fairly steady in tone. Fancy dress goods, novelties and specialties have been in better demand, resulting in some very good sales, though by no means up to For housekeeping linens there has hen more inquiry, but for other classes the demand from importers has been rather quiet. With the jobbing trade business in this line has begun to show perceptible improvement. Prices as a general thing range low. White goods, etc., saide from seasonable Trelaities, have not shown much animation. However, the request for real and imitation lace has been very fale. In Hamburg embroideries we have little business to note with first hands, although considerable quantities were disposed of through the auction tooms. Woollen goods for men's wear are without material change, but continue in moderate distribution from first hands, the finer qualities having relatitely received the most attention. With the ct. the jubbers trade has been comparatively fair, though probably not quite up to their expectations. Foreign hosiery continues active, with a very brisk inquiry

for medium releast fancy goods. Staples remain in

fair demand and prices are firm with a strong upward

sendency. Stocks of open worked goods are very light already, with the demand much larger than the

without life and agility. Prices meanin depressed and in many instances are lower that several weeks ago.

Second and third rate quality of Berlin made gloves

goods remain wachangel.

Cotton Goods.

The market is not particularly active as it relates to to w business in cotten fabrics. The distribution is steady from agents on account of provious orders which expanse supplies of describe makes as fast as received. In the lower grades of plain and colored In more fully particularizing the market for goods the market is not so closely sold up as in the lower product the inovement. In the market is not so closely sold up as in the timer qualities. The lighter fabries of brown cottons are strongly on account. Data lower grades in bleached goods. In silents, vigans, that the market is not so closely sold up as in the lower grades in bleached goods. In silents, vigans, the strongly and the lower grades in bleached goods. In silents, vigans, the strongly are the lower grades in bleached goods. Italians and other styles of tolloring youds, in the stand to make sold up and showl of de-spid sheetin source sold up and showl of de-lower trakes especially, there is not raw h activity. Prices are time on all widths and qualities of The narr qualities are in better movement. Printed and bleached roods. Cotton tlannels are in cottons, including prints, ringhams, piques, cods, code, and distribution, with light stocks and quote of the stocks and special or the stocks and special or the stocks. etc, continue in fair distribution, and in ginghams a tion. Catemates were in fair deliveries through especially the market in very active, with all the cases orders. New business is quiet, with the leading stupic styles sold up and the supply far short conference it sold up and prices strong. Checks, of the demand. Joob is, in addition to their regular pleco distribution, have been transacting a tarker le hage business than usual in branch that agents could not premptly supply to out-obtown buyers for Immediate wants. As the piece distribution is some-what to Award, follows feel disposed to reduce some of their holdings to the larker trade, who are willing of the correct values, with some grades closely sold to take the goods freely at a shade under agentquotations. Prices on cotton goods are strong and brm in in-t hands and corporation makes are in too short supply for any weakening of quotations. Colored goods, including cornet jeans, cambrics, tickings, the supply of dark work on the market cheriots and osnaburgs, fare in moderate movement at current values. It is well to bear in mind the supply of cotton fabrics to largely diminished in all markets as compared with a year ago, and though joblers base fair stocks with which to meet present limited demands, they are not large enough to stand two weeks' active distribution without frequent replealableg. A large spring trade is near at hand, and with supplies not abundant, it is probable values will remain firm and steady for a metime to come

The cotton market opened on Saturday quiet and to lower for spots, and has continued in this way ever since the operations of the week being chiefly on spinners account. For future delivery Saturday's sales reached 119,900 bales, closing 15 points lower. On Monday the sales footed up only 110,200 bales, closing baiely atendy at a slight advance. Tuesday's sales amounted to 107,500 lates, without any change In prices worthy of note. On Wednesday the buelness done was light, the sales only footing up 79,300 bales, at an advance of 4 to 6 points. On Thursday the market continued quiet and prices tell off 1 to 2 points. At to day's market the sale only reached 89,000 bales, closing bately steady at an advance of 2 to 3 points higher, the closing fates being-February, 11 214:11 22; March, 11 35:411 37. April, 11 50:41 11.53; May, 11 63% 11 68; June, 11 78% 11.79; July, 11.86, August, 11.90, September, 11.47@11.18 October, 10.98, November, 10.83

EVENTFUL CAREER OF AN OCEAN LINER

The steamer Baltic, one of the vessels of the once famous " Collins ' line between Liverpool and America, has just been ordered to be broken up. This in-telligence will bring to many minds a recollection of the vicisaltades which the line suffered, and which cuminated in its total collapse. The first steamer of the fleet, the Atlantic, sailed from Now York—at which port all were constructed-on her malden voyage for Liverpool, on the 27th April, 1849, and reached the Merse; on the 10th May-having thus occupied thirteer, claye on the voyage, two of w leb, however, were devoted to the repairs of damage to the machinery The other steamers were the Adriatic, the Pacyle, the Arctic, and the Baltic, all being of about 2860 tons capacity. For six years, notwithstanding high rates f freight and a considerable Government subsidy, the line was carried on at a loss. In 1852 the Arctic made the passage between New York and Liverpool in 9 days and 17 hours, but she was afterwards run into by a French vessel, and but few of her passengers were saved. The fate of the Pacific has remained wrapped in mystery ble sailed from Liverpool, and never afterwards heard of These events, confled with the vigorous competition of English lines, particularly the Cunard, caused public patronage to be largely diverted from the Collins vessels, and the dilustic was laid up. She was subsequently converted into a sailing ship, and her exist nee closed last year, when she was broken up at New York. The Adrigite, which was at one time regarded as the crack vessel of ing trade generally has reached quieter and more the fleet, was sold to a Galway company, and is now the fleet, was sold to a Galway company, and is now the fleet, was sold to a Galway company, and is now the first conditions, based upon logitimate demands used as a coal hulk by an English company at the for consumptive purposes in which speculation has Western Islands. The Baltic was chartered by the no part, our imports of staple and fascy dry goods have been increasing instead of diminishing. However, we suppose in due time a considerable portion chiner having been taken out she was employed to American Government during the Civil War as a sup-Chinery baring been of these goods will find an outlet through our auction carrier from San Francisco to Liverpool. On a rooms, bringing such popular prices as will lead to be recent voyage the Baltic was so strained as to be renther general distribution. Black dress silks have dered unseasorthy, and hence has been condemned. dered unseasorthy, and hence has been condemned.

