

# • Massey's Illustrated •

(PUBLISHED MONTHLY.)

7499

## January Number

New Series, Vol. 7, No. 1.

Toronto, January, 1895.



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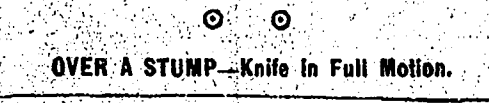
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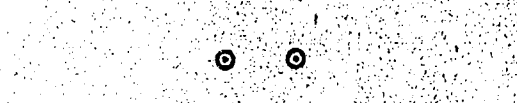
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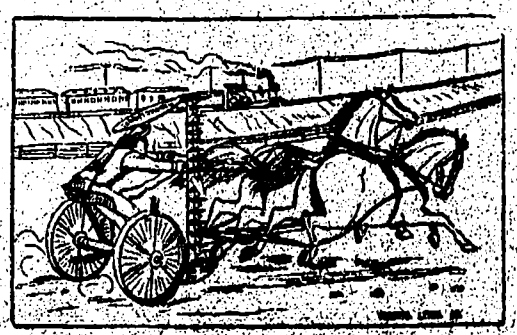
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# • Massey's Illustrated •

(PUBLISHED MONTHLY.)

## A Journal of News and Literature for Royal Homes

NEW SERIES.]

TORONTO, CANADA, JANUARY, 1895.

[VOL. 7, No. 1.

### Cape Town, South Africa.

BY J. D. PATTERSON.

I SENT you my last letter from Funchal, Madeira.

The mail bags had hardly been put over the side before the *Dunottar* commenced her voyage, not to be broken again until we reached Cape Town twelve days later. In this long run we sighted land but once, Cape Verde, off the coast of Sierra Leone, and were fortunately so close in shore that the trees could distinctly be seen. Many shore birds and bright insects came about the ship, and we watched till we were tired the dolphins, porpoises and countless thousands of flying fish that were constantly in sight.

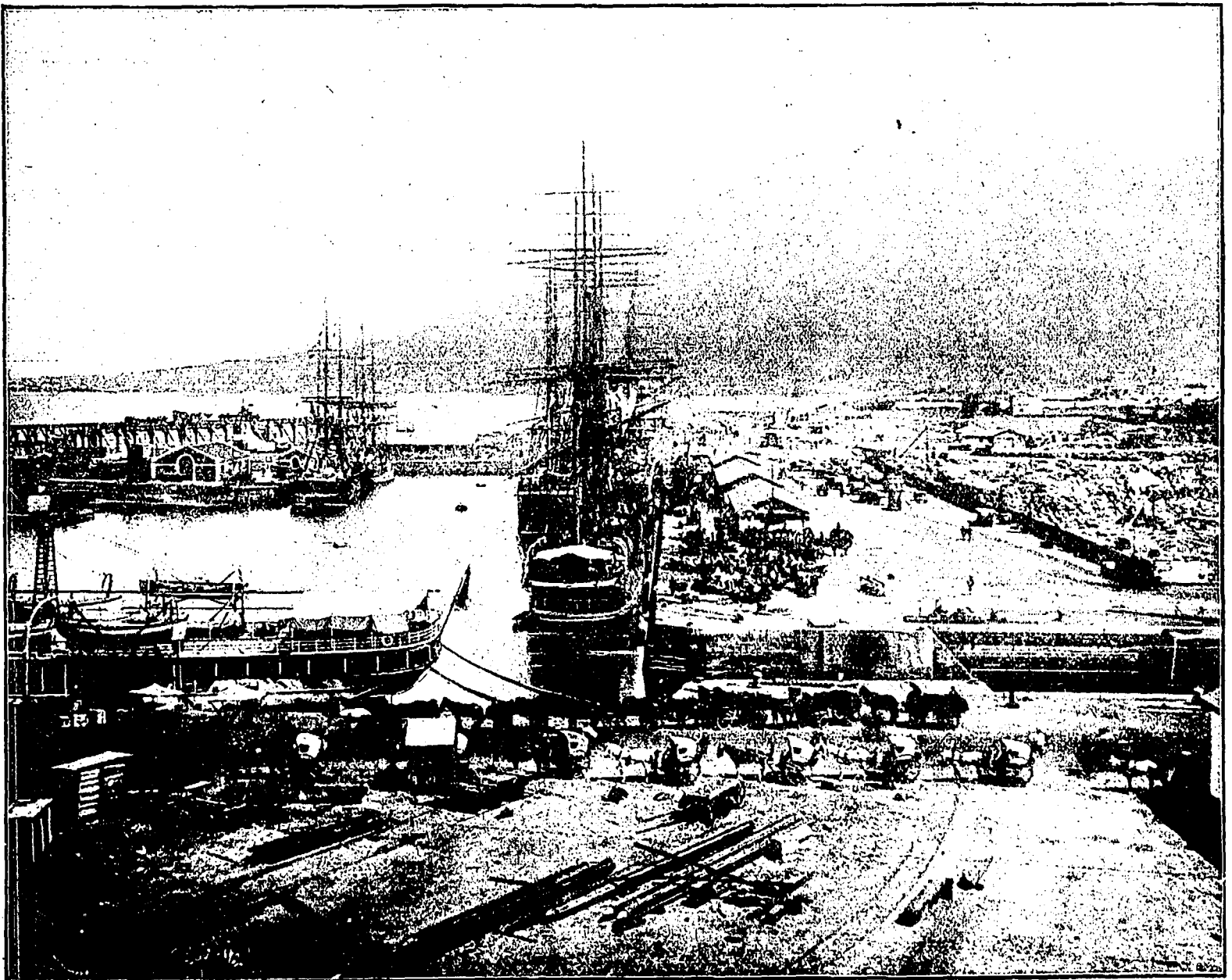
That night the phosphorescent effect on the

sea was unusually good—it seemed as if we were going through waves of soft yellow liquid fire. Imagine, if you can, millions of tiny electric lights flashing just under the surface of the water, and you will have some idea of the wonderfully beautiful effect. Looking over the stern into the wake of the ship, where the waters had been churned by the huge propeller wheel, the brilliant sparkling is indescribable. For many days the weather was continually delightful. Nets were stretched about the huge upper deck, where cricket was played each morning. The afternoons were given to athletic sports, tugs-of-war, foot races, egg races, jumping, while concerts, music and dancing made the nights merry.

We anchored in Table Bay before midnight, Oct 9th, and announced our arrival by sending up rockets and firing small cannon. At sunrise

next morning all hands were on deck to see the beautiful bay and Table Mountain, with the docks of Cape Town in the distance. The first view of the city is apt to be disappointing, as only its lower and poorer parts can be seen from the anchorage. The extensive breakwater, built by convict labor, provides a capital harbor for even the largest ships. The docks, though very large, are being gradually extended, and from the variety and number of merchant ships in the bay it was easy to realize the importance of Cape Town as a sea port.

The city is strongly fortified. Earthworks, behind which are mounted heavy modern rifled cannon, command every part of the bay. The South African squadron of the English war fleet, however, does not anchor here, but remains at the naval station at Simon's Bay, an arm of the Indian Ocean, just around the Cape



CAPE TOWN DOCKS, SHOWING DEVIL'S PEAK.—From a Photograph.



WILD ARUMO, GROWING IN FIELD NEAR CAPE TOWN.—From a Photograph.

of Good Hope, and distant about twenty miles. Two ships of this squadron, the *Maggie* and the *Philomel* have just left for Delagoa Bay, where there is a rising of the native tribes in rebellion against the Portuguese Government.

Cape Town has a charming situation at the foot of Table Mountain and gives every evidence of being a modernly progressive city. It has a population of about 60,000, while its blocks of business, municipal and government buildings, its fine churches and schools, would do credit to the larger cities of our own country. Enough of the old Dutch buildings still remain to give character to the city and to render its early history particularly interesting.

The discovery of what is now Cape Colony was made by the Portuguese, who sent out three small vessels under Bartholomew Diaz to discover, if possible, a road by sea to India. He reached Algoa Bay, around the Cape of Good Hope, on Sept. 14th, 1486. Table Bay was first entered by Vasco da Gama in 1497, but the native bushmen and Hottentots proving anything but friendly, the bay for the next 150 years was little more than a port of call for the trading ships of Portugal, Holland, England and France. After Holland in 1579 secured her independence from Spain, her fleet became the strongest in Europe. In 1599 the English East Indian Company was formed with the object of trading with India by sea.

