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WANTED.

The call for Nos. 2 and 4 of the News was so great that we have nearly run out of our supply. Any of our subscribers or readers who may have these numbers, and are willing to part with them, would oblige us by sending them to us, if in a good state of preservation. We shall gladly pay the price of the numbers.

CANADIAN ILLUSTRATED NEWS,

Montreal, Saturday, March 9th, 1878.

ADULTERATION OF FOOD.

This is a subject to which the public attention is perforce more and more drawn, according as the population of our cities increases, and the lust of money-getting breeds the different phases of dishonesty. The evil of food adulteration is only incipient in Canada, but it is making rapid strides, and nothing else but earnest action of the proper Department, under the Special Act, with the hearty co-operation of the public, can be relied upon to stem the evil. This year's report of the Commissioner of Inland Revenue on this particular subject shows the need of early and continuous efforts on the part of all concerned. Of 188 samples subject to analysis, one half, or 247 were found to be adulterated. Milk especially continues to be largely adulterated, and the experience now acquired in connection with the adulteration of this important article of food is now sufficient to justify the issue of specified instructions to the officers, as to what should be considered an adulteration within the meaning of the Act, and the Commissioner submits that in cases coming within these rules proceedings should be taken against the vendors, either by the officers of the Department or by the parties defrauded, who should be supplied with the particulars of the adulteration. The reports of the analysts continue to show that a very large proportion of the condiments submitted are adulterated and to a very considerable extent. This is especially the case with ground cloves, ginger, mustard and pepper. Coffee appears to be very largely adulterated. Of forty-four samples only ten were found pure. Tea is also found to be adulterated, though to a less extent. Of fifty-nine samples forty-four were pure. Forty-nine samples of butter were examined during the year, and of these twenty-three were adulterated.

But it is especially in the vital article of milk that we ought to insist for absolute purity. In Toronto, out of eleven samples of milk, four were reported watered; five out of the remaining seven were deficient in cream. A specimen of that supplied to the Toronto General Hospital was found adulterated 15 to 20 per cent. In Montreal, the samples of adulterated milk are deserving of special notice, as they were obtained from locked tins consigned to a city milk dealer, on board the market boat. These were found to be adulterated both by skimming and watering, to as great an extent as any obtained from retail dealers. Two of these samples were "night milk," skimmed and watered, and one of "morning milk" watered and mixed with "over-night milk." Indeed, the whole report of Dr. BAKER EDWARDS, Public Analyst for the Montreal Division, is so startling that, containing as it does the names of our principal vendors,

it ought to be brought to the notice of every resident of the city. In this report Milk "Companies" and "Dairies" of sounding titles, are set down as furnishing samples "adulterated with from 10 to 15 per cent. of water," or "cream removed; water added, say 25 per cent." The cases are extremely few where a thoroughly favourable report is given. In view of these facts, it would be well if the public were instructed how and when they may apply to the Collector of Inland Revenue to obtain an analysis of any article of food, especially milk and butter, whose purity they may have reason to suspect. It is clear that even the poorest resident should have the utmost facility in this respect.

THE AMERICAN SILVER BILL.