#### THE USES OF GOLD AND SILVER.

It has been as estained at the Mint Bureau at Washington that the mines of the United States have produced during the last seven years about \$280,000 000 of gold \$27,500,000 of silver, an average production during that time of \$40,000,000 of gold and \$38,750, one of silver per annum. Of this production about 951 per cent of the gold and 601 per cent of the silver found its way to the Mints and Amay offices to be converted into coin or bars. The Assay office at New York reports that during the last seven years an aver-The Assay office at New age of \$3,333,333 in gold and \$3,500,000 in ailver has been paid in fine bars to manufacturers or dealers supplying them with the precious metals. These figure are merely approximate, and are much below the actual amounts employed In order to obtain more accurate information relative to the final disposition of the domestic production, the Director of the Mint has endeavored to ascertain the amounts consumed in the arts and manufactures from the manufacturers themselves, and in his report for 1870 a table was published exhibiting the results of his attempt. This, though incomplete, was very satisfactory to the Director, and led him to continue his investigations. Resulsequently mailed upward of 7 300 circulate to all the manufacturers of Jeweley, plate, foll, chemicals and of re consuming gold and silver. Many failed to reple, probably through indifference or from a desire not to disclose, even confidentially, the details of their business. It is believed, however, that the total returns approximate the actual amounts so used nearer than any former ostimate has. The total amounts reported were about \$4,500,000 in gold and \$3,500,000 in allver Nearly \$2,500,000 of the gold was United supply Business in thread gloves is singuish and States coin, while only \$500,000 was in silver coin. This small amount of silver coin used, in proportion to the gold, which is probably somewhat understated is accounted to by the fact that the intrinsic value of more particularly suffered a reduction of from 10 to United States silver coin is nearly 10 per cent. less its 15 per cent, while prime quality and also frame made

thre, and over y to come in gold and nearly \$2,0000 in busty store will make it look as well as new. The silver or old minches and foreigns due to these equivers the torp uting passes off quickly also in gold. 85 per cent magnifectored in jewellery. Speaking, in a recent lecture, of Here hely die even tent was used for with his and fewellers, (2 per cent) the fecture inc) would be 6,000 miles never to it than for watch cases, 17 per cent for he if and plated way. It ey were at the beginning for watch excess, 17 per cent for leaf and platex ware, may were at one beginning and 4 per cent for claudeds and instruments. In A new theory of the cause of earthquakes has been witch a and towellery, 172 replies repeated having propounded by Dr. Novak, or Poetle. He considers manufactured and conserved in United States gold that testles the rotation of the centh on its existent for the control of the centh on its existent. which was and made to all to about in bars more its revolution around the sur, a multiplicity of more than souther to the sollier coling of manufactured than souther artists, studied that the sollier coling the mestice, stars, and \$17,000 in old articles making a position. This causes a renation of the forces (control of cold and silves of nearly \$7,00,000. The tribust and continue to include earth's form, Pirester of the Mint, from eacout considerations of and the earth's crust has a tendezer to adapt itself to all the date at his command, estimates that the this clames, amount of doriestic bullion used in the arts and manafactions during the first treat year was about Sciences of gold and \$1,000,000 of silver, and that the total consumption in all forces was about Fig. 6 (0.00) in politarides conjugate silver - Exchange

#### SCIENCE NOTES

Concerning the cause of London foge it is now suggested that they are largely due to the burning of sulphur, 200 tons of this substance being duly burned gun cotten, the chimners became wrecks. In London

A new Island, 159 feet in diameter, is reported to have lately ri∞n in the ∞a of Azon — Its appearance | generally, and under ordinary circumstances, is an was accompanied to a marine eruption.

The inquiries of Prof. Cohn, of Breslau, Indicate that short-sightedness is rarely or never born with greatest source of heat which science possesses, but those subject to it, and that it is almost always the east this fact does not justify the interence that, result of strains ustained by the eye during study in caris youth

The force exerted by the discharge of heavy gam is something tremendous. In some recent experiments at Woolwich it was estimated that the pressure upon the base of the gun at the morient of the explicion was more than sixty tons per square inch.

Even so inflammable a material as cotton can now be used for the construction of fireproof bullaings. It in converted into a poste-by chemical treatmentwhich becomes as hard as stone. It is moulded into large states, and designated as architectuml cotton

One of Edlson's inventions, in connection with his system of electric lighting, is the Weberneter. This is an instrument for measuring the amount of electricity flowing through a circuit, or, in other words, a meter for electric currents to tell the number of webers that have been supplied

M. Colladon has found that any tall tree may serve as a lightning-conductor to protect a house, provided its roots enter damp soil. In the case, however, where the house stands between the tree and a pend or atream of water, the shortest path for the lightning from the tree to the liquid conductor may be through i the bau-e

A Hungarian chemist has lately shown some surprising experiments in Paris with a new light-giving aubstance which burns with so little heat that its flame will not set ure to a handkerchiet, carpet or other tabric with which it may come in contact. A person may hold the burning liquid in his bands without injury. This new illuminating fluid is prepared from petroleum

Prof Perosino and Dr. Sicht, who have both experimented upon the principle of the tratemission by telegraphic wires of the forms and colors of objects in the same way that sounds are transmitted by telephone, hope to ultimately succeed in contriving an apparatus by which two persons who are separated by an ocean will be able both to hear and see each other

Atmospheric pressure has a very decided influence upon the melting point of various substances. Under ordinary circumstances ico melta at thirty-two degrees Fahrenheit, but in some recent experiments Dr. Carnelly is said to have bested it in a vacuum to 350 degrees before it became liquefied. At a much lower temperature the ice rapidly disappeared, however passing directly from a solid state to that of vapor.

At the castle of Simonetta, about twenty miles from Milan, a surprising echo is produced between the two wings of the building. The report of a platel is re-peated by this echo sixty times, and Addison, who visited the place on a somewhat foggy day, when the lits wearing qualities are said to be superior to that air was unfavorable to the experiment, counted fiftysix repetitions. It is stated that the sound of one

number playing in concert. White light being the sum total of the various colors, it has been generally believed by physicists public place, and consists of a verticle circle, the that the sensation of white light is simply the sum plane of the meridian; a rod directed toward the total of the sensations of its constituent colors. On the ground that the sensitiveness of the eye for white light may be increased- at, for instance, by the previous absence of all light-without the sensitiveness for color being increased, Prof Charpentler urges the novel theory that this is a color sense as distinct from that of light as is the sense of touch from

the sepre of heat Oak is stronger than iron, both pieces being of equal weight,
Skin cleanliness has a great effect upon the assimil-

ation of food Aqua fortle is a distillation of two parts of saltpetre

and one of connersa. Iron plate has been rolled in England of twenty-four inches in thickness !

Salahurone acid, procured by burning aulphur, le the best of all disinfectants

American from is considered better material for ear-

wheels than Scotch or E glish The water in the Straits of Gibraltar, at the depth of 670 fathome, is four times as sait as at the surface.

In Glasgow, Scotland, one foline factory uses up air thousand tone of seawerd every ve r to produce this chemical

Glass can be readily and neatly drilled with a small drill, operated by a bow, and keps moist with apirits of turnenting. We see it stated by a medical writer that camphor

is an unfailing specific or antidute for strychnine in the most extreme cases. Corn cobs yield twice as much potash as the best

specimens of woods; 114 000 000 pounds of potsek might be made from our annual corn cro, The moon, though apparently as large as the sun is in reality the smallest heavenly body visible to the

unaided eye. Het diameter le 2,164 miles. There is a latent heat in everything, even in ico. Water is cold, and sulphuric acid is cold, but if these two cold liquids be mixed together they will at once

face value, while gold is the same in bullion or coin; applied in the name manner, is blacker, more given is enabled to produce pictures of persons and objects. The manufacturers reported a consumption of abort and durable than if put on with any other liquid. The with the finest shades of their natural color.