Three years later succeeded the formation of the Dutch East India Company, and in 1652 John Van Riebeck with 100 men arrived in Table Bay and took formal possession of the land where Cape Town now stands. Lands were acquired from the Hottentots for vine growing by the Huguenots who fled from France and were welcomed as settlers by the new Dutch Company. The climate and soil were

alike suitable, and extensive vineyards were planted. From that period, 1687-9, dates the large and profitable wine farming industry in Cape Colony. About twelve miles from Cape Town is the Government Experimental Farm, Groot Constantia, upon which are the largest vineyards in the Cape Peninsula. The estate was originally owned by one of the early Dutch Governors, Simon Vanderstell, and the spacious house, bearing date 1690, with its wine cellar and slave quarters, is a good example of the splendid homes of the colonists at that early period. No expense was spared in their construction. The bricks and huge floor tiles were

brought from Holland. The ceilings, doors and panel work almost invariably were made of teak wood, the walls were often richly frescoed, while statuary figures in bas-relief and elaborate Florentine scrolls were the customary interior decorations.

American grape vines are in great favor in South Africa, as on account of their hardiness and rugged growth they withstand better than any other vines the ravages of phylloxera. On these American vines are grafted the best known European varieties of wine grapes. Constantia is under the management of a most competent gentleman, Mr. DeWaal, and here is where the sons of the colonial farmers may come to acquire a careful training and thorough knowledge of wine and fruit farming. The way to Constantia leads through many pleasant suburbs, Rondebosch, Newlands, Wynberg, the favorite residence section to the south of Cape Town, along well kept roads and under splendid avenues of oak, fir and eucalyptus trees. A more delightful drive cannot well be imagined. It gives one many a pleasant passing glimpse of Table Mountain, the Lion's Head, Devil's Peak and the Drakenstein Mountains thirty miles away to the north. Even England or Southern California could hardly grow flowers to rival the roses that greet one from every garden. All sub-tropical plants grow luxuriously. Calla lilies, so rare with us, grow in great profusion wherever the ground is moist, or along the tiny streams trickling here and there from the mountain side. The lilies are called by the natives "Arumo" (pig lilies).

The most conspicuous modern buildings in Cape Town are the parliament buildings, the public library and museum, the Governor's residence, the Standard Bank, the large four-story stone building now in course of erection for the postal and telegraphic service. The old buildings especially attractive to the strangers are the castle and barracks near each other on opposite sides of the parade, and the old Lutheran church bearing date, 1672. Although the greater part of the castle is of a more recent date, the moat, drawbridge and gateway of the



NEWLAND'S AVENUE, NEAR CAPE TOWN.—From a Photograph.



CAPE TOWN MALAY. From a Photograph.

original castle built in 1672 may still be seen. The old church is still used as a place of worship and is very interesting. To one who has not visited the Cape before, the shop windows, filled as they are with products of the Colonies, native curiosities, etc., etc., are an unfailing source of interest. In them you may see ostrich feathers and eggs, lion skins, the beautiful spotted skins of the African leopard, ivory tusks, massive horns of the Cape buffalo, the more graceful spiral straight or branching horns of the African deer and antelope, the native hunting, war, or domestic implements and weapons, assegais, knives, bows, knob sticks and different tribal ornaments or costumes of the people of the interior.

While Cape Town enjoys the presence of a large English and European population, a Canadian is apt to be impressed unpleasantly with the great number of its black-skinned citizens. The rough work is done almost altogether by the Kafirs, Malays and the mixed race known as "Cape Boys"; few full blooded negroes are seen. They are certainly picturesque, the Cape Boys and negroes with their rags and great slouch hats, the Malays with their high domed straw hats, bright turbans or crimson fez. They are not progressive and seem content enough in their humble position, only asking to make a poor living. The climate is variable, but with all agreeable and healthful. The atmosphere is never excessively humid, the high temperatures of December, January and February can be borne without inconvenience. The mean annual temperature is about 62 degrees, Fahrenheit. It is not, however, in the summer months, unusual to experience a temperature at midday of 100 degrees in the shade and at night to have it fall to 40 degrees, a variation of 60 degrees in 12 hours. Malarial fevers are unknown, epidemics of disease are most rare and

have invariably been traced to gross negligence of the ordinary sanitary precautions.

Rains are abundant on the south-east coast in summer. In Cape Town the rain fall is about equal to that in the southern counties of England, the annual average being about 42 inches. The first rains in Cape Colony usually fall between April 15th and May 1st and are frequent thereafter until the 1st of October. Early fruits, strawberries, etc., come into market about Oct. 25th. The wheat harvest commences about the last of October, while the vintage is not gathered until the end of February.

I shall hope to send you further letters from the country districts, where for two months the most of my time will be spent.

#### NEW-YEAR'S REVERIE

I LEANED down over the cavern  
Time dug for the Old Year's tomb,  
And laid my dead beside it  
(For the sexton gave me room).  
'Twas a skeleton form of sorrow  
At last I buried away;  
It had stalked through my soul's castle,  
And haunted me many a day.

And then, as I peered down deeper,  
I saw there yet was space  
For a grudge that long had shadowed  
My heart's most sunny place;  
And I cast the blighting burden  
In the grave where it belonged,  
And I said, "There are fates more bitter  
Than to be the one who is wronged."

And down on the lid of the coffin  
I laid a vain regret  
For a time and a pleasure vanished,  
For a day whose sun was set;  
And, just as the tomb was closing,  
I flung in a selfish thought,  
To lie in the dark and molder,  
And perish as it ought.

And, while the bells were ringing  
Their midnight chimes, I said,  
"Since good endureth forever,  
Let the dead Year bury its dead."  
And then, like a radiant angel  
Outlined in the skies above,  
With the glad New Year in his bosom,  
I saw the Spirit of Love.

And he spake: "It is only sorrow,  
And sin, and folly that dies;  
Whatever was good in the Old Year  
In the soul of the New Year lies.  
As you stand on the grave of Error,  
Look up, for the stars are true!  
Let go of the things departed—  
Reach out! for the things that are new!"

—ELLA WHEELER WILCOX, in *Chicago Tribune*.

#### Production of Wheat in Canada.

*The Canadian Magazine*, in a recent issue, has a very exhaustive article on the production of wheat in Canada. We give our readers a resume of the paper.

Of late years the wheat production of Canada has been the subject of so much exaggeration that some definite information on the question has become very desirable. Year by year, estimates of the quantity of wheat available for export have been published, out of all proportion to the production, and therefore impossible of fulfilment, and it is not to be wondered at if a certain disbelief in Canada's capabilities in this direction has been engendered in consequence.

Previous to 1882 there were no means available of obtaining any information about the area in, and yield of, wheat, except at the regular decennial census, according to which, in 1870, the area under wheat in the four provinces, Ontario, Quebec, Nova Scotia, and New Brunswick, was 1,646,781 acres, and the yield 16,728,873 bushels. The product of the rest of British North America was at that time too small to be worth taking into account. By the census of 1881, the area under wheat, in 1880, in the Dominion, which then comprised the

whole of British North America, with the exception, of course, of Newfoundland, which has not yet joined the Confederation, was 2,342,355 acres, an increase of 695,574 acres, while the yield was given at 32,350,269 bushels. At the end of the next ten years, the census gave the area under wheat in 1890, at 2,723,861 acres, an increase only of 381,506 acres, and the yield at 42,144,629 bushels.

In 1882 and 1883, the Ontario and Manitoba Governments respectively commenced the annual collection of statistics concerning the cultivation of wheat within their provinces, which, with the exception of a break in Manitoba, in 1888, have been continued up to the present time, and it is these figures that necessarily form the basis of any estimate that may be made of the wheat crop in any year, for, with the exception of Ontario and the North-West Territories, wheat-growing in the rest of the Dominion has not only always been insignificant, but has, on the whole, been steadily decreasing. The movement of wheat cultivation throughout the country is illustrated by the following figures, which are those for the crop years 1880 and 1890, as given by the census returns of 1881 and 1891:—

#### WHEAT PRODUCTION IN CANADA ACCORDING TO CENSUS RETURNS.

PROVINCES.	1880.		1890.	
	Acres.	Bus.	Acres.	Bus.
Ontario.....	1,930,123	27,406,061	1,430,519	21,314,522
Manitoba.....	51,293	1,033,673	896,610	16,092,130
Total.....	1,981,416	28,439,734	2,327,129	37,406,652
Quebec.....	223,176	2,019,004	191,599	1,568,289
Nova Scotia.....	41,855	529,251	14,157	105,806
New Brunswick.....	40,336	521,956	17,306	209,809
P. E. Island.....	41,942	546,986	44,703	613,364
B. Columbia.....	7,952	173,653	15,156	388,900
Total.....	355,262	3,790,850	282,921	2,945,568
N. W. Territories	6,678	119,655	113,811	1,792,409
Grand Total	2,342,355	32,350,269	2,723,861	42,144,629

There was an increase in the total area of 381,506 acres. The movement in the several provinces has been as follows:—

#### CHANGES IN AREA UNDER CULTIVATION OF WHEAT BETWEEN 1880 AND 1890.

DECREASE.		INCREASE.	
Acres.	Acres.	Acres.	Acres.
Ontario.....	549,604	Manitoba.....	845,317
Quebec.....	31,577	British Columbia..	7,204
Nova Scotia.....	27,698	P. E. Island.....	2,761
New Brunswick..	23,035	N. West Territories	108,133
	581,909		963,115

In the four original provinces of the Dominion, it will be seen, there was a decrease of 581,909 acres, and, though there was an increase in Prince Edward Island and British Columbia, the former province is likely always to be an importer of wheat, while it must be some years, at any rate, before the latter will grow a quantity sufficient to supply the home demand, if indeed such a thing ever happens. It is evident, therefore, that as far as the question of production alone is concerned, statistics of the wheat yield in Ontario, Manitoba, and the North-West Territories are the only factors of any material consequence to be considered.