This particular phase of American finance is of vital importance to us in Canada, and we have, in consequence, given it full consideration, according as the Bland Silver Bill was passed through its several stages. It was very materially altered in the Senate by the CHAFFEE and ALLISON amendments, which struck out the glaring clause of unlimited coinage, but even thus it could not meet with the approbation of the President, who returned it to Congress without his signature. The fact that the Bill was carried over the veto by a two-thirds majority in both Houses, does not invalidate the arguments which the President urged against it, and these are of such importance that our readers ought to be made acquainted with them. Mr. HAYES holds, as indeed he held in his annual message, that neither the interests of the Government nor people of the United States would be promoted by disparaging silver as one of the two precious metals which formed the coinage of the world, and that legislation which looks to maintaining the volume of intrinsic money to as full a measure of both metals as their relative commercial value permits, would be neither just nor expedient. He states further that it was his earnest desire to concur with Congress in the adoption of such a measure to increase the silver coinage of the country as would not impair the obligation of contracts, public or private, or injuriously affect public credits. But, in his opinion, the Bland Silver Bill did not meet these requirements, and his reasons are of that elementary quality which carries conviction. The Bill provides for the coinage of a silver dollar of 412½ grains each, of standard silver, to be a legal tender to its nominal value for all debts and dues public and private, except where otherwise expressly stipulated in the contract. It is well known that the market value of that number of grains of standard silver during the past year has been from 90c to 92c as compared with the standard gold dollar. Thus the silver dollar authorized by this Bill is from 8 to 10 per cent. less than it purports to be worth, and it is made a legal tender for debts contracted when the law did not recognize such coins as lawful money. The right to pay duties in silver, or in certificates of silver deposits, will, when they are issued in sufficient amount to circulate, put an end to the receipt of revenue in gold, and thus compel the payment of silver, for both principal and interest of the public debt. \$1,145,493,470 of bonded debt now outstanding was issued prior to February, 1873, when the silver dollar was unknown in circulation in the country, and was only a convenient form of silver bullion for exportation. \$183,440,350 of bonded debt has been issued since February, 1873, when gold alone was the coin for which bonds were sold, and gold alone the coin in which both parties to the contract understood the bonds would be paid. Those bonds flowed into the markets of the world; they were paid for in gold when the silver had greatly depreciated, and when no one would have bought them if it had been understood that they would be paid in silver. Two hundred and twenty-five millions of those bonds have been sold during his administration for gold coin, and the United

States have received the benefit of those sales by the reduction of the rate of interest to four per cent. During the progress of those sales a doubt was suggested as to the coin in which the payment of those bonds would be made. The public announcement was thereupon authorized that it would not be anticipated by any further legislation of Congress, or by any action of any department of the Government, which would sanction or tolerate the redemption of the principal of those bonds or the payment of interest thereon except in coin enacted by the Government in exchange for the same. In view of that fact, it will be generally regarded as a grave breach of public faith to undertake to pay those bonds—principal or interest—in silver coin worth in the market less than the coin received for them. The capital defect of the measure is that it contains no provisions protecting from its operation pre-existing debts in case the coinage which it creates shall continue to be of less value than that which was the sole legal tender when they were contracted. It is proposed instead for the purpose of taking advantage of the depreciation of silver in payment of debts in coin, to make a legal tender of a silver dollar of less commercial value than the dollar of gold or paper, which is lawful money of the country. Such a measure will, in the judgment of mankind, be an act of bad faith. As to all debts heretofore contracted, the silver dollar should be made a legal tender only at its market value. The standard of value should not be changed without the consent of both parties to the contract. National premises should be kept with unflinching fidelity. Mr. HAYES concludes: "It is my firm conviction that, if the country is to be benefited by a silver coinage, it can only be done by the issue of silver dollars of full value, which will defraud no man, and currency worth less than it purports to be worth, will, in the end, defraud not only creditors, but all who are engaged in legitimate business, and none, more assuredly, than those who are dependent on their daily labour for their daily bread."

THE IRON WEALTH OF QUEBEC.