\$5,000,000 to the gold bare and \$2,750,000 in silver blue bitter prevents rost, and when put on an old

Speaking, in a recent lecture, of Hers hel's die evand wiches, 5 per cent match cases, 2 per cent sold cry that the sun is rapidly rawing towards a point in leaf only plated ware, and 3 per cent cheate als mad the constellation Her ales, Prof. Will, the Astronomy support and other histoments. Of silver 22 per Royal for helped, hold bis nudicine that at the end or

The Royal Dogineers have tried the effect of gun cotton in bringing down two old obligacys at the Dockyard I stension Works, Chatham, Eugland. The first was demolished by placing a necklace of gun cotton inside the chimney, the total charge consisting of about four and a half pound. The second was destroyed by placing six charges of the explosive in the centre of the base of the chimney, the total charge weighing 28 ounces. The experiment was very suc-At the listant the electric park ignited the

Dr C W Slemans, the well known electrician, do not acree with Mr. W. H. Procee, that electric light illuminant chogerous to life and property. He assents to the proposition that the electric light is really the ea) s this fact does not justify the interence that, because the electric light is hot, it must necessarily heat rooms in which it is employed to anything like the same extent as gas. According to his neuros, the heat developed by the electric are is rather less than one per cent of that which would proceed from gas afteriar the same illumination

A temarkable bed of kaoline, covering an area of eights acres and of a considerable depth has been discovered near Bremond, Tex. A factory for the manufacture of the article into percelaine ware has been established at Now Orleans and it is said in turning out work equal to that made from imported kaoline, and which will compare favorably with ware made in Europe and other foreign countries,

The interatory for the Johns Hopkins zoological investigations, established at Beaufort, North Carolina, some three years ago, has proved a most useful one. Some especially valuable results in the examination of crustaces have been obtained. Four hundred and eight specie of animals have been found in that locality, which is pronounced an excellent one for eccentino study

A strange and rare phenomenon of an inverted raintow was observed at Innsbruck on November 25 last. For some thirty minutes the end points of the semi-circle, centro of which was the sun, rose and moved westward with the latter, the remarkable spectaclo then vanishing No satisfactory theory has as yet been given explanatory of the cause of the phenomenon.

A new comet, a remarkably large one, was discovered by Pennulo at Copenhagen, Denmark, on the 16th of December last, in right ascension 18 hours, 42 minutes, north declination 10 degrees, 35 minutes. Its motion is north cast, something more than one degree daily, and can be seen with an ordinary telescope quite plainly, but will probably not be visible to the naked eye.

The manufacture of glass cloth is becoming a profitable industry at Pittsburg, Pa. The thread, waich is made any desired color with minerals when the glass is originally melted, is drawn out of a melten bar by means of a rapidly revolving wheel at the rate of 2,000 yards a minute. The weaving is dene about the same as with silk on looms.

The almacantar is a new invention for the determination of time and latitude. The instrument is said to be superior to the transit instrument in calculating the correct time, and is much more simple in its construction and workings, combining as it does a time and latitude instrument in one. The outside fibre of the cocos-nut is being man-

usactured extensively for shoe-heels, and is said to be a most excellent substitute for leather. In fact, of leather, and is much cheaper. The cosmograph is a new invention by M. Rivier,

musical instrument in this place resembles a great of Marsellies, France, for popularizing astronomical knowledge. The instrument is mount monument from ten to fifteen feet bigh in some North star, showing the position of the earth's axis; a circle placed at right angles to the first, indicating the plane of the equator, etc. Useful astronomical facts and data are engraved on the pedestal, and inscriptions in relief show the names of the various nortions of the instrument, from which much can be learned by all who may give it their attention. Sevstal of these instruments have already been erected in the towns and cities of France. bome of the more scientific physicians of the land

have of late produced wonderful results in their experiments in artificial respiration Prof. Fort. of Paris, recently restored to life a child three years old by practicing artificial respiration on it some four bours, commencing three hours and a half after apparent death. Dr Fournol, of Builoncourt, is reported having remimated a nearly drowned person after four hours of artificial respiration. The person had been in the water ten minutes, the doctor baying been called in one bout after asphysia. Numerous other cases similar to these have been reported, proving the new theory a practical one beyond ques-

The various urban ashitary authorities of England and Wales have expended no less an amount than \$75,000,000 during the last five years in works of a sanitary nature, and judging from the steadily de-creasing death-rate of the period, it is implied that the large sum has been judiciously laid out. example is one that might well be followed, and that with profit by many localities of this country.

It has recently been fully and satisfactorily demonatrated that fire and waterproof houses can be built out of cotton and straw. The cotton used is the retuse of the plantations and factories, and when ground up in about an equal amount of straw and asbeston is converted into a paste and subsequently into large slabs or bricks, which become as hard as stone. The article thus made is procounced the best of architectural material, and will be much used

Notice heat,

Stove lustre, when mixed with turpentine and has invented a new process by which it is said that he

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be telecter-of slowly avoid any approach to a publica? the intention I due to give a plain and impartial statement of the print is all features of each factory. Waising all description of the town itself. I will commence by des ralans the

the it, saw and weedlen full machinery, furbane waterwherete, engines, bottom, etc -their engines having a special reputation. The fulldings are of rough stone, built in the form of a hollow square. The main shop 1-3 stories libb and 200 it long by 60 ft wide, and the other departments are equally commedious and

#### MAPLE LEAT PAW PACTORY

of which Mesera Shurly & Dietrich are the proprietors This firm case employment to between 40 and 20 hands. The main building is 105x40 ft., 2 stories high, with a wing 40x50. Hand saws, circular saws, plastering trowels, draw knives, etc., are manufactured here, and onless are at present coming to hand so freely that the facilities are fully taxed, and the firm are contemplating extending their premises in the spring. Their saws are tempered by a secret chemical process which they claim both toughens and refines the steel, and the men engaged in this branch are under tends to preserve secree). The volume of trade transacted by this firm has more than doubled in the past two years

#### THE OALT FOLNORY.

the Sydney, N. S. W., exhibition for the excellence of Toronto. A short distance from this fall is the their machinery. The main building is of stone, pursuits mill, 209x50 ft, 2 stories high, with a wing 50 ft square rua- Of Mr. O. Hume, which has a capacity of about 200 ningat right angles to it audextending to the riverteak The other buildings comprise blacksmith shep, moulding shop, etc. and across the street is the boiler shop, store-house and lumber yard. Mesers Cowan & Co. are full of work, and have orders to ship to Nova Scotla, New Brunswick, the North-West, one order for Portage to Prairie consisting of engine, boller, and full line of machinery

#### THE GALT MACHINE WORES

of Messex Cant, Courley & Co, are situated alongside the Wellington, Grey & Bruce branch of the U W R The factory, which is run by steam, is a very fine one of modern appearance, being only built about five years ago. This firm established here in 1872, in a small way at the other end of the town, and their business young one, is rapidly increasing. The last description gradually enlarged till they removed to their present will be of the gradually enlarged till they removed to their present The main building is 2 stories, 154x45 ft. the first floor leing used as a machine shop, and up-stairs as a pattern shop and store-room. The outbuildings consist of blacksmith shop, moulding shop. Employment is here given to about 3) hands,

#### R. MCDOUGALL & CO

are a new firm, which started in business about a year since They manufacture all descriptions of iron and brass castings, but give their special attention to iron pumps of every description, an illustrated catalogue issued by them comprising a full line of these goods They employ eight men. The

#### GALT EDGE TOOL WORKS

of Messra Warnock & Co is a large establishment the machinery of which is principally run by water power, but in case of insufficient supply, a to horsepower engine is in reserve. The lines manufactured wagon gear, and turn out all the goaring completely fitted up, ready for the box, wheels, etc. This new industry was only started last August, (and is already assuming vast proportions. In 1872 Messrs. Warnock employed 45 hands, 66 in 1880, and this year, owing to the increased home demand, are giving employ-ment to 80 hand, and are about hiring more. The woolten industry is well represented,

#### MR. J WARDLAW

manufacturing all descriptions of fingering and guitting parts. The machinery in this mill is of English make, and similar to that in use in the Baidwin Works, Halifax, England. A large trade is done throughout the country, this being one of the first establishments to start in this line in Canada. About a year ago 17 hands were employed, and now, exclusive of work done outside, 49 hands are engaged in the factory. A new 65 horse-power boiler is being erected for dyeing purposes, this branch being a specialty, and an addition to the factory and more machinery will shortly be erected Last year the mill was running night and day from February 15th to December, and will this year do the SAIM C.