In order, therefore, to arrive at the annual production, we have, to assist us, the official figures for Ontario and Manitoba, which comprise about 90 per cent. of the total yield, and the census returns for the remainder of the Dominion. The returns of the two provinces are largely made up from threshers' returns, which, of course, do not make any allowance for incorrect measurement, or for subsequent loss in cleaning, neither do they take into account inferior or damaged grain, which never goes into distribution. The fact that a certain

quantity of grain is frequently fed on the farm should also be taken into consideration, and it is considered that a deduction of 10 per cent. may fairly be made from the gross yield to cover these several deficiencies. In the following table, therefore, the first column gives the gross production of wheat in each year, as derived from the official estimates and from the census returns. The second column provides for the above-mentioned deductions for loss, consumption on farm, etc., and the third column gives the apparent net quantity available for distribution.

ESTIMATED PRODUCTION OF WHEAT IN CANADA.

YEAR.	Estimated Crop. Bushels.	Deductions for cleaning, short meas't, feed, etc. Bushels.	Estimated net quantity available for distribution. Bushels.
1882.....	47,751,703	4,775,171	42,976,525
1883.....	30,810,762	3,074,076	27,736,686
1884.....	45,363,417	4,536,342	40,827,075
1885.....	42,736,327	4,273,633	38,462,694
1886.....	38,224,503	3,822,450	34,402,053
1887.....	38,954,233	3,895,423	35,058,810
1888.....	32,964,851	3,296,485	29,668,366
1889.....	30,791,656	3,079,165	27,712,491
1890.....	41,972,134	4,197,213	37,774,921
1891.....	60,721,193	6,072,120	54,649,073
1892.....	48,182,295	4,818,229	43,364,066
Total.....	457,903,077	45,790,307	412,112,770

It will now be in order to endeavor to ascertain how far distribution will dispose of the above quantities, and this has been attempted in the next table.

ESTIMATED DISTRIBUTION OF WHEAT IN CANADA.

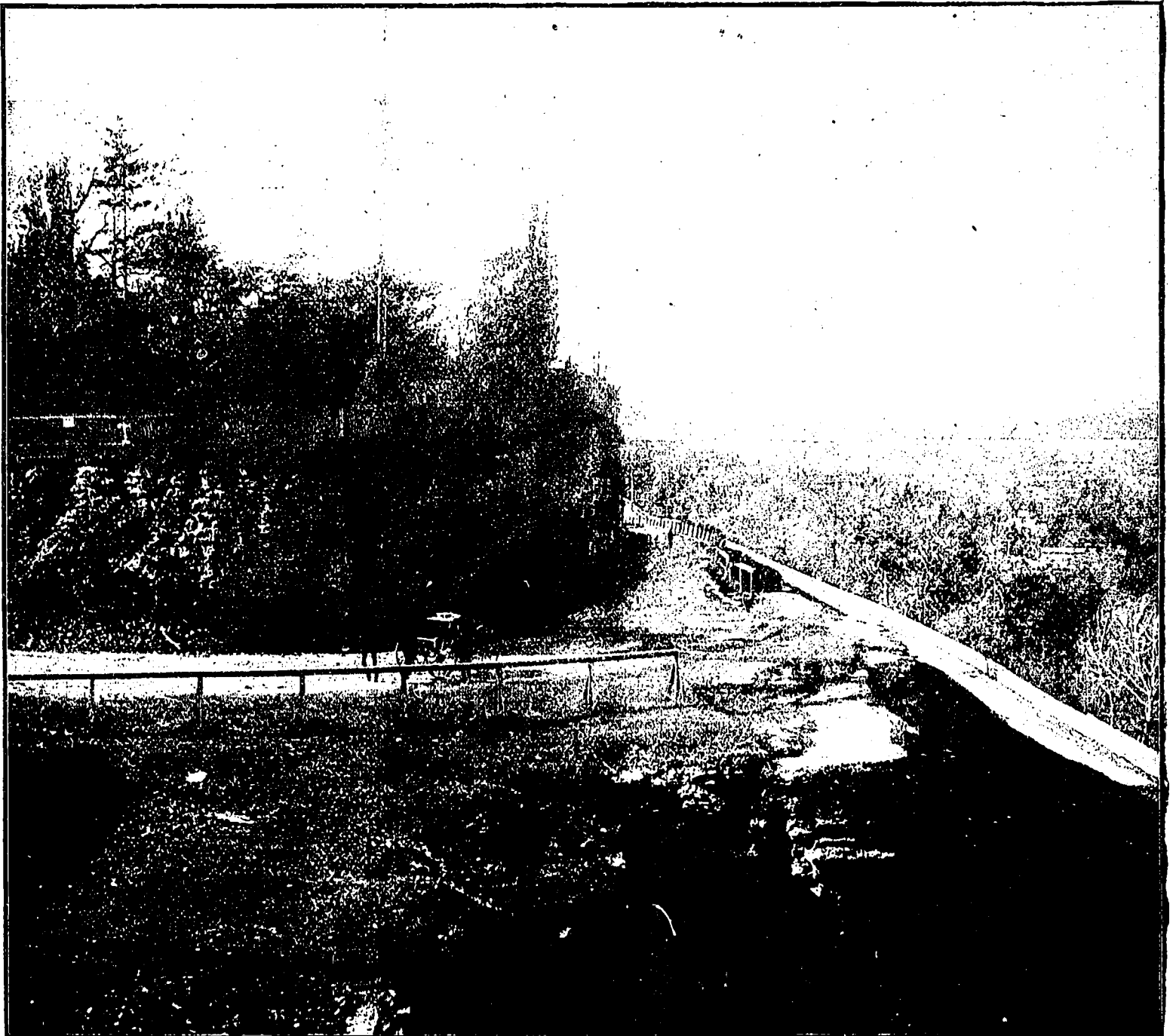
Crop Year.	Net Exports. Bus.	Allowance for Seed. Bus.	Amount required for consumption Bus.	Excess of crop over distribution. Bus.	Excess of distribution over crop. Bus.
1882.....	7,222,265	3,427,917	24,378,200	7,918,129	.....
1883.....	*3,516,442	3,363,911	24,661,615	3,247,602	.....
1884.....	2,793,330	3,664,674	24,952,395	9,417,676	.....
1885.....	4,662,975	3,360,614	25,228,450	5,180,655	.....
1886.....	6,133,283	3,368,939	25,490,755	.....	591,924
1887.....	2,761,653	3,247,472	25,768,446	3,281,239	.....
1888.....	*1,218,636	3,457,546	26,019,936	1,379,220	.....
1889.....	96,076	3,808,760	26,539,054	.....	2,551,399
1890.....	4,062,559	4,010,979	26,637,908	2,523,475	.....
1891.....	12,343,426	4,325,819	26,945,039	11,024,789	.....
1892.....	11,796,379	4,027,575	27,288,404	.....	2,748,292
Total.....	51,870,946	40,104,536	283,744,802	44,002,779	5,875,215

\* Excess of Imports.

