

## THE AGRICULTURE OF CANADA.

BY HENRY LYE.

As a constant student of the social problems of Canada, it has been my good fortune to have had access to sources of information which I have had pleasure and satisfaction in utilizing for the benefit of the country at large, through the financial press of Canada, as well as by private and special correspondence.

One of the branches of study of a most interesting and important character, is that of the continuously changing conditions of the cultivation of the land.

We see in Great Britain immense estates ceasing to be profitably cultivated, whilst the people of the towns and cities find it impossible to procure fruits or vegetables at reasonable prices, so that, in fact, the working classes scarcely know the taste of fruit and seldom obtain such vegetables as are necessary to health of body and mind.

In the Eastern United States we see a similar state of affairs gradually increasing in intensity, yet in both Great Britain and in the United States there is a rapid increase in general wealth, with a gradual widening of the dividing line between rich and poor; between those who have every comfort at their command and those whose lot is constantly becoming more cheerless and hopeless. The cities and towns are increasing in extent, in population and in riches, whilst the country and the villages are being depleted and impoverished; mortgages are being renewed, increased or foreclosed, although the rates of interest, by their decrease, show that there is not profitable use for the borrowed money.

It is my intention, if possible, at some time in the near future, to write upon the causes of the mistakes and hindrances in connection with the mining industries of Canada, but my present subject is that of the cultivation of the land in Ontario and the Bourbonism of those who should have the interests of the cultivators as their chief study and care. I am not ignorant of the work done at the Government farms and colleges, in fact, I write in the hope that their present comparative uselessness, may by an occasional glance outside of their boundaries on the part of those who have the control of them, lead to such breadth of statesmanship as will cause them to minister to the wealth, comfort and happiness of the agricultural classes en masse.

I do not wish to see any material change in the "National Policy," but I do regret the general feeling that everything should be sacrificed to the interests of the manufacturers or that it should be imagined that the welfare of Canada depends altogether upon their success, whilst our forests are being depleted, our mines are unworked, our immense stores of iron are not utilized, and our lands are being exhausted, although it must be obvious to every careful observer that we should so protect the regions in which trees only can be sources of income, as that new forests may grow to replace those properly removed, we should remedy the faults of our mining systems, and as "grain areas" remove north-westward, we should replace grain crops by others more remunerative.

I am aware that spasmodic attempts in this latter direction have been made by gentlemen in the province of Quebec, by which they have suffered severe losses, but as these attempts were made without previous consideration of the peculiar circumstances of the country, they have proved hindrances instead of benefits. I refer particularly to the establishment of beet sugar factories at Coaticook, West Farnham, Berthier, Haut, etc., enterprises of a character to advance the interests of the agriculturists, but undertaken in such manner as not to be adapted to the habits and circumstances of the people, consequently, just as certainly foredoomed to loss and failure, as would the erection of a monster cheese factory to be dependent upon milk to be carried from far distant points without any provision for either the purity or the quantity or the regularity of the supply—for the protection of the material from decay or for the utilization of the waste.

In the latter part of the preceding paragraph I have indicated the matter to be considered when providing for the introduction of any industry which has previously been foreign to the country, because no one could design more beautiful machinery; appliances better adapted for the purposes for which they were intended, have never been seen in Canada than was placed in these eastern beet sugar factories. There is no doubt of the practical patriotism of their promoters, nor that they had assurances of success from parties whom they deemed to be competent, so that the fact that these factories either remain idle or are diverted from their proper use, is a matter greatly to be regretted by all Canadians, the more especially as whether for the production of the raw material or for the disposal of the finished product, no country can excel Canada.

With these facts in mind, and enlightened by our experiences, let us consider the necessary concomitants of the production of sugar from beet roots with profit to all concerned. These are:

1. The proper cultivation of the beet in order that it may produce the maximum of saccharine with a minimum of saline matter.

2. An assured supply of properly cultivated roots in order that the factories may not be idle for want of material.

3. A method of manufacture which will dispense with the expensive land carriage of the beets to distant points.

4. A market or use for the refuse of the crushed beets.

5. A well organized system of cultivation and of gradual manufacture with a view to such economy as will not prevent efficiency in any state of the operations.

6. The co-operation of all the interests for the general benefit.

There is no doubt but that the system which prevails on the continent of Europe could be established here, but as it would confer only local benefits and those of doubtful character, it is not wise to contemplate its introduction, yet we should learn what we can from it and find how far they may be adopted, or with advantage combined with industries which are already established in Canada. We do not want colonies of serfs in this country, but more freemen breathing pure air and living pure lives.