#### MESSRS. BLLIE & GODFRET

are engaged in another branch of the woolien industry, manufacturing all descriptions of tweeds, etc., etc. This firm were formerly lecated in Whitevale, but on being burned out about three years ago, they re-moved to Galt. In the uill two sets of machinery are working to their full capacity, with 30 hands in attendance, the motive power being furnished by water, with a steam engine in reserve. The

#### GALT REITTING PACTORY

of Mr. C. Tarnbull, manufactures all kinds of full finished underclothing, similar to the Scotch imported goods. The machinery in this factory is run by hand, engaging some 20 hands.

clarty foliated seeds for winter wear. They find their far, You to a produced on that and the United States the Pittsburgh, Bellafe, Pointres, et ... All to

about nine months, and were at first put to a good deat of interest nine months, and were at first put to a good deat of interest nine months, and were at first put to a good deat of interest nine months, and were at first put to a good deat of interest nine months, and were at first put to a good deat of interest nine months, and were at first put to a good deat of interest nine months, and were at first put to a good deat of interest nine interest nine in reality into order at known by various names a like time order at the first nine of all our order to the first nine in the like time order order. The most value of the first order order to the first order order order order order order order. Work is cavied on in a three story frame building. The cities and surfaces, it was force motion, the first in the Grey one found in the lower condition the machinery being driven by steam power. At or two million in Laddents—worked its colliered both between costs No. 1 and No. 5 of the p. 5. present 3 chauds are employed.

vehicles to all parts of Ontario, and also does a large of the Neuse succeeded the bronze age. Then, alle as the cost and fron ere bett, are still ed.

Manifolds teade. Their shop is equipped with the primitive may was one does accessful, quite by chance, and as awing machinery, made by a melting iron from the ere, but what he produced their produced of the same was rather steel than wrought from Then came cast make, and an average of 15 men are employed. They have and now it was the are of steel. Instead of loss clays which usually underlie the coal and coal, and how have material on the ground for an addition, in 30 per cent, of melting from the puddling frances, and being used in the manufacture of interest, who well deserves his large fortune, has different tocalities in the State. Some of these results and the coal and coal which is driven by steam power. Measure Goldle & Holding by a uniform width of on it. A number of which is driven by steam power. Measure Goldle & Holding by a uniform width of on it. A number of which is driven by steam power of the letter L, one wing being 70 and the other blowing into st., to such good purpose, however, that all of the letter L, one wing being 70 and the other blowing into st., to such good purpose, however, that all of the prices formerly of extra workmen will be employed when the imposed when the imposed part of the prices formerly of extra workmen will be employed when the imposed part of the prices formerly of extra workmen will be employed when the imposed for the prices formerly paid to cast iron. Steel was now used, not only for the COST TO FRANCE OF THE GRAVE WAR. very fine flouring and grist mills.

#### THE STOCKWELL MILLS

Are the largest in the town, and are especially well appointed and employ about 20 men. Although usually avoiding any very close inspection into the internal economy of a flour mill, the scrupulous cleanliness apparent on first entering, and the elaborate ap warance and perfect arrangement of the machinery on the ground from induced me to accept the invitation of Mr. Hume, the proprietor, to take a trip through, and, after actualizing the apartments from cellar to attic, we control almost as free from dust as on entering. This mill is Gox100 feet, and 5 stories high, and the motive power is furnished by a 150 horse power Goldie & McCullough engine, and is a fine specimen of Canadian workma ship. Flour is manufactured here by the new parent roller process, there belog 3 sets of in which Mesers. Cowan & Co. carry on the manufacture rollers and I run of atones, which have a combined of wood working machinery, engines, bollers, etc., is capacity of 20 ust. etc. er diem. This mill was fureltunted on the other sid- of the river, and the machine mished and built under the superintendence of Allie & ery is driven by water power. This firm are well Co a Milwaukee. Me so Humo & Co ship monthly known to the visitors at the different Canadian ex- to the old country about 1000 bags of 100 lbs. each, hibitions, having carried off high honors in Ontario principally to Liverpool and Glasgow. They have and Queloc, and were also awarded a brouze medat at lately opened an office at 47 Wellington St. East,

barrels per diem. There is a cooper's shop in connection, where the barrels used are made, and the two brancher combined employ about 15 hands. This mill is run by steam, and has 4 run of stones and 2 ects of rollers. The

#### OACT MILLING CO.

machiners to equip a playing mill. Another arm here Is carried on by Mr. D. Spiers, in a stone building, the also devote their special attention to wood working machinery of which is run by water power. Outment machinery of which is run by water power. Oatment is specially manufactured here, and a business has been built up with the eastern provinces, besides their usual export trade. The

#### ROOS VANUFACTURING CO

Employ from 25 to 30 hands in the manufacture of books and shoes, in a wing off the Galt Milling Cospremises, and the business of this concern, which is a

#### DIEGN HILLY

4 run of stones and all the necessary machinery for a first-class mill, water being the motive power. There is a cooper's shop in connection, all the barrels used ton of the material as it passes through them. So being made on the premises, about 20 men altogether that from the twenty tone fed to the machine there is being employed. Recently a trade has sprung up with the mantime provinces, and an export trade is

There are several other industries here, notably the ateam saw mills of Gilholme & Hogg, who are getting out 1,590,000 feet of logs this winter, G. Hespeler's new saw mill, expected to cut 1,750,000 feet, two or three planing mills, two furniture factories, etc., all doing a good local trade, and imploying in the aggregate about one hundred hands, which brings the total numb r finding employment in the different factories described up to about 700, and it is, moreover, noticehero are edge tools, axes, heavy hammers, picks, described up to about 700, and it is, moreover, notice-crow-hars and carriage aprings. This firm have introduced into Canada the Dexter buggy and the Ludlow skilled mechanics, earning remunerative wages, as but very little female or juvenile labor is utilized. The these ores are the Bradford, Plumbs, Osterspey, Stutz, new Lutting factory being at present equipped in the old Robinson, Howelf mill, will in about two months give employment to some sixty hands, and in this case the female employees will be in a majority.

#### BAILWAS PACILITIES

The popularity of Galt as an industrial centre is due both to its water privilege, and, perhaps for a much larger share, to its railway facilities, the Great Western and the Credit Valley roads passing through the town, while the Grand Trunk runs a branch line from Ber-lin, and which, it is expected, they will extend in the near future to Paris, connecting there with their own line and saving the circuit eia Stratford. As it is, not counting the freight traffic, which is heavy, there are some twenty passenger trains stopping here daily, and the advantage of competition offered to shippers cannot be over estimated

### THE AGE OF COAL AND IRON.

M Simonla, the celebrated mining engineer of France, lately gave an interesting fecture on the above subject, by way of inaugurating a diorama produced by the Societe des l'anorames l'opulaires, illustrating the workings of a collicry. The views pass upwards in representing the descent of the shaft, and then from right to left to show the galleries. M Simonin observed that the origin of coal is due to the deposit of tropical plants and ferra-in fact, the virgin forest, acted upon by heat and course, compressed, calcined, carbonized, as was proved by the trunks of trees and the fossil plants found in coal and the superincumbent shale. It was to coal that England owed in a great measure her maritime supremacy, and Belgium her industrial power. In the middle ages, coal was prescribed; then, as wood became dearer and dearer, coal was employed by degrees. The first rallways were laid in England for the carriage of coal; first, angle from served as

The Manufacturing Industries of Galt.