The above figures show an apparent excess of crop over distribution at the end of the eleven years of about forty million bushels, which would indicate a large over-estimate of yield, but a considerable portion of this surplus can be accounted for. There is no doubt in the minds of those who have at all interested them-

selves in the matter, that the official returns of exports of wheat and flour by no means represent the actual quantities that are shipped out of the country. The Customs Act in Canada provides for the report of all exports, and also provides a penalty for neglect to make the Customs entry; but this regulation is very frequently disregarded. As a consequence, it is certain that a considerable quantity of wheat (especially in the form of flour), of which no record of any kind is taken, goes out of the country, *via* the United States, for foreign ports, principally the United Kingdom, and probably 25 per cent. would not be too much to add to the exports to meet this shortage in returns. This would account for, say 15,000,000 bushels of the surplus. Another five or six million bushels should certainly be written off the Manitoba crop of 1891, which, it is well known, was badly damaged by frost and rain, and a very considerable quantity rendered quite unsaleable. Some deduction also, which cannot well be put into figures, must be made for loss by fire, water, and in transport, leaving, perhaps, 15,000,000 bushels, or about 3½ per cent. of the total quantity not in any way accounted for. But it is probable that the actual excess of estimate over production above would account for this.

Whatever the opinions may be of the relative accuracy, year by year, of the figures given above, it will, no doubt, be generally admitted that they are trustworthy enough to show that



HAMILTON MOUNTAIN.

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the country's wheat export has, up to the present time, been comparatively insignificant, and, in the writer's opinion, it can also be shown that under ordinary circumstances there is not much prospect of the amount being materially increased for some years to come.

The increased exports of 1892 and 1893 were the result of the remarkable crop of 1891, and not of any increase in area and cultivation, and it may be many years before such figures are reached again. As a matter of fact, the area under wheat is, at the best, only stationary, for the decline in wheat cultivation in Ontario only about keeps pace with the progress of settlement in the North-West, the decrease in the former province in 1893, as compared with 1890, having been 159,844 acres, while the increase in Manitoba in the same period was only 107,030 acres, and if the territories, concerning which no details are obtainable, are credited with an increase of 25,000 acres (probably over the mark), the area under wheat in 1893 was 28,000 acres less than it was in 1890. It is true that between the years 1880 and 1890, the area under wheat in the North-West increased by 953,450 acres, while that in Ontario decreased by 499,604 acres, leaving a net increase of 450,000 acres, but this was further reduced by decreases in the other provinces, and after deducting the additional quantity required for seed and consumption, there was not much to swell the exports.

The reason, therefore, why, in spite of the progress of settlement, the quantity of wheat available for export does not materially increase, is that the increase in one part of the Dominion is counteracted by the decrease in another part, and the additional yield in the newer parts of the country is absorbed by the growing demand in the older provinces.

There is no doubt, however, that, if properly developed, the wheat fields of the North-West have enormous capabilities of production. The area of the Province of Manitoba, and of the provisional districts, Assiniboia, Alberta, and Saskatchewan, is about 360,000 square miles, containing, say 230,000,000 acres, of which, at least, one-half is admirable wheat land, much of it indeed being probably the finest in the world, though at the present time not more than about 1,300,000 acres have been brought under cultivation of that grain. The yield per acre varies with the seasons, which are uncertain. Particulars concerning the yield in the Territories are not available, but the figures for Manitoba will apply fairly well to a large section of the country. In that province, the yield has ranged from 32 bushels per acre in 1887 to 15 bushels in 1893; the average yield for the whole period, 1887 to 1893, inclusive, was about 21 bushels per acre. The small yield of 1893 was largely atoned for by the excellent quality of the grain, over 50 per cent. having been graded as No. 1 hard. While, therefore, in favorable seasons, the yield may be vastly increased, even at the lowest figure of 15 bushels per acre, some idea can be obtained of what this section of Canada is capable of producing. There is, however, one element necessary to develop this production, which is at present lacking, and that is population. The other materials, land, soil and climate, are all there; but the one thing necessary to utilize these advantages remains wanting; the machinery stands idle, for the motive power is absent.

At what rate of speed that power will be supplied, it is impossible to say, but there is no reason for supposing that, under the altered conditions now prevailing, any very rapid increase of settlement is likely to take place in the near future. Immigration returns from all countries show during the last few years, a steady falling off which seems likely to continue.

Some attraction, other than the rather chimerical one of growing rich, under existing circumstances, by the cultivation of wheat, will be necessary to induce any special flow of immigration to the North-West.

The variations in the price of wheat will undoubtedly have an important influence on immigration and settlement; but beyond repeat-

ing the opinion that the day of permanent high prices has gone for ever, it seems idle to speculate upon those variations, for when one looks back and reads the different predictions that have been made during the last few years, and notices how they have been almost universally falsified by the actual course of events, one cannot but feel that speculations on the subject are more or less a waste of time.

When, therefore, the past production of the country, the fact that the decrease in cultivation about keeps pace with the increase (*i. e.*, that for every acre of new land that is broken up and sown with wheat, there is an acre of cultivated land diverted from wheat growing to other agricultural purposes), and the fact also that there is no reason to expect, at present, sufficient immigration to overtake to any extent the decreasing area, are all considered, the conclusion may fairly be come to, that in the absence of abnormal conditions, it will be some years before the wheat exports of the country exceed an annual average of from six to eight million bushels, if indeed they amount to as much. But at the same time it must be remembered that the land is there, circumstances favorable to production are there, and, given the population, the country can at any time respond to any increase in demand, or to any appreciation in price.

#### The St. Lawrence Canals.

THE grandest canal enterprise, when considered from an engineering standpoint, that has ever been undertaken in the history of the United States and Canada, and, with few exceptions the grandest in the world, is the St. Lawrence River system of canals, extending from Montreal to Prescott, a distance of 119 miles, and effectually overcoming the numerous obstructions to navigation in this rapidly flowing river. After overcoming the St. Louis rapids by the Lachine Canal, there is an expansion of the river into Lake St. Louis for a distance of 15 miles, when it again contracts and the Beauharnois Canal 11½ miles long, passing the Cascades, Cedars, and Coteau rapids, was found necessary in order to reach the second expansion of Lake St. Francis. The river is thereafter navigable for a distance of nearly 33 miles, above which the Cornwall Canal, 11½ miles long, has been constructed to overcome another series of rapids, *viz.*, the Long Sault. But 5 miles of a reach now intervene until the Farran's Point Canal, ¾ mile long, is found unavoidable for many vessels in ascending. Descending vessels however run the rapids in safety. Another reach of 10½ miles intervenes between the latter and the Rapide Plat Canal, which is 4 miles long. It is similar to the one just described and intended only for ascending vessels. Another reach of 4½ miles brings us to the Galop rapids, the first in the series on the downward trip, which are surmounted by the Galop Canal, 7½ miles long. Thence a free and uninterrupted sail up the river and Lake Ontario for 236½ miles to Port Dalhousie at the entrance of the Welland Canal.

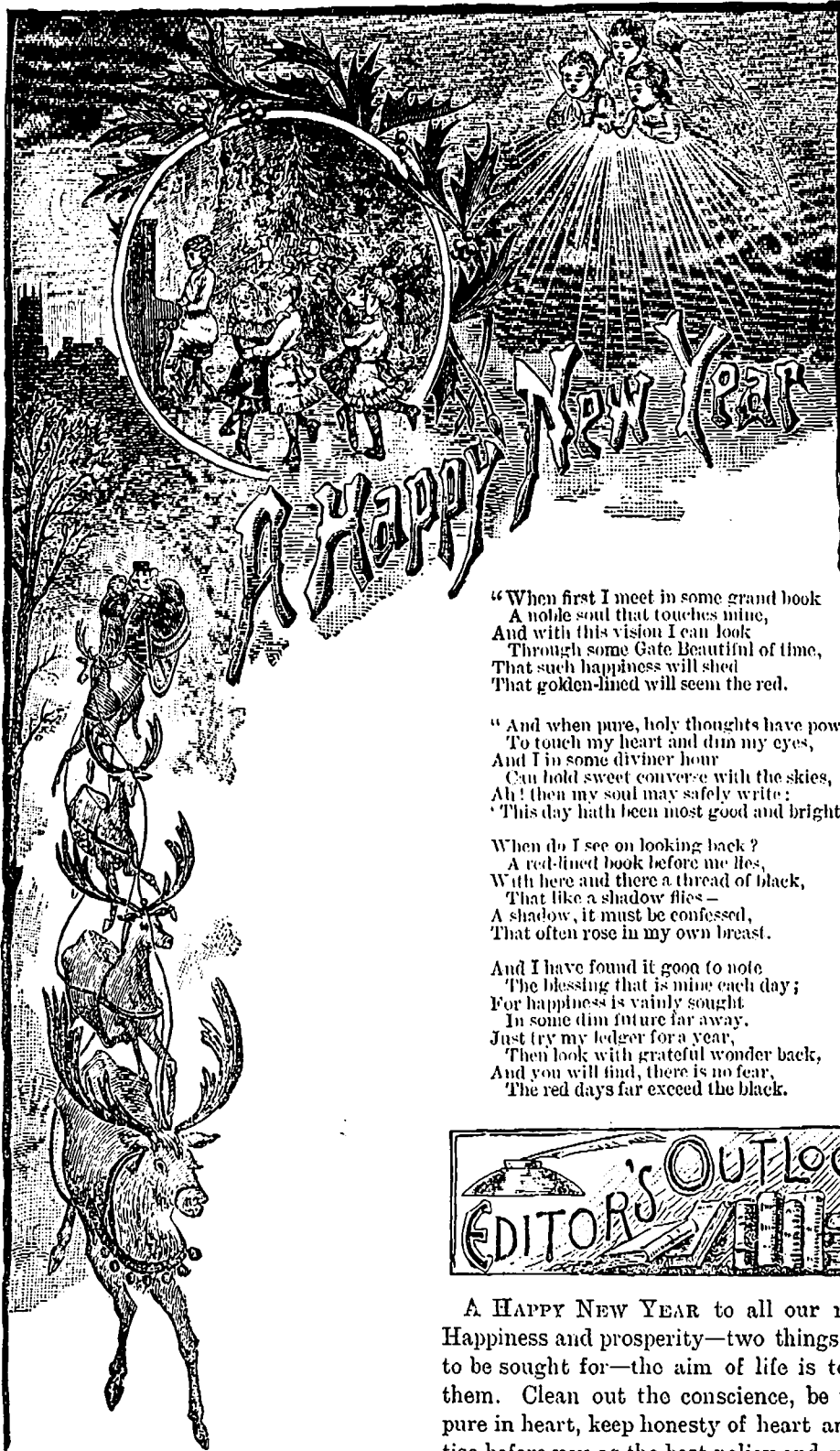
Without entering into the details of each of the series of canals on the St. Lawrence, we will observe that the total length of canals is 43¾ miles, the total height directly overcome by locks 206½ feet, and the total number of locks 26. The original plan of construction gave a width of canal varying from 50 to 100 feet, and locks of 200 x 45 feet dimensions, with a depth of 9 feet of water over the miter sills. These dimensions answered the purpose for a number of years,