1. The proper cultivation of beet roots must be provided for when the guarantee for market and payment is given, because negligence or carelessness in their cultivation will result in such excess of saline matter as will cause loss, not only in respect to the particular crops which are improperly grown, but to all that they may be mixed with, thus embarrassing all the stages of

the operations; consequently the cultivation must be under the direction and supervision of competent district inspectors.

2. The assurance of a profitable market would cause the cultivation of the roots in such quantities as would meet the demand—yet failure of market would not necessarily cause loss to the grower of the crop, because of its great value for feeding purposes in mixture with chaff or grain offal, still there would be no necessity for either failure of market or of payment if a thorough system were adopted.

3. The cartage and freight charges upon the beets which form the raw material are generally very important items in the cost of the finished product, whilst the profitable disposition of the waste of the crushed beets is absolutely essential to the financial success of the enterprise. I propose to lessen the cost for cartage by lessening the weight and bulk of the product to be conveyed, and to secure the profitable disposition of the refuse by causing it to be consumed on the farms upon which the beets are grown. This can only be done by widening the sphere of usefulness and of interest, but cannot be done so long as the one uncombined idea of making sugar from beets restricts the scope of the enterprise. Let us then consider the facilities now in existence and all the inducements which require to be offered.

First, we have in various parts of the country, buildings and appliances for the manufacture of cheese which have been the means of distributing immense amounts of ready money in the districts in which they are situated. The active operation of these cheese factories is generally continued from the beginning of June to the end of December; they are idle during the remainder of the year. If they could be put to profitable use from the first of October every year to the end of May every succeeding year their returns, in proportion to the capital invested in them, would be doubled.

These cheese factories have enabled the profitable breeding and feeding of cattle and the conservation of the productions of the soil because of the return to it of the elements of fertility; they necessitate the use of large tin cans which could be used for the conveyance of other liquids when not required for milk; they contain steam boilers and pipes and pans which could be used for the purpose of evaporation. The sugar beet reaches perfection at the time of the year when the ordinary use of the cheese factories has ceased. At this time of the year certain cows are dried, some for fattening and others for breeding purposes. The leaves of the beet are excellent food for cattle, either for milk-producing, or fattening for ordinary feeding purposes, or for combination with other contents of silos.

That which is required is a process of evaporation and a treatment of the cheese factories or slight additions thereto, so as to advance the syrup to such a stage as will enable it to be conveyed to the central or sugar-producing factory to be finished into refined sugar.

Then the farmer will wash and crush his beets at home day by day in such quantities as will enable him to feed his cattle the refuse of the beets whilst it is fresh and palatable. He will fill the cans, fresh while used for containing milk, with the expressed juice of the beets; these cans will be promptly collected just as they now are, conveyed to the now syrup factory and their contents immediately operated upon; the saccharometer will take the place of the lactometer; the patrons of the factory will be protected from fraud in the same way they now are in reference to milk; the buildings and appliances of the cheese factory will be in use for at least three months longer every year than they now are, and another source of income will be open to every agriculturist. But we go further, because the gain to the farmer will be so great as to encourage him to an extension of the principles of co-operation which have proved so advantageous to him in the matter of cheese factories.

In order to use his daily supply of crushed beets, the farmer will require to feed a large quantity of hay or chopped straw and of crushed grain, thus using on his own land with profit what he now sells without any. But his great advantage will be in the increased means of preserving the fertility of the soil which will enable him to cultivate crops which are now impossible because of their exhausting nature. So, therefore, the growing of flax would become more general, which would add another month to the season for profitable labor, because there is no reason why the separation of these and the preparation of the fibre should not be done by the farmer at his own home.

In Ontario and Quebec the growth of grain for export has ceased to be profitable; it is not likely that it will ever again be a profitable pursuit in either province, so that it is necessary for some other means of profitable farming to be found. The breeding and fattening of cattle; the breeding and training of horses; the production of cheese, egg and poultry; and the growth of fruit are now the only profit yielding branches of agriculture. If we can only add to these such other cash producing products as sugar, flax, flax-seed, linseed oil and oil cake, with out the requirements of extraordinary outlay of capital, and with the preservation of the fertility of the soil as well as with a prolongation of the season for profitable labour upon our farms we shall have made as desirable an advance as was the case when the cheese factory system was adopted. Not only will this be done, but the fertility of the soil will be increased by the consumption upon the farm of much that now leaves it for want of combination, and by reason of the better cultivation requisite for the production of sugar beets and of flax.