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Of Sacrifer in Cr with energy and economy; and her infuers, like those nome nelature. The Blackband in next in a star D. MYNGS FOLENAL.

D. MYNGS FOLE paid for east iron. Steel was now used, not only for rails, but also for steam boliers, which will not burst, and for the hulls of vessels which can carry much more freight than those of Iron, owing to their being lighter for a given capacity. Nor had we yet arrived at the end of the many and various applications of this useful metal, or rather alloy, which was destined to exert a great induence on the industrial progress of the world

#### GOLD MINING.

#### An Improvement in Ore-Dressing Machinery. It is a well known fact that almost all the pre-

clous ores are closely associated with their carry ing rangues, except placer mining, where free gold is mixed with earth and gravel, which is worked in the following manner, viz Long boxes or troughs are made with cross slate naticed on the bottom. These are called riffels; these troughs are set at an inclination. The gravel and sand containing the gold is thrown in at the raised end with a stream of water, which carries the gravel, mud and pebbles down with it. The gold and metallic substance, being heavy, falls to the bottom and is caught by the cross-pieces while the lighter material is swept of by the water, so that at the end of a run all the gold can be collected from the bottom of the flumes. In the mining of metallic eres which run in veins, the ores are imbedded in quartz or hard rock, and to treat the orea successfully and economically the first step is to separate and concentrate the metallic particles from the quartz or rock as the association with the gangue itopedes the process of metallurgical refluing. A simple illustration of this can be given where a noted mine in North Carolina has above ground 10,000 tons of gold sulphurette ore, carrying \$5 per ton. To treat this ore profitably, which has only five per cent of inciallic substance in it, and the rest waste rock. It would cost at the lowest for milling, amaignmeting and smelting \$6 to \$10 per ton, from which it can be seen that it would be impossible to work this ore as it now exists at any profit. The first step to secure \$50,000 worth of ore (to make it of marketable value) is to separate the ore from the quartz by the following method, viz The ore is first crushed, then sized by screening, and passed to what is known as con-centrating machinery, where all the valuable material Mr. Richard Blaine, proprietor This building is of is extracted from the quarts (or rock), which is stone, 84 x 42, and 4 stories high. It is equipped with thrown out as waste, so that twenty tons, worth \$3 per ton, are washed or concentrated, and the \$5 worth of material is collected in the machines from each collected one ten of concentrated material, worth \$100, which will yield a handsome profit. Most of the concentrating and washing machinery in present use in the United States is complicated, costly, and capable of great improvement, as the Fronch, German and English metalurgists, on account of their long experience and well adapted machinery, treat low grade ores with profit, but in the United States, until within the last few years, low grade ores were lef. untouched, and thrown saids with the tailings from the high grade ores, which tallings sometimes contained as high as twenty per cent, of value. The most popular machinery now in use in the United States for the concentration of Khrome and Frue, all of which have been working low grade ores, and rendering their treatment a scurce of great profit. The last invention in this line is a very simple machine for concentrating or extracting the valuable parts from low grade orea. This machine was invented and patented by T. Mellon Rogers, mechanical and mining engineer, of Philadelphia, which for simplicity of construction, adaptability and durability, is a decided improvement on any of the machines in present use, as one of these machines can treat coarse or light ore, either light or heavy, and is economical in its uso of both water and power, and the whole character and construction is entirely different from any or the above mentioned machines.-North American.

### THE COAL MEASURES OF OHIO.

upwards of 10,000 square miles, and enclose 20 beds of coal of workable thickness aggregating 75 feet of each of the coal of the ordinary house coal to the finest grades of steam, gas and furnace fuels. The different coal is the fact of the communications on the subject feet of the communications on the subject feet of the coal of the communications on the subject feet of the fact of the fact of the fact of the fact of the coal of the fact of t upwards of 10,000 square miles, and enclose 20 beds ley." Seven million tons were the product of the botanischen Ceselleckast in Wien, vol. xxviii, 1879, p 🐪 mines last year, according to the report of the Inspec-tor of Mines. Eighteen thousand persons are engaged the Austrian Minister of Agriculture, and upon eyes. in and about the mines in preparing the coal for information supplied by Professor Oscar Schmoll Timarket. There are three kinds of mines in use for experiments in the Adriatic were carried out under the coal, namely, the shaft, the slope and the auspices of the government during the years the line. engaging some 20 hands.

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\*\*\*Rases. votes, signals and is only used where the signal diffic. The solpo is a signal as only used where the signal diffic. The solpo is a signal as only used where the signal diffic. The solpo is a signal as only used where the signal diffic. The solpo is a signal as only used where the signal diffic. The solpo is a signal as only used where the signal diffic. The solpo is a signal as only used where the signal diffic. The solpo is a signal as only used where the signal diffic. The solpo is a signal as only used where the signal diffic. The solpo is a signal as only used where the signal diffic. The solpo is a signal as only used where the signal diffic. The solpo is a signal as only used where the signal diffic. The solpo is a signal as only used where the signal diffic. The solpo is a signal as only used where the signal diffic. The solpo is a signal as only used where the signal diffic. The solpo is a signal as only used where the signal difficulties where encountered the whole difficulties where the signal d

#### THE COST TO FRANCE OF THE GLOUD WAR.

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In the second of a series of papers whith the contribution to the Economiet Franciscon the cal. the France-German war to France, M de Fossil quires into the loss of population caused by the filet, exclusive of that due to the cession of Alan Lorrithe. The German direct loss he puts atkilled on the field, 18 673, died from wounds, 11 died of discuse, 12,301; missing, 4,409, total 48, 11.
The wounded amounted to 127,867. On the Free. side, he estimates the less during the war at 11 ... died in Germany, 17,240; in hwitzerland, 1,7 Belgium, 121; total dead from all causes, i and The wounded are estimated at 143,000. It will borne in mind that the French Government has here published official lists on these autjects, and that ... sequently these figures are only approximately se-rect, but they are founded on the inquiries of the Plenon, Professor of the Milltary Art at the Super-School of War. M. de Foville, however, thinks the in certain particulars the Colonel has underestimate' and he would bimself put the loss in round publish at 150,000, reckoning therein the losses on toths :in the Communist insurrection—that is, the total of armed men from July, 1970, to June, 1971 is wounded, permanently disabled and broken down. constitution he estimates at 100,000 In addition is estimates the losses of the civil population due to the war through sufferings of one kind or another dead : sleges, decrease of births and emigration at 5 making a grand total, including the permanently. jured, of 750,000 people. In a previous article-estimated the cost of the war at 15 millions of fire. or 600 millions sterling, and he now adds to this ... the value of these lives, which he estimates at the militards, or 120 millions sterling, raising the more cost of the struggle to France to 729 millions sterile. In a paper written in 1872 and republished last res Mr. Ulffen e-timates the value of the life lost at 1. on an average. M. de Foville thinks this too by valuing the unlettered conscript at from ± : £160, the old people and children still lower and the rest of the dead as equal to ordinary emigrants ( America.