but latterly the demand has become more urgent from year to year for locks of sufficient size to accommodate the largest vessels engaged in the carrying trade upon the upper lakes, and thus avoid transshipping upon smaller vessels at Kingston and elsewhere such produce as may desire to reach the seaboard. In line with the policy adopted in reference to the Welland Canal, the government decided that the St. Lawrence Canals must also be enlarged so as to accommodate vessels drawing 14 feet of water, and the work of enlargement is now progressing from year to year. The enlarged docks are made 270 feet long, and 45 feet wide. The canals are being widened and deepened so as to admit of a 14-foot draft, and the river reaches have been improved in several places. The final completion of the scheme will require a considerable time, as the yearly appropriations for the purpose cannot be large, owing to many pressing claims upon the government from other quarters.

It was finally decided after considerable deliberation and investigation, that instead of enlarging the Beauharnois Canal between Lake St. Louis and Lake St. Francis, it would be more economical to build a new canal outright upon the opposite side of the river. This is known as the Soulanges Canal, and in accordance with the decision of Parliament, tenders were asked for during the past year, and the work is now under contract.

When all the locks on the St. Lawrence become enlarged to the dimensions of the present plans, the canals and reaches deepened, where necessary, to the requisite depth, Canada will have solved the problem of the century, by making Toronto, Chicago, Duluth, and Port Arthur seaport towns.

While the height of Canada's ambition in reference to her canals, has been to complete the enlargement of the St. Lawrence system so as to maintain a uniform depth of 14 feet, we find the Americans, with broader conceptions of the magnitude of the great American, as well as Canadian trade, developing in the West, are not satisfied with the size of the locks now under construction, but think they should be made to correspond with the new lock at the "Soo," having a depth of 21 feet; which would allow all the large upper lake vessels to navigate the St. Lawrence and convey their cargoes to the seaboard or Liverpool without breaking bulk. They argue that formerly the Great Lakes have been used almost entirely for internal traffic between the bordering states and Canada, but that, "the recent development of untold resources of the great Northwest, has, however, made the productions of that region not only a vital part of our foreign trade," and that it is important that our internal commerce, but the leading factor of the American Government take immediate steps "to secure a deep-water outlet for the foreign commerce originating in the states bordering on and tributary to these waters." It is conceded that the deepening of the Erie Canal to the requisite depth is impracticable, and that while the construction of a canal from Oswego to the Hudson River may be feasible, the length of time required to complete it, and the enormous cost of from \$40,000,000 to \$100,000,000 it would necessitate, as well as the construction of another canal at Niagara, place this deep-water project beyond the bounds of impossibility, owing to the urgent demands of the present.



THE NEW YEAR LEDGER.

I SAID one year ago,  
 "I wonder if I truly kept  
 A list of days when life burnt low,  
 Of days I smiled and days I wept,  
 If good or bad would highest mount  
 When I made up the year's account?"

I took a ledger fair and fine,  
 "And now," I said, "when days are glad,  
 I'll write with bright red ink the line,  
 And write with black when they are bad,  
 So that they'll stand before my sight  
 As clear apart as day and night."

"I will not heed the changing skies,  
 Nor if it shine, nor if it rain;  
 But if there comes some sweet surprise,  
 Or friendship, love or honest gain,  
 Why, then it shall be understood  
 That day is written down as good."

"Or if to any one I love  
 A blessing meets them on the way,  
 That will to me a pleasure prove;  
 So it shall be a happy day;  
 And if some day I've cause to dread  
 Pass harmless by, I'll write it red."

"When hands and brain stand labor's test,  
 And I can do the thing I would,  
 Those days when I am at my best  
 Shall be all traced as very good.  
 And in 'red letter' too, I'll write  
 Those rare, strong hours when right is might."

"When first I meet in some grand book  
 A noble soul that touches mine,  
 And with this vision I can look  
 Through some Gate Beautiful of time,  
 That such happiness will shed  
 That golden-lined will seem the red."

"And when pure, holy thoughts have power  
 To touch my heart and dim my eyes,  
 And I in some diviner hour  
 Can hold sweet converse with the skies,  
 Ah! then my soul may safely write:  
 'This day hath been most good and bright.'"

When do I see on looking back?  
 A red-lined book before me lies,  
 With here and there a thread of black,  
 That like a shadow flies—  
 A shadow, it must be confessed,  
 That often rose in my own breast.

And I have found it good to note  
 The blessing that is mine each day;  
 For happiness is vainly sought  
 In some dim future far away.  
 Just try my ledger for a year,  
 Then look with grateful wonder back,  
 And you will find, there is no fear,  
 The red days far exceed the black."



A HAPPY NEW YEAR to all our readers! Happiness and prosperity—two things greatly to be sought for—the aim of life is to secure them. Clean out the conscience, be upright, pure in heart, keep honesty of heart and practise before you as the best policy and you may hope for a happy, a contented, and by the aid of industrious thrift, a prosperous year. Let the past serve as a mirror from which to view weak spots to be avoided and strong points to be adhered to. Live in faith, hope and courage, knowing that to him who conquers there is a crown and success comes of wisely directed energy; not of despair. May your New Year begin well and end happily.

THE long winter nights do not bring rest to the busy, thrifty farmer, for there is work for his head and hands all the year round. Now is the time to master the latest conclusions come to in the Science of Agriculture; to do little odds and ends for use in spring; to put the dwelling home in first-class order, to mind the dairy, the pig-sty, the poultry house, and to keep all the departments of indoor farming in neat and proper order.