So much for the farms; now for the beet sugar factories. By this system they would receive a regular supply of material, little of which would be waste, concerning none of which there would be doubt of danger; in connection with which there would be neither unnecessary freights nor unavailable product.

They would require less capital than the ordinary factory, their output would keep pace with their outlay, they would at the end of each month pay for the syrup received during the month, and would have returns from most of the month's product of their own factory before the time of payment for the syrup would arrive.

As to the country in general, no one can estimate the benefits which would accrue from this system. A rough calculation shows an increase in the cash receipts of the farmers of about twenty five per cent. not from the growth of sugar beet alone as that would be an absurd computation, but from the increased productions of beef, pork, fowls and poultry, all of which bring cash to the farmer, and because the fact of the profit would stimulate the better cultivation of

the soil. The country store-keeper, the mechanic, the machinist, the wholesale merchant, indeed all classes of society would be benefited by the regular flow of money into the hands of the farmers; whilst the non-necessity for the importation of raw material for our sugar factories would keep in the country an immense amount of money which now goes out of it.

The missing link is the mode of treatment of the expressed juice from the beets. I think this is not a very formidable difficulty if properly faced, and I think it is worth the while of our sugar refiners, the owners of the now idle beet sugar factories, our ministers of agriculture, the managers of our experimental farm and agricultural colleges, our agricultural societies, our chemists and our machinery manufacturers to cope with this difficulty at once.

I cannot see why we should not produce beet sugar just as successfully as the French or Germans do, or iron as good as the Russians or Swedes, nor yet why we should be obliged to follow the methods of France, Germany, Sweden or Russia, when we can reach the same end by means better calculated to promote the health, comfort, morality and prosperity of our people. The solution of the problems as to the best methods of transplanting old-world industries into a new country in which the conditions of climate, land tenure, habits of life, and many other considerations are involved, is worthy of the study of our most enlightened citizens, not only from a patriotic point of view, but because of the material benefit which would accrue to every interest in which we are concerned, not the least of which is preservation of that independence of character which can only be found in the ranks of the successful agriculturist.

Many years ago the farmer found profitable employment in the fall and winter, in the clearing of forests and the preparation of land and timber for the operations of the succeeding Spring, but now he is without money producing pursuits for himself and for his labourers from October to May, except in very few cases; consequently, the labourers are driven out of the country or into the towns, and the farmer is handicapped during the season of active operations, by the difficulty and expense of obtaining assistance which he cannot utilize except one half of the year.

Increase the length of the term of profitable labour upon our farms, and you induce the settlement of labourers, who, working constantly, could afford to work more cheaply, working regularly, would do better work, lead better lives, be profitable customers to our merchants and increase the prosperity of the whole of our countrymen.

We must not lose sight of the fact that beet root sugar is gradually and continuously driving cane sugar out of the market as an article of commerce. The decline of cane sugar is at the rate of about 100,000 tons per annum. It is stated that fourteen thousand tons of beets were crushed in California, last season. The sugar from these beets weighed 1,640 tons. Farmers who entered upon beet culture netted an average of \$35 an acre. Next season the production of beet sugar will be much larger.

In confirmation of my assertion as to the progress of the beet sugar industry, I quote from the popular Science Monthly of May last:

"The simple and inexpensive methods adopted in the German factories have made the beet sugar manufacture one of the most profitable of industries, and the work goes on day and night, at a prime cost for conversion of \$2 per ton of beets, or 1 cent per pound of sugar, not estimating the cost of beet root, but including labour and all materials used, like coal, coke, lime, charcoal, wear and tear, and interest on the invested capital. The monthly disbursements of such an establishment exceed sixty thousand dollars, and give employment to thousands of wage earners in direct and collateral industries. One sugar corporation in France reported a net profit derived from the manufacture of beet sugar a few years ago of two millions of dollars, and the season did not extend beyond one hundred and twenty days.

Under these new conditions the production of beet sugar in continental Europe has doubled in the last decade; and after the home populations are supplied, the surplus is exported to Great Britain and the United States, reducing the price of sugar in the markets of the world more than fifty per cent.

The sugar refineries of this country use the beet and cane sugar indiscriminately in the manufacture of the block sugar of commerce, and the family grocer sells the imported refined beet sugar at a price from twenty five to fifty per cent above the price of cane sugar.