#### THE SPONGE TRADE IN THE BAHAMAN OF THE PROPAGATION OF SPONGES

In a report to the Secretary of State for the Colon from the Governor of the Bahamas, which we had quoted in the Pharmaceutical Journal, it is stated that various causes combined to make the past your most favorable one to these engaged in this bran he business. A larger number of buyers than usual appeared in the market, and there was no period when It could be said that prices had a downward tender. I The very high prices offered at the beginning of the year were fully sustained to its end. This stor; competition served to atimulate those actually exployed in the fisheries to greater exertion, and induct a great many others to enter the business of heavy gales, and the mild weather that generals provailed, contributed in a great measure to favor " efforts of the fishermen to meet this increased demain The successful results of last year's fishery are are somewhat owing to the rest the sponge beds by whilst the privilege of fishing on the coast of this was accorded to the Bahamian spongers. Liceus: fish on this coast were again issued in 1879 to sere? vessels, but shortly after their arrival at the spating grounds they were boarded by Spanish gundant and ordered to leave; some of them returned to por with insufficient sponge to pay the cost of their e-Sta '

Governor Robinson then refers to the statements that have been made by German naturalists as to to possibility of the artificial propagation of sporase and asks that definite information should be obtained upon the subject and supplied to him. In compliant with this request the Secretary of State appears to have consulted Dr. E. Ray Lankester, who has surplied the following report, which is printed in the Llue book :

" In accordance with your request [that I show The coal measures of Ohio apread over an area of nice upon the subject of the artificial cultivation sponges for commercial purposes, I have made inquired The slope is a slanting shaft and is only used and were finally abandoned in November, 1872, on -

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w ldl-extremely small. It appears that the actual and went lack to his own country, like Sam-on, share we glat of sponge produced in a given time is not of his locks. are separate place, the undivided sponge would to increased by the same amount as that by which with somes of separate pieces base increased in sary time, and inasmuch as a large sponge is more the commercially than an equal weight of small nos the utility of the operation of taking cuttings is very doubtful. It could only be of service for the e of diffu-ing sponges over a wider area of the we of diffusing sponges over a wider area of the bau. These doubts took the form customary to Eng., bettern than that over which they would naturally lish critics in treating of lands in the far South which and if such a diffusion could be effected, the in a might be introduced to new and unoccupied outel del thus obtain increased swillties for nutrithe red a better chance of falling upon one of those favorable situations which cause the sponge to grow & Keed sim. but the situations suitable to the healthy grawth of sponger appear to be (so far as our knowand diffuse themselves naturally by and of eggs which give rise to minute swimming crims, these germs after a time fixing themlike those which produced the eggs. It may be posside ly means of the system of sponge cutting, pro-leved by Professor Oscar Schmidt, to introduce sponges into unw situations previously unoccupied; and exp timents in this direction, though requiring great still and knowledge of the concitions favorable to spinge growth, would be worth trying Excepting with this object the method of spinge cutting does no seem to be one of much provise. In relation men'y to the management of an existing sponge fabric, I am of opinion that all that can be done by ed, at control is to prevent the contamination or caustural disturbance of the waters and bottom where the spenges grow; and, secondly, to strictly enforce a litartation of size in regard to those sponges which air fished and sold. Only large sponge should be moved from the sea bottom for the market, and all smaller and incompletely grown specimens should be returned to the waters by the fishermen immediately re ommendations I am supported by the opinion of facts to our knowledge of these animals. Whilst these are the counsels which our present knowledge of the subject justifies, it must be distinctly understood that further experiment in the matter is to be desired, and might be crowsed with a practical succers It may be possible to construct artificial basins (of large size, some hundreds of yards in area), in which the water shall be of proper depth, tempera-ture, and purity for the growth of the commercial sponge, and such basins might be stocked with sponges, by the use of the 'method of cutting.' No experiments with artificial basins have as yet been

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### AN ARITHMETICAL PRODICY

fore, the wonderful delines of the little boy mentioned in the following extract -

Among calculating boys a prominent, though per-Among calculating boys a prominent though per-laps not the most prominent place, must be accorded to Zerah Colburn, who was born in America in 1804 and died in 1832. He has left an autography behind him, from which we learn that it was when he was about one month under six years of age that the very temarkable gift with which he was endowed first attacted attention. His father was employed at a uner a work bench, and little Zerah was playing among the chips on the floor, when he began to say to himwife '5 times 7 are 35, 6 times 8 are 48,' and so on, the fathers attention was arrested, and he laid down his work to question the little fellow, who had only thout six works' schooling Mr. Colburn at first thought the child had picked up a little of the multiheation table by memory from heating other children reat it. The more he questioned, however, t. e more denubed he became, for the little one knew the multiplication table as varially taught quite perfectly, and when going beyond this, his father asked him to colliply 13 by 97, he suswered instantly 1,201 verblors came and questions were propounded by one and another, always increasing in difficulty, and sways with the rame astonishing result. He very mortly was found capable of performing by mental towers alone calculations which perhaps many lade of twi - his age would find laborious with the aid of slate and pencil. How many seconds are there in 2,000 para sumpliedly asked this child of six years of age Minort immediately he answered 63,072,000,000.
Allowing that a clock strikes 150 times in one day, how many times would it strike in 2,000 years? was another question, and with equal promptitude he replied 113,880,000 times. He was asked how many days and hours had clapsed since the commencement of the Christian era, and in twenty

The Lostlity of the population of the rectly the toy answered. What his answer was we because wis then the chief cause of the abundons leave our readers to work out at their leisure. It was (mermants), and the expense of obtaining the of the common way. At one time he was put to the and of making and sinking the supports, school at the expense of a nobleman. All such hopes and to show with considerable clearness that the were disappointed, however. At thence of somewhere to be obtained by such a system of cultivation about twenty he entirely lost his special endowment,

#### THE PRODUCTS OF FIJI. When in October 1871 the sovereignte of the 225

falanda forming the archipelage of Fiji was ceded to

the British Crown, doubts were, in some quarters, rather freely expressed with regard to the policy of

the Government in accepting the offer of King Caco

the native inhabitants to be, not only warlike and amongst those of the Queen's subjects who were most interested in the young Colony—the inhabitants of New South Wales, Victoria, and New Zealand. Many of the leading spirite in Australia and New Zealand had thoroughly satisfied themselves of the advisability, political as well as civil, of acquiring possession of the group, and were not slow to move directly suffered materially owing to want of labor. Sir Arthur Gerdon, too, on assuming the Governorship, had to undo much that had been done towards the close of the reign of King Cacobau. Settlers, however, found their chief difficulty in obtaining a title to the land they were desirous of purchasing, owing the condicting claims set up by numerous natives, each professing bimself to be owner in fee. They were unable to obtain Crown grants, and the Governwhen taken. Further, the ground on which the were unable to obtain Crown grants, and the Governspenges grow should not be too often dredged, but ment appeared dilatory in dealing with the question
only at certain intervals in the year. In making these of land tenure in any way whatever, nor, indeed, to the present day, has this question been satisfactorily Professor Schulze, who has during the last six years adjusted. Commercial matters were further compli-d-voted himself to the study of the life history of the Adriatic aponges, and has added many most important ks, was to be made the capital of the colony—a step naturally opposed by many long-standing interests. Difficulties much of the same nature must always arise in connection with the creation of a new colony; and, taking into consideration its isolated position, and the fact that it is the veritable antipoles to the and the lact that it is the verticole anti-cues to each Mother Country, they may be judged in this case to have been fairly met and overcome. Fiji may now be said to be making rapid progress. The number of capitalists located in the islands is as yet but small, but during the last four years a large amount or money has been furnished by merchants and speculators in Victoria and New South Wales, who, knowing well the resources of the group, have come to the onclusion that certain industries will give them a of its "sea-laland" cotton, and for some years the early settlers were well rewarded for their enterprise demand for Fiji cotton in France, it is admitted by planters that this industry has seen its best day. There are, however, still some 2,400 acres under cotcotton came the rise of copra, which is now by farthe chief article of export from the Islanda. Copra is the dried kernel of the cocoanut, and is mainly used for