GUELPH was the Mecca of the Stockman last month. The Annual Fat Stock Show attracts breeders, and advantage is taken of their pre-

sence to hold stated meetings of a few of the associations. All this, and the proximity of the Agricultural College and Experimental farm, is giving the Royal city the character of a great Canadian stock centre. It has been admitted on all hands that never before has the excellence of the fat stock been surpassed, and special notice has been taken of the improvement in the sheep and swine departments, while the display of dressed poultry has been admittedly one of the best ever made in Canada. At the meeting of the Dominion Sheep Breeders' Association satisfactory reports were made and the following officers were elected:—President, John Jackson, Abingdon; Vice-President, James Tolton, Walkerton; Secretary-Treasurer, F. W. Hodson, London; Directors, Cotswolds, J. C. Snell, Edmonton; Leicester, John Kelly, Shakespeare; Southdowns, A. Simenton, Blackheath; Shropshires, R. Gibson, Delaware; Oxfords, Henry Arkell, Arkell; Hampshires, William H. Beattie, Wilton Grove; Lincolns, John Gibson, Denfield; Horned Dorsets, T. C. Hector, Springfield-on-Credit; Merinos, W. Smith, Fairfield Plains; General Director, John I. Hobson, Mosboro'; Auditors, Andrew Whitlaw, Guelph, and J. B. Spencer, London. Judges were nominated for the fall fairs, and expert judges appointed. A combined meeting of the Sheep Breeders and Swine Breeders' Association was held. The secretary reported that during the year 3,496 pigs were recorded, comprising 1,151 Berkshires, 1,139 Yorkshires, 382 Tamworths, 343 Poland Chinas, 348 Chester Whites, 44 Suffolks, 71 Duroc Jerseys and 18 medium Yorkshires. The report suggested that the authorities should repeat the experiment made some years ago by Prof. Brown of feeding selected sheep of different breeds in order to determine the feeding qualities of the different breeds, the sheep experimented on to be selected by members appointed by the executive of the Sheep breeders' Association. It was suggested that similar experiments on swine should be made. By the aid and influence of the association similar associations had been formed during the year, one in the Maritime Provinces, one in Manitoba and one in British Columbia. The following officers were elected at the annual meeting of the Dominion Swine Breeders Association:—President D. DeCourcy, Berlin; vice-president, J. E. Brethour, Burford; Secretary-Treasurer, F. W. Hodson, Guelph. Sessions of the Agriculture and Arts Association were also held at Guelph on this occasion. At one of them the estimates for the coming year were tabled and approved of, thus:—Spring Stallion Show, \$2,000; Fat Stock Show, \$1,500; printing herd book, \$1,050; ploughing matches, \$600; expenses of the board, \$400; exhibition of dairy cattle, dairy products and appliances, the said exhibition to be held in Eastern Ontario, as an equivalent to the Fat Stock Show at present held in Western Ontario, \$1,000; making a total of \$3,550. At the same session a valuable communication was read from Mr. D. M. Macpherson, of Lancaster, Ont., in which he said:—"After a great deal of study, much experiment, and carefully-noted results, the following important improvements are necessary to be brought about before our province will make great advances:—First an improved plan of farm work, so as to cause greater profit and an increase from year to year. Second, increased value of farm land in all the older districts. Third, increase of population throughout the rural districts. Fourth, improvements of public roads, so as to place them on a permanent basis to carry the ordinary traffic of the country in all seasons." In connection with the above the following resolution was passed:—"That this board, having considered the valuable suggestions contained in Mr Macpherson's letter re reclamation of poor farms, by which individual and national wealth would be so largely augmented, desires to express its appreciation of his efforts to enlarge the scope and usefulness of this association, and instructs the secretary to request his presence at the next meeting to discuss in detail the proposition he has made."



THE event which held the sorrowful attention of Canada during the past few weeks was the unexpected and tragic death of the Premier, Sir John Thompson. The country was entirely unprepared for the sad news and the shock was severe and startling. To a few of his most intimate friends and colleagues it had been known that the first minister's health was shattered by over work and the strain of office, but it was hoped by them that the advice of famous physicians in London and Paris and rest from the worries of his position would soon tell favorably on his vigorous and lusty frame, so that even to them the news at first appeared incredible. As is well known Sir John made his journey to Europe for a variety of purposes. He was to be sworn in a member of the British Privy Council, a distinction to which but few outside the charmed circle of British Cabinet Ministers attain; he had in view the consulting of the best London and Paris doctors regarding his malady, and there were other matters of public duty which he attended to such as the Copyright law, etc. He had been advised in Paris that his ailment was most serious and that his life could not be prolonged more than, at the most, nine months, and this information seems to have had an unsettling influence on his mind. He made haste to return home. His engagements were punctiliously kept, he made his speech at the Imperial Institute, and interviewed the Colonial Office on the Canadian questions under consideration there, but an unconquerable impulse had seized him to get home to his family. The interesting, if somewhat tedious ceremony, of being sworn a member of the Privy Council had taken place and luncheon was afterwards being partaken of at Windsor Castle when in circumstances widely and lingeringly chronicled in the Canadian press, a tribute to the dead man's worth, he fell back from his seat at table and expired in the arms of the medical gentleman who sat next to him. Quiet has had been his rapid promotion in public life, having risen on the pinions of irresistible merit, his departure from the stage abounded in the elements of pathetic tragedy. Not in this generation can such another picture be found. Prime Ministers and Presidents have been removed from their spheres of service and usefulness by the bullet and dagger in face of a prostrated people, but it is questionable if, in the case of any of these, an equal poignancy of grief had been evoked, as that called forth from the Canadian people, by the sad surroundings, the coincident events, combined with the commanding influence of Sir John Thompson. The impression was a different one but deeper than that caused by the death of Sir John Macdonald, whose long death struggle had prepared the country for the final scene. The respect in which the deceased was held by the Home Government was marked by placing the cruiser *Blenheim* at the disposal of Sir Charles Tupper to convey the remains to Canada. It is not necessary to dwell at length on the career of Sir John Thompson, regarding which so much has been said in pulpit, press, and from the platform. His success is a strong appeal to young men to cultivate well whatever talent they may possess. Industry, determination and application were his chief characteristics, qualities which carried him triumphantly from the reporters' table to the city council, from the council to the Legislature, thence to the Bench and thence to the House of Commons and the Premiership. His characteristics were strongly marked and by force of mind and will he ruled the country with a mastery over his followers which was complete. Many of the lighter touches of leadership which his great leader possessed to a degree and which prove so useful in harmonizing and smoothing difficulties, he lacked; but he was strong in brains, in clear foresight and in the tenacity with which he held to his well reasoned out plans and his colleagues followed him as loyally, if from different motives, as they followed the first Sir John. His early death is a serious blow to Canada. Men of both parties readily admit this. Big men are not so numerous in public affairs as they have

been and the loss of a man of Sir John Thompson's gigantic intellect, vast experience and record, is a distinct loss not only to his party but to his country. To his widow and family the sympathy of Canadians has gone forth with a genuine and unmistakable ring.

FOLLOWING on the sad news of Sir John Thompson's death, his Excellency the Governor General sent for Sir Frank Smith for advice as to who should be entrusted with the task of forming a cabinet. Sir Frank named Mr. Mackenzie Bowell, who accepted the position and after a day or two's grace, submitted the following ministry, the members of which were duly sworn in: Premier and President of the Council—Hon. Mr. Bowell. Postmaster-General—Sir A. P. Caron. Marine and Fisheries—Hon. John Costigan. Finance—Hon. Mr. Foster. Justice—Sir C. H. Tupper. Railways and Canals—Hon. John Haggart. Public Works—Hon. Mr. Ouimet. Militia—Hon. Mr. Patterson. Interior—Hon. Mr. Daly. Agriculture—Hon. Mr. Angers. Trade and Commerce—Hon. Mr. Ives. Secretary of State—Hon. Mr. Dickey. Ministers without portfolio—Sir Frank Smith, Sir John Carling, Hon. Donald Ferguson and Dr. Montague. These form the Cabinet. The under ministers: Solicitor-General—Hon. J. J. Curran. Controller of Customs—Hon. N. Clarke Wallace. Controller of Inland Revenue—Hon. J. F. Wood. Mr. A. R. Dickey, the new Secretary of State, is a Nova Scotian by birth. He was born in Amherst on August 18, 1854, and is the second son of Senator Dickey. The new Cabinet Minister is a graduate of Toronto University, studied law with the present Judge Townsend when the latter was a practising barrister at Amherst. Mr. Dickey is married to a daughter of Mr. R. B. Boggs, of Amherst.

IN connection with the movement for improved roads, the following sentences condensed from a paper in a contemporary will be found of considerable importance value from the practical standpoint: The time of the year when the work should be done on our roads is a question of considerable practical importance. Under our present system of allowing tax payers to 'work out' their road taxes, the rule is not to let road work interfere with any farm work if this can possibly be avoided, and the result is that a larger part of the work is done too late in the season to permit the soil moved to become settled and firm before the fall rains come. I see no way of successfully avoiding this difficulty except to abandon the system of working out road taxes, and require that the same be paid in money, letting the road work, both new and repairing, by contract to parties who by continued service will become efficient, and who, making that their business will have nothing else on their hands to prevent doing the work at the right time. To have roads properly laid out, constructed and maintained, requires engineering skill and training equal to that called for in railroad building, and the sooner we take our road work out of the hands of the men usually selected for overseers, and employ men educated for the business, the sooner we will have good roads. There are, however, a few well established principles in road making that anyone who has given the subject any thought and had his eyes open will have 'caught onto,' the most important of which is, that water is the great enemy of roads, and that every effort should be made to keep it out of the road way, both that from below and surface water. The under draining of soft, spongy places, and constant attention to the surface, preventing the forming of ruts to serve as channels for running water, and depressions to catch and hold water, resulting in mud holes, would make a wonderful difference in the condition of our roads.