This is rather a hard subject, but we shall treat it briefly and clearly, so that whoever reads our article may understand it. It is admitted that the Province of Quebec, among the several Provinces of the Dominion, has vast mineral resources. It is also known that these have been comparatively little worked, in consequence of inadequate machinery and lack of capital. But of late, owing to the palpable fact that our chief wealth—the forests—is rapidly disappearing, the public mind has turned more fixedly to our mines. The introduction of scientific appliances has likewise stimulated energy in this direction. The discovery of phosphate lands at the two extremities of the Province—the Upper Ottawa and Chicoutimi—is the latest welcome fact in the same connection, but to-day we confine ourselves to the iron products of the Province. What we have to say is based almost wholly upon two papers lately submitted to the Legislature. The first is from M. Prevost, a distinguished French metallurgist, who gives information respecting the manufacture of malleable iron by means of the carbonic acid collected at the mouths of blast furnaces. The gas is collected at the mouth of the blast furnace, and thence carried through a sheet iron tube of ten to twelve inches diameter to the furnace where it is to be ignited and used for changing cast metal into malleable iron. Before being used for this purpose, however, the gas must be purified by washing in a stream of water. This process, which has been in operation for eight years in France, where the inventor still enjoys the profits of his patent, gives the most satisfactory results. In the foundry there are two furnaces, one used for converting the metal by puddling, and the other for the purpose of re-heating the cylinders before

passing them through the rollers. Both are fed by the gas from the same blast furnace. These operations are, therefore, carried on without costing a single cent for coal. In a word, the quantity of coal consumed for the production of malleable iron is reduced to the very quantity required for the production of cast metal in the blast furnaces; that is to say, about 120 or 110 bushels per ton produced. In reading the geological reports of Canada, Mr. Prevost found that the Moisie forges, for instance, used 350 bushels to produce iron in its purely crude state, still leaving a considerable sum necessary to complete the rolling of the iron. The greater number of the forges in the United States are worked in about the same proportions. The new system here communicated effects a saving on the latter of 300 bushels of coal per ton of cast metal. Moreover, one furnace produces three and a half to four tons per twenty-four hours, while the other hardly gives three and a quarter tons in the same time and with the same amount of labour. Under these conditions it is easy to ascertain the cost of a ton of iron to be from \$33 to \$34. This is about the price of iron in the English market.

The second paper is from M. PIERRE, another French metallurgist, who professes to have a process of his own to separate the titanium from iron ore. We know nothing of M. PIERRE nor of his process, except that it is questioned by Canadian metallurgists, but inasmuch as he is a gentleman and a man of science, we deem it right that the official account of his experiments should be set before the public. He took five hundred pounds of white St. Urbain ore after the first smelting and put it into a cupola furnace to be roasted. By the addition of his process they were rendered malleable and steel-grained. Then, having been told that it would be desirable to operate it once, by his process, on the ore to ascertain its results, he roasted the St. Urbain ore by the usual method with out a previous roasting. The result was a product "so extraordinary in quality that no comparison can be made between it and any metal of a first smelting ever offered in the Canadian or United States markets." The ore he obtained, instead of a white indistinct metal, was a grey malleable metal, which was filed, hammered when cold, and when of forge heat without peeling or scaling off, submitted to the forge, it had acquired new qualities on being plunged into a cooler, then subjected to fresh test and hammered on the anvil. Given the postulate that the production of iron under economic conditions must prove a source of immense wealth to Canada, M. Pierre holds that his process enables this country not only to put to profit the mines and high furnaces at St. Urbain, but also to establish the iron trade of Canada, the working on an extensive scale of the titanic ores profusely spread throughout the Laurentian Range. These metals will then rival in the Canadian and English markets, those from Sweden of first quality, smelted with wood. They will be fit for leaving the furnace, for the casting of stoves, ornaments, and mechanical articles of every kind. The refining of this, or its transformation into malleable iron will have a sufficiently large margin seeing that it sells at \$12 to \$15 in the Montreal market, and Canadian iron will always be of superior quality by any process which adds nothing to the cost. The refining and puddling will also produce iron which will be equal in strength of tension and resistance to that of wrought iron. Rails made of this iron will never be liable to split or scale off, like those used now-a-days, and will have the advantage over steel rails of not breaking. It is moreover known, practically, that iron rails of superior quality are preferred to steel rails, because they are less liable to break, and many accidents are thereby avoided. To sum up, St. Urbain, for instance, is destined to produce, through economical processes, the best metal,—the best iron—out of its titanic ore. The net cost of a ton of brown