land is not renovated after a cutting as it should be. There are some two thousand acres now under cape, but this area will be largely increated yearly. It is the first acre will be largely increated yearly. It is place five miles wide and make a machinery a lerge estate well worked should make an annual profit of 50 per cent, on the expenditure. Very excellent collect has already then produced in laws outlings and both alleasts and are wall according that the proper can continue to the court with whites before. Besides bark onces, they were continued annual quantities and both alleasts and are wall according the way the man county with a most continued and according that the response of the south sides of the men to carry firewesting that which they had not had any communication with whites before. Besides bark onces, they was ten fathors, and recording the miles, which and read the anchoring place five miles with and read the anchoring place five miles with and the anchoring place five miles with an extension of the south side, they were found to south side. adapted for the growth of the shrub in many patts of of four to five miles and an average depth the islands, though only twelve hundred acres were of five fathems for six noises up, with under coffee in 1874. Very wisely the Government has done its best to further this industry, having sent the country here is open, having plenty of grass large quantities of seed into the interior of Viti Levu, and timber it then divides into south-east branches, large quantities of seed into the interior of Viti Levu. to enable the natives to form cotice gardens. As far as can be judged, too, cooon would do well in the islands. and the young carso trees that have been planted they have noter visited. The climate was stated to are reported as thriving. Tea and chinchona might be injurious to the health of Europeana, the land to also be grown in several inland districts, and be unproductive of aught but tropical jungle and sea-island cotton, for which the demand had died out, have not sufficient knowledge to enable them bave not sufficient knowledge to enable them to manufacture it to advantage. There would the native inhabitants to he, not only warried and be too, in New Zealand and Australia a remay man-bitterly opposed to white settlers, but notorious can-nibels. However, those who were so loud in their ket for any quantity of tropical fruit, such as oranges, predictions of evil in store for any who sentured life lemons, bahanas, pineapples and mangoes, which predictions of evil in store for any who sentured life lemons, bahanas, pineapples and mangoes, which predictions of evil in store for any who sentured life lemons, bahanas, pineapples and mangoes, which there is no apparent reason why spires, such as cinnamon, nutmeg, cloves and pepper, should not do well in the group, provided science and experience were brought to bear in their cultivation. In fact, Fill, both in the matter of climate and soil, is marveilously adapted for the growth of nearly every tree, shrub and plant of commercial value which are favored by the heats and rains of the tropics, and that the Deed of Lession had been executed. The young colony, however, commenced its career under the most unfavorable circumstances. The epidemic of measter, unfortunately introduced into the islands on measter, unfortunately introduced into the islands on the colony there is a grand opening for hard-working planters with a certain amount of capital is measter, unfortunately introduced into the islands on the colony there expenses make a program is sentently declined. measies, unfortunately introduced into the sale of the other exports, maize has appreciate the return of the king and his two sons from a visit to of the other exports, maize has appreciated in 1875 exBydney, carried off, it was reckoned, some 70 000 of in favor, for, whereas the value experted in 1875 exBydney, carried off, it was reckoned, some 70 000 of in favor, for, whereas the value experted in 1875 exBydney, carried off, it was reckoned, some 70 000 of in favor, for, whereas the value experted in 1875 ex-1878 had fallen below 7,000%. Probably sugar growlug baring proved so profitable will to a great extent account for this. The annual value of buche-de-mer-the sea-sing which is dried and experted to China -is about 3,2601, but this is not an item of export which affects the prospects of intending colonists. Candlenuts to the value of over 3,500/ were sent beyond seas in 1878, this being an article which shows signs of advancing as an export. The same remark applies to green fruit, of which over 2,000 worth was exported in 1878, to molasses, 1,4001, and to wool, which had advanced from 1011 in 1875 to over 1,0001 three years later. These, then, are the principal products of the Fiji Islands. The statistics we have quoted have been obtained from reliable sources, and go far to prove that the colony is admirably adapted in nearly every respect to the growth of tropical pro-duce. Taking into consideration the proximity of a large market in Australia and New Zealand, it is no to be wondered at that those who know Fill say boldly that in a few years' time it will fairly have carned the proud title of the "West Indies of the Pacific,"

#### EXPLORATIONS IN NORTHERN AUSTRALIA

physical conditions and capabilities of the exact of the exercise or the apparent fatigue. For a given neglected northern parts of Australia supplied by the explorations of Mr. Alexander Forrest by land, are now being extended by see Mr. Alexander Forrest by land, are now being extended by see Mr. Alexander Forrest by land, are now being extended by see Mr. Alexander Forrest by land, are now being extended by see Mr. Alexander Forrest by land, are now being extended by see Mr. Alexander Forrest by land, are now being extended by see Mr. Alexander Forrest by land, are now being extended by see Mr. Alexander Forrest by land, are now being extended by see Mr. Alexander Forrest by land, are now being extended by see Mr. Alexander Forrest by land, are now being extended by see Mr. Alexander Forrest by land, are now being extended by see Mr. Alexander Forrest by land, are now being extended by see Mr. Alexander Forrest by land, are now being extended by see Mr. Alexander Forrest by land, are now being extended by see Mr. Alexander Forrest by land, are now being extended by see Mr. Alexander Forrest by land, are now by the mr. Alexander Forrest by land, are now highly satisfactory return for their outlay. It must being extended by sea. Mr. II M. Chester, the magis-be borne in mind that the natives are mere tillers of trate at Thursday Island, Endeavor Strait (west of Arithmetic is usually the greatest trial of most the soil, and not experters of produce or manufactors, has forwarded to the Colonial Secretary influence, especially on the rapidity of the rise. Abhildren's school life. We can all appreciate, theretaters for expert, except as being the paid laborers of
tary, Brisbane, an interesting report by Captain C. sence or abundance of perinfration has no appraciable the white settlers, who have the entire export trade | Pennefather upon his exploration of the Coen, Archer, clearly the value of the islands from an agricultural point of view; and, as is admitted by the late Governor and by all who have any practical acquaintance with the colony, the development of its resources is the country on the western side of the Capo York as yet quite in its infancy. F.ji was first brought before the notice of traders by the exquisite fineness of its "soa-island" cetton, and for some years the portion of Queensland. Cantain Panneisths. In the color, the first brought the shorter the exercise of falls, and the more rapidly the shorter the exercise of falls, and the more rapidly the shorter the exercise of falls, and the more rapidly the shorter the exercise of falls, and the more rapidly the shorter the exercise of falls, and the more rapidly the shorter the exercise of falls, and the more rapidly the shorter the exercise of falls, and the more rapidly the shorter the exercise of falls, and the more rapidly the shorter the exercise of the Capo York personness of pulse to 145 beats.) In rest after exercise the rectal temperature falls, and the more rapidly the shorter the exercise of falls, and the more rapidly the shorter the exercise of the Cull of Cartain Panneisths. Queensland Government schooner Pearl, sailed on at the uttermost end of the world. But prices fell in June 18 last from Thursday Island, in pursuance of London markets, and, although there is still a fair, instructions, to examine the castern side of the Gulf of Carpentaria. Steering southward along the coast, where it was barren and sandy, though apparently in 1876, 21,1001, in 1877, 15,7001, thus showing so were seen at the entrance, who, though they had appropriate the list always after the first half hour that far, a steady decrease, but in 1878 there was an in-parently never seen white men before, did not attempt the rectal temperature is most raised, it may then crease of 5,000t, the value being 20,700t. The statistic to molest the party, and evinced no fear they were ties for 1879 are not before us, but we believe that on the contrary friendly, and accepted presents of they show a falling off in respect of this article of leads, fish-hooks, etc. This supposed river was exempers. Contemporaneously with the fall in favor of ploted in Leats for six miles, and apparently then ended in mud banks and mangrove awamps with open forest behind, it is ovidently only a salt water inlet Numbers of alligators and tlocks of ducks of different the manufacture of command oil, which forms perhaps kinds were seen. Sailing further south, along a the very best of lubricants. Everywhere in the thickly inhabited coast, mostly low, but with red cliffs island, with the exception of Viti Levu, the command at two points, and after meeting four very faul tark palm grows luxuriantly, and the appearance of the stretching for miles along the coast line, their graces full fronds waving directly over the pallacid light on June 23. This river discharges a large quantity of green waters of the lagoou, is very striking to a visitor. Each palm, when in full bearing, produces distance out, it has a sheal some three or four pallacid manual produces distance out, it has a sheal some three or four pallacid manual produces distance out, it has a sheal some three or four palms 23.