THE Christmas number of *Harper's Magazine* comes in a cover printed in colors from a special design, and is unusually strong in artistic features.



1st.—The British fleet anchored off Saddle Islands, Chinese coast... Earl Elgin, Viceroy of India, delivered important speech at Lahore stating the policy of Britain to be one of peace, and that the frontier difficulties were rapidly disappearing.

3rd.—The motion to close the Toronto saloons at 9 o'clock daily was defeated by the city council... Canadian Cricket Club decided to send a team to England... Aldermen Hewitt and Gowlock resigned from the Toronto city council.

4th.—Nugget of tin weighing 5400 lbs., reported to have been found in Tasmania... Fruit Growers Association opened its meeting at Orillia... Deficiency of \$20,000,000 reported by the Secretary of the United States Treasury.

5th.—Shipping season at Quebec closed... The Grand Division of the Sons of Temperance decided to hold its next meeting at Tilsonburg... Lt. Col. Tyrwhitt re-nominated for the House of Commons for South Simcoe.

6th.—Madagascar credit of 65 million francs adopted by the French Senate... Eighth annual banquet of the faculty of medicine of Toronto University, held in the Rossin House.

7th.—Mr. R. R. Waddell, Hamilton, Ont., died... Count Ferdinand de Lesseps died... America will be re-elected on the commission to enquire into the Armenian atrocities.

8th.—The three hundredth anniversary of Gustavus Adolphus was celebrated in Germany and Sweden... Rev. Professor R. Y. Thomson, B. D., of Knox College, died at Toronto.

10th.—The Austrian Ecclesiastical bills sanctioned by the Emperor... The Commercial Bank of Newfoundland suspended payment.

11th.—Mr. T. Dixon Craig, M. P., nominated by the East Durham conservatives for the Commons... Manitoba school question before the judicial committee of the privy council.

12th.—Sir John Thompson, Canadian prime minister, died suddenly at Windsor, after having been sworn as Privy Councillor... Attempt made to wreck Grand Trunk mail and express, near Niagara Falls.

13th.—The Guelph Fat Stock show was closed there today... The Freight Rates commission met at Winnipeg, when the Board of Trade made an onslaught on the rates.

14th.—Cardinal Vaughan held a requiem mass over remains of Sir John Thompson... Joseph Truskey hanged at Sandwich, Ont... Mr. Mackenzie Bowell sent for by Lord Aberdeen to form a ministry.

15th.—Duke of York making arrangements to visit Canada next spring... Count de Lesseps buried... Special meeting of the Newfoundland legislature held... Direct contradiction given to report that General Harrison will be in the field for president at coming election.

17th.—The clergymen of San Francisco organizing a movement for investigation, similar to that carried on by the Lexow committee... Three thousand unemployed men met at the City Hall, Montreal, demanding work.

18th.—The diamond cutters of Amsterdam went out on strike... M. Brisson, elected president of the French Chamber of Deputies... Mr. A. McNeill, M. P., unanimously nominated by the Conservatives of North Bruce, for the House of Commons.

19th.—Ontario Agricultural and Experimental Union finished its annual meeting at Guelph... A first class bar-bette ship, the largest British battleship afloat, was launched... Sir Charles Tupper elected an honorary member of the Scottish Geographical Society.

20th.—The French Senate adopted the Franco-Canadian Commercial convention... Mr. F. Beverley Robertson, son of Mr. Justice Robertson, died... Mr. Mackenzie Bowell completed his slate as to the new ministry.

21st.—Grave news received as to Lord Randolph Churchill's health... The new cabinet sworn in by the Governor General... Three newspapers confiscated in Rome for publishing prohibited proceedings of meeting.

22nd.—The Hungarian Ministry resigned... Severe storm raged over south of England... The Cruiser *Blenheim* with the remains of Sir John Thompson on board left Portsmouth... Annual dinner of the Dominion commercial travellers held at Montreal.

24th.—Christmas charity distributed by the St. George and Irish Protestant Benevolent Societies in Toronto and elsewhere in Ontario... The aqueduct schemes sent back again by Toronto city council... Col. Skinner, ex. M. P. for South Oxford, died at Woodstock.

25th.—Christmas observed as a general holiday.

26th.—Funeral of Lieut.-Col. Skinner, took place at Hamilton... Indian Native Congress opened at Madras.

27th.—Francis II., last King of Naples, died.

28th.—Annual meeting Commercial Travellers' Association held at Toronto.

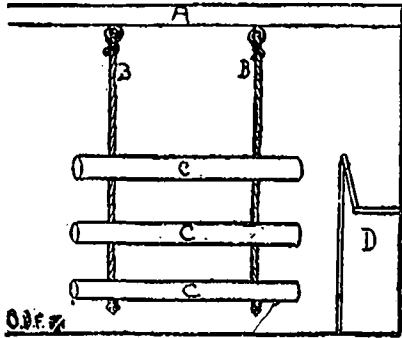
29th.—Mr. Gladstone celebrated his 85th anniversary... Rev. Father Dawson died at Ottawa.

31st.—Municipal nominations throughout Ontario.



### Stall Partition.

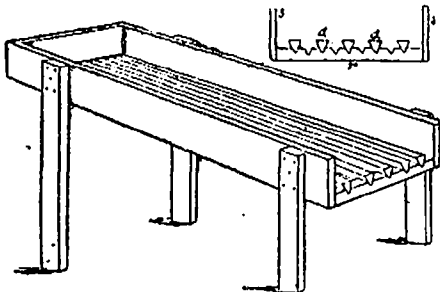
SOMETIMES a farmer is short of stable room, or if he has plenty of room there are no stall partitions. With the design here given, a box stall, shed or part of a barn floor can be utilized for stalls without danger of the horses kicking each other. The design is by Henry L. Tell, Belleville, Mich: Get three round poles eight



or nine feet long and four or five inches in diameter. About 18 inches from each end bore a hole large enough to allow a  $\frac{1}{2}$ -inch rope to pass through. String the poles on two ropes tying a knot at the under side of each pole at the desired height so the poles will be parallel and about 1 $\frac{1}{2}$  feet apart. Suspend this between the horses from above by tying the rope to the joist. Staples can be driven in for this purpose. Keep the lower pole about twenty inches from the floor. Two-inch boards or 6 x 8-inch joists will answer if poles are not at hand. In the illustration presented herewith, *a*, is the joist from which the partition is suspended; *b*, *b* the ropes; *c*, *c*, *c* the poles, and *d* the manger.

### Potato Sorter.

In sections where quantities of potatoes are raised, some kind of a sorting apparatus is a necessity. The work of picking over potatoes is something that costs too much to be done by hand, and yet potatoes classed into even sizes always sell better than in uneven lots. In the great centers of commercial production assorting is always done by some sort of a machine, which varies in the different sections, but is almost always homemade. The one herewith illustrated, from sketches by L. D. Snook, is in use in New York State by many potato planters, and is a simple and inexpensive affair, and being adjustable it will be found more valuable than many other designs. The general form is usually made eight feet in length, fourteen inches wide at the bottom, and eight inches



DEVICE FOR ASSORTING POTATOES.

at the top, the sides being six inches high, and the whole supported by four legs nailed to the sides. Six strips eight feet in length, three inches wide and one inch thick form the bottom of the sorter seen in the sketch. The strips, *a*, are bevelled to a sharp edge at the lower side, and the rest in V-shaped notches cut into the supporting strip, *r*. By taking out or adding to the supporting strips and dividing the spaces, larger or smaller potatoes will pass

into the different boxes placed along the length of the sorter, the larger ones being discharged at the lower end, the form of the bottom strips preventing clogging. An incline of twenty inches in eight feet will prove about right, although the form of potatoes to be screened will have much to do with this, a long tuber requiring a steeper incline than a round one. If the potatoes are to be placed in the cellar one may shovel directly into the sorter, which should project from the cellar window, and when the tubers reach the cellar bottom they will be properly screened for market or planting. This will prove as effective as hand sorting and incur but one tenth of the expense.

### The Harvey Motor.

THE experiments of Mr. F. H. Harvey, of Douglas, Wyo., in the matter of raising water for purposes of irrigation have been attracting more than usual attention. He has been operating on the Platte river, in Wyoming. The river alternately runs in level stretches of several miles in length, and then over short ripples with a fall of from thirty to sixty inches.