Before the late war, Louisiana produced more sugar than Germany, and although the beet sugar industry in the latter country was greatly stimulated by the high prices of sugar prevailing incident to the entire destruction of the cane sugar industry of the United States, yet as late as 1872 the empire produced only twenty five hundred

tons, while for the year 1888 a production of one million three hundred thousand tons of sugar and saccharine resultants is recorded.

Beet sugar is rapidly taking the place of cane sugar as an article of commerce. Last year the world's yield of cane sugar was 2,432,000 tons as against 2,530,000 for the year before, a decline of nearly 100,000 tons. Last year the yield of beet sugar was 2,808,000, an increase of about 400,000 tons over the yield of the previous year.

### THE FLAX INDUSTRY IN CANADA.

The flax industry of Ontario has grown to be a considerable one. Its head quarters are in the County of Waterloo, where the Perines of Doon and the Livingstones of Baden have developed the business from the day of small things. After many experiments and vicissitudes these firms and others have found out what can and cannot be profitably done; how far native flax can be produced and used with advantage, and when it is necessary to import from Holland. There are now a number of mills, besides the establishments, such as that of Elliot & Co. of Toronto, which crush the seed and make oil cake. Then Weir & Weir, of St. Mary's, and S. J. & D. Taylor of Guelph, and some others scutch flax and export it.

For several years past efforts have been made to develop flax-growing in Manitoba, and the reports of the Department of Agriculture in that province contain yearly reference to the crop. There appears at present to be a desire to not only grow flax there but to manufacture it into binding twines, with the praiseworthy object of producing at home an article so largely used by the farmers of our North West. It is well to remember, however, that there are limitations of soil and climate which affect the staple. Some samples from Manitoba are pronounced, we are told, too hort in straw or fibre to be suited for such manufacturing purposes.

The Messrs. Perine, of Doon, Ont., after an experience of some twenty-five years in growing, scutching and manufacturing, now run two scutching mills, and have reached a pitch of success which enables them to turn out, as we are told, a ton of goods per day, principally twine, for grain-binders, counter use, express, furniture, sacking and whatnot. They exhibit eighty seven different samples. They employ the year round some 160 hands, men, women and girls, and in the fall of the year about 400 in all. Their flax bindertwines now forms a very important portion of their total output.

Some gentlemen at Amherst, U. S., purpose starting a factory for the manufacture of linens, twines, threads &c., from home grown flax. During the past five years Canada exported nearly \$400,000 of flax, and imported over \$6,000,000 worth of manufactures of flax. The work of manufacturing home-grown flax in the country would appear to be a promising industry.

A new process with flax fibre.—The U. S. Economist of New York publishes the following letter from an American, travelling in Ireland, which should bear some interest for Ontario flax growers:

"There is nothing in the climate or soil conflicting with the assertion that just as good flax and linen may be produced in every state in the American Union as in any country. Germany now spins and weaves the finest linen, and she has no essentially differing climate from America. There is every reason why the American farmers should produce a million acres for flax for both seed and fibre over and above what is now produced, which would give 12,000,000 to 15,000,000 bushels of seed, worth as many millions of dollars, and 2,500,000 tons of flax straw, worth \$50,000,000, and from which 500,000 tons of flax fibre would be obtained worth \$100,000,000. Once established, American invention would soon build up an industry to consume this raw material. Further than this I have to say that I believe an entire revolution in flax and linen for the whole world is at hand, and most assuredly awaiting the operations of the next few months to demonstrate this in America. I have discovered a process by which the flax straw is handled, and its fibre recovered in a length of time of but five minutes, from the dry natural straw to the perfect fibre, doing away with all water or dew wetting and the labor of scutching, and producing a fibre as soft and fine as raw silk, saving the great expense of bleaching, while the fibre is much stronger and the yield much greater than by the old processes of dew and water rotting. I have demonstrated the practicability of this invention, made the fibre from American, Irish and Belgian flax straw, and had it spun and woven, and there is an exhibit of the American product at the late Paris exhibition, placed there by Mr. Dodge of the Department of Agriculture at Washington, last January. I enclose you a small sample of the fibre as produced in five minutes by the new process from the flax straw taken in its natural condition, and no injurious chemicals are used, nothing more so than an emulsion of linseed oil." The sample enclosed was examined with much interest by Prof. Willits, Assistant Secretary of Agriculture, who in his earlier days, had hatched

flax, and it was so satisfactory that he informed the sender that the rest of his letter would be earnestly considered by the department.