INDUSTRIAL WORLD AND NATIONAL ECONOMSE.

The state of the rewell stoped of the rewell should be dead to the restaurable for the state of the restaurable for the resta small quantities, and both climate and soil are well according this river, it was found to maintain a width the latter wide but shoal. The southern was found to te the main spring, deepening to ten fatherns after cleven miles, on which point the tide turned. The right banks were high, the country open, well grassed and timbered (blood-wood and strings bank being very lofty and straight), and the loamy soil apparently good. A mob of blacks with spears here stalked the party in the long grass, they were or a different type to the natives at the month, large, tall strapping rellows of a copper-color and talking another language A distrustful attempt at conversation with some of these men was all that occurred. On the tide slackening, further progress up stream was made, and the boat was anchered in midstream in five fathoms, the river being about 500 yards wide. No disturbance during the night happened. Starting early next morning through open, well-grassed plains on both sides, a final distance of 36 miles was reached before the party returned, without any further meeting with the alorigines, though some fires were seen. The banks became higher as the river was ascended, clothed with shrubs and perfectly straight and lotty timber, of which time spars could be cut. The soil in the scrub was very rich,and well irrigated by small running streams Handsome palms grew at the edge of the water, here perfeetly fresh and sweet, and the stream widened into broad shallow reaches, with islands in the centre, forming altogether an attractive scene. "Alligator seemed very numerous, though not affecting the freshwater part of the river, ducks were plentiful, and some chormous cat-fish, weighing as much as 30 lbs. were caught. So far as actually seen, the river was a very fine one; and, should that part of the country to opened up, Capt. Pennefather thinks its mouth would make a splendld port in which vessels could lie in smooth water, whilst those of small draught could actually ascend it for 25 miles. But few reports of this kind come to hand from Australia. Explorers' accounts usually contain so much painful detail of arid plains, spinifex and drought, that Captain Pennefather's abundance of sweet water, huge cat-fish, palms, wild duck, open forcet, and gracey plains gain an additional charm by the contrast.

#### EXERCISE AND TEMPERATURE.

These have been made the subject of a series of observations (about 150 in number, extending over four years) by M. Bonnat. He finds that all muscular exercise raises the rectal temperature. The rise is not, however, in direct relation either to the duration even in the same individual. The altitude, the state of the atmosphere, the energy of the movement, the nature and amount of clothing, have a very manifest sence or abundance of perspiration has no appreciable influence. The rectal temperature is rarely elevated has been. It is noted that all rapid exercise diminishes the peripheric temperature (in the mouth, armpit, or groin), which, on the other hand, rises again directly rost is taken, and after some time the peripheric and rectal temperatures come to their normal difference, 0.20 or 0.30. If the rectal temperature remain stationary, or riso, or even descend a few tenths of a degree Gymnastic exercises in the hori-zontal position, and limited to the upper limbs, does not alter the initial temperature. It limited to the lower limbs it may, in 30 minutes, raise the rectal temperature 0.3 o to 0.7 o In general, a rigorous application of the laws of mechanics to the human organism is not justified.

#### COLD PROCESS FOR ZINCING IRON,

The metal is first cleaned by being placed in a bath made up of water, 1,000 litres, chlobydric acid, 550 litres, supplierte acid, 50 litres; glycerine, 20 litres, On being removed from this bath the metal is placed another question, and with equal promptitude he replied 113,880,000 times. He was asked how many about 100 nuts a year, and an acre of ground will miles from its mouth, which would not allow in a best time the corner and in twenty the manufacture of a ton of copin, worth 144 feet. The mouth itself is only 500 yards consisting of water, 1,000 litres, chloride of tin, 5 and an acre of palms at their width of two miles for alout the first six miles of its the extraction of the square root of 998,001. As yet, however, most of the fibro is wasted owing to problem may be worked out, but the astonishing for the about 10,000 nuts suffice out, it has a sheal some three or four on this bath the metal is placed distance out, it has a sheal some three or four on this metal is placed in a best tio miles from its mouth, which would not allow in a best to a long the manufacture of a ton of carps, worth of more than elight or ten potassa, which is a draught of more than elight or ten potassa, which is a draught of more than elight or ten potassa, which is a draught of more than a cree of potassa, which is a draught of more than a cree of potassa, which is a draught of more than elight or ten potassa, and is next transferred to a metallizing bath and transferred to a draught of more than elight or ten potassa, and is next transferred to a metallizing bath and transferred to a metallizing bath and transferred to a draught of more than elight or ten potassa, and is next transferred to a metallizing bath and transferred to a draught of more than elight or ten potassa, and is next transferred to a draught of more than elight or ten potassa, and is next transferred to a draught of more than elight or ten potassa, and is next transferred to a draught of more than elight or ten potassa, and is next transferred to a draught of the manufacture of a d

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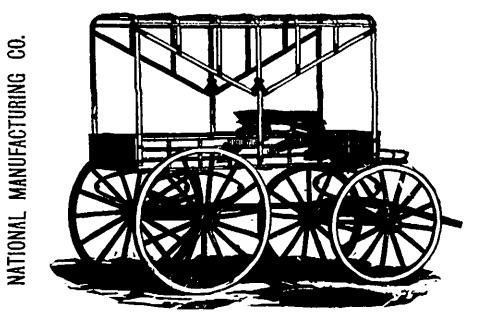
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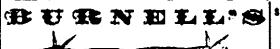
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