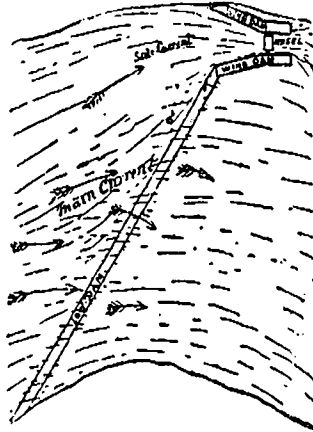


FIG. 1. POSITION OF DAM.

Mr. Harvey has located his motor on one of these ripples, and is now watering 200 acres with it, and he claims it has a capacity for 500 acres. The river is about 850 feet in width at this point, and makes a sharp curve at the head of the ripple. A low dam of piles and loose stones was built, starting at the head of the ripple and running diagonally from the right

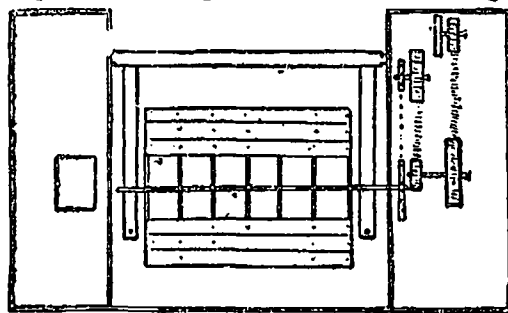


FIG. 2. FRONT VIEW OF MOTOR.

bank of the stream to a point about 150 feet from the left bank. From the end of this dam a strong wing dam, 10 feet wide and 12 feet high, was built at an angle of about 20 degrees toward the shore for 50 feet, and then for 12 feet directly down the stream. A similar wing dam

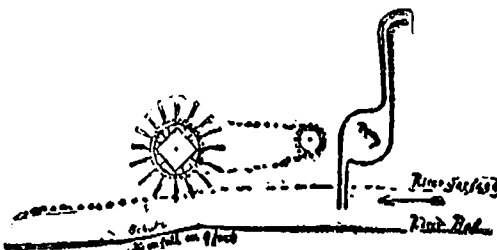


FIG. 3. END VIEW OF MOTOR AND PUMP.

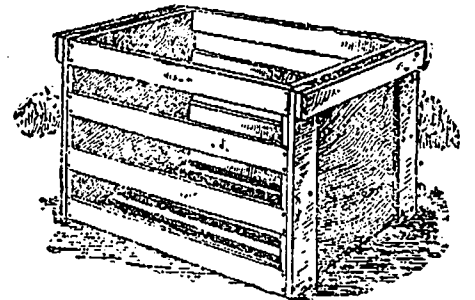
was constructed from the shore, the two forming a letter Y, with the stem down stream. The main current of the stream passes over the dam, but the side current goes to the Y, where the

water wheel, a combination of the undershot and breast wheel, is placed. With a wheel ten feet in diameter and 14 feet long, 60 horse power is secured, which operates a 3 $\frac{1}{2}$  inch centrifugal pump, which raises 1000 gallons of water per minute to a height of 16 feet. The same power will run a five-inch pump, raising 7000 gallons per minute. The wheel is hung on a swinging frame, and is balanced by a counter weight, and its gearing is a sprocket wheel, enabling it to be raised or lowered to fit the rise or fall of the river. The plant, it is said, can be put in for about \$800.

The affair is a complete success, and will no doubt be largely imitated. The accompanying illustration, Fig. 1 gives a clear idea of the position of dam, Fig. 2 the wheel, and Fig. 3 shows a cross section of the wheel and its connection with the pump.

### Useful Crates.

THE grower of apples and potatoes has long recognized the advantage of placing these products direct from tree or furrow into convenient crates in which to store them away for the winter in the cellar, or to haul them to market. The tubers are protected and the good condition of the product secured. The objection usually is that a large number of crates is required where one's potato field is extensive, but well-made crates once provided will last almost a lifetime, and become better and better appreciated the longer they are used. The particular



crate illustrated here has solid ends and slat sides and bottom. The ends have two upright cleats and a horizontal cleat at the top, which forms a handle on each end, by which the crate is readily carried. Cut nails and spruce boards would best be used in the construction of these crates, for cut nails and spruce lumber do not readily part company. The crates can be made in bushel or two-bushel sizes, as preferred, being made of such a size in length, breadth and height as will make them fit most economically into one's cart or farm wagon box, taking care always to keep the cubic contents the same as that called for in a bushel or two-bushel measure. Where one is hauling his crops direct to market, such crates will help very materially in selling the crops, for if the dealer can receive them in the crates, pile them up in his cellar without emptying, and bring them up and sell them from the crate as wanted—when the empty crate can be stored away for its owner, he will be much better pleased, and will often accept produce thus crated in preference to the offering of another which must be handled over at least twice, increasing labor and injuring the fruit. The making a supply of such crates will afford occupation for some rainy days, when other work cannot be done.

Do not allow dug wallows to be made around the watering tanks, as troughs; in addition to the filthiness, there is danger of injury from falling later on.

THE farm chores form the principal work of the agriculturist during the winter months that are now upon us. There are few farmers but what consider doing the chores as work, although the labor might seem to an outsider as a species of recreation. Labor is sweet to just such a degree as we take interest in it, and so it is with the duties involving the winter side of farm work.

**Libe Stock.**

DAIRYMEN don't have to borrow money, so financial stringency does not affect them as it does other people. The reason is that they are never "out of a job" and receive their money at frequent and regular intervals.

Go down to the "slough," and after cutting a hole in the ice, get down and drink, and you will learn enough to realize that if you make your cow's face wintry winds tramping after ice water, you are not much of a man after all.

At this season of the year there is much lost time. It will pay to give the matter of feeding more attention. Cutting the food is regarded as an expense of labor by some, but there is always a gain in weight of the animals when the food is prepared.

THERE is room in the profession for good butter makers, but no room for those who become indifferent to the application of many essentials in the daily routine of work. In the matter of butter making, be sure that your neglect will find you out.

It has been demonstrated by practical experiments that it costs less to produce lean meat than to produce fat, which means that when a variety of food is given there will be a greater gain in weight, with a fair production of lean meat, than when the animal is provided with corn exclusively.

PORK is worth so much money this spring that farmers cannot afford to neglect the sows that are about to drop their pigs. If left in the woods, about the straw stacks, or even in old sheds, very wet or bitter cold weather may overtake them just at the critical time, to the certain loss of many or all of the tender little pigs. There is time enough, if one takes advantage of it, to fit up some old stalls or other convenient places to make the sows comfortable. There is no need of extra warmth, provided the pen is dry and properly bedded. Leaves are better than straw to keep the little pigs from getting tangled up as they crawl about. The sow should be put in the pen some days before parturition, to accustom her to the new surroundings, and if she is of a wild nature she should be disturbed as little as possible. Under such conditions sows are very irritable, and often become restless.

THE *Sheep Breeder* says: The sudden cessation of exercise in the open air which results from the confinement in winter quarters is very apt to result injuriously to the rather weak brain and nerves of the sheep. The owner is sometimes surprised on going to his flock, lately taken off the fields, to find perhaps one of his fattest, finest wethers lying on its side in an unconscious condition or already dead. When it is skinned the blood will be found settled thick and dark just beneath the skin, more especially on the side which was underneath. In all probability the animal died of apoplexy. The engorgement of the blood on the under side of the body was simply caused by the law of gravitation, the excess in the system settling down through the vascular system to the lowest points. The animal was full of blood, strong and robust; but when it was all at once and completely deprived of exercise this full supply of blood was not consumed as formerly. The appetite continues as good as ever for a while and the alimentary system goes right on creating more, clogging up the body. That powerful organ, the heart, keeps right on driving the life fluid in every direction, forcing it into the lungs,

forcing it into the brain, anywhere where a little of the surplus can be disposed of. Presently some of the thin blood-vessels begin to give way. As long as these are only in the extremities, no serious injury results, but as soon as a rupture occurs in the encephalon the liberated blood speedily fills up every crevice, and the brain is squeezed into insensibility and soon into death. Even before rupture occurs the pressure on the brain and nerves is so severe as to give unmistakable evidences of it. The pressure on the optic nerves partially suspends their function and the animal becomes nearly or quite blind; the eyes are dilated and staring wide open, but the sight is gone from them. The power of co-ordination is lost; the animal can no longer direct its movements—it reels and staggers against the wall. When the congestion is not immediately fatal by being pushed to the point of rupture, but it is long continued, finally the brain itself becomes inflamed and the animal is crazy. Apoplexy is intoxication, inflammation of the brain is delirium tremens. The remedies are the same as for apoplexy. Active purging should be resorted to by means of a large dose of salts or raw linseed oil repeated if needed.