### He Was Frightened.

"Was I ever afraid in battle?" said an English army officer. "Many times. But there are different kinds of fright. I have served in India, in Egypt and in Western Africa, but the worst 'funkt' I was ever in was when there was no enemy within thousands of miles of me.

"I was a captain at the time and was stationed at Fort Royal, Jamaica. We had just got a lot of recruits on our hands, the rawest, greenest recruits you ever saw. I was drilling them in rifle practice at long range, and had great trouble to make them obey orders with precision. In fact, one could never be sure whether they would fire when you wanted them to present or present when you wanted them to fire.

"I had been sending them through a practice one afternoon and they were so terribly stupid that I got into a vile humor. The day was fearfully warm and the sun beat down so fiercely that my horse, a wicked brute, got into an almost ungovernable temper. I sat on my horse at the right of the squad and was giving them volley practice at long range. When my patience was entirely gone the men seemed to gain a little sense and began to fire with rapidity and accuracy. Things were running as smoothly as clockwork and I was soon soothed into cheerfulness despite the heat. Not so my horse. He was never more vicious.

"We were getting along so well by this time that it was 'Ready! Present! Fire!' and the volley would ring out like a single report.

"Once I cried out 'Ready!' and the work was as pretty as that of veterans.

"Present,' and rifle went up to shoulder in perfect form. At the very instant I was about to say 'Fire!' my fretting horse bolted, cutting directly across the range. I was not twenty feet from the squad. My eye caught the glittering rifles leveled right at me and instinctively I closed my eyes and ducked my head. If you know what British soldiers are you can imagine my feelings, my terrible fear, for as I said before, I was never before in such a 'funk.' I knew that if I opened my mouth those recruits would riddle my body with rifle balls, for they were expecting the word 'Fire!' and probably would have taken any sound for that. My desire to cry out 'As you were!' to get the rifles off my body was so great that I had to clench my teeth to keep from crying out. Of course the whole thing took only a few seconds, but it was many minutes longer than that to me.

"When my plunging horse had carried me from before the motionless rifles I managed to wheel him. As he came around I cried 'fire!' and every one of those stolid men obeyed the command with absolute precision. That assured me all the more that had I opened my mouth while crossing their range I should have been a dead man, for they were not drilled sufficiently to distinguish a different order at the last instant and yet followed one's words with a blind fidelity.

"I have often thought," added the officer, with a strange smile on his lips, "that those recruits fancied I had cut across them to test their drill, for they showed no surprise, not the faintest sign of emotion, when I suddenly wheeled and cried 'fire!' But you may well believe that this was not the case. And I pledge you that never afterward in rifle practice did I get caught in so dangerous and helpless a situation."

### The Month of Marriages.

When the clover's in its prime,  
Then's the sweetest marriage time,  
They the longest honeymoon  
Have who marry now in June,  
When the earth's been wooed and won,  
And the summer's just begun;  
When the daylight loves to stay,  
And steals half the night away;  
And the moonbeams shine so deep  
That there seems no time for sleep;  
When the air throbs with the gush  
Of the silver-throated thrush,  
And the soil has felt the thrill,  
And bursts into bloom at will,  
Imitating every shade  
That the skies have ever made:  
When the perfume, songs, and light,  
Earth's fulfilment of her plight,  
Steal into the human heart,  
Making all the love chords start  
Into harmonies so sweet  
That there seemeth no retreat  
But to sing and blossom, too,  
Just as the birds and flowers do.

### Smoking in Venice.

It is the all but universal custom among the fashionable ladies of Venice of the present day to smoke cigarettes, both when alone and in company. The hostess at a ball among the nobility receives her guests with a cigarette between her fingers, and all the fair dames smoke in the pauses of the dance.

The wife of the son of Robert Browning, an American lady, created a profound sensation in Venetian society last year by declaring that she would not invite ladies to smoke at her house, and the little daughter of another American lady unconsciously uttered a severe criticism upon the custom.

The mother was visiting an Italian woman of title, and in her honor a ball was given in the palace of the hostess. The little girl, who was 6 years old, was taken by her nurse from her bed to a gallery where she could look down into the ball-room after the company had assembled. She looked at the brilliant sight for a moment in silence, and then asked, in much wonder:

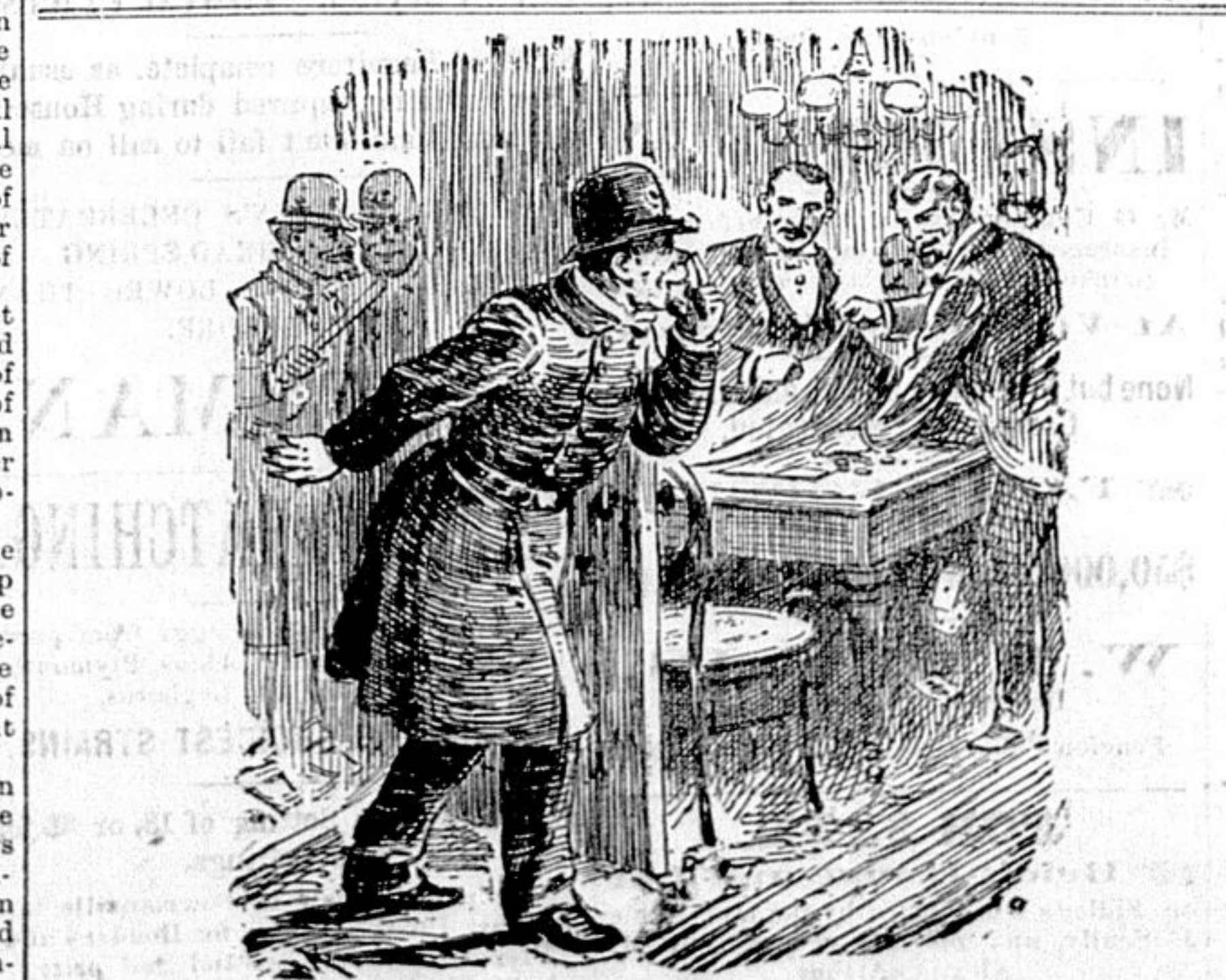
"Where are the ladies?"

"Why, the hall is full of them," answered the nurse.

"Oh, no," said the child, "all those women but mamma are smoking."

### The Cholera in Europe.

The march of the cholera is worth noting carefully. The gruesome prophecies about the probabilities of a sweep of the dreadful pestilence over the world in 1890 announces that it would start from Asia, as it has done. It has swept on to the Mediterranean, and has now made a descent upon Spanish ports which are in constant communication with our Atlantic seaports. Valencia, where the visitation is now extremely severe, is constantly receiving and sending out American trading ships and steamers. Perhaps the plague will be mastered and localized before it creeps northward to Paris and London; perhaps it will defy all science. If it increases in Europe all American cities should pay special attention to their sanitation until the autumn frosts arrive.



THE SUPPRESSION OF VICE.

Policeman No. 157921.—Look out boys, clear away quick, we are going to make a raid on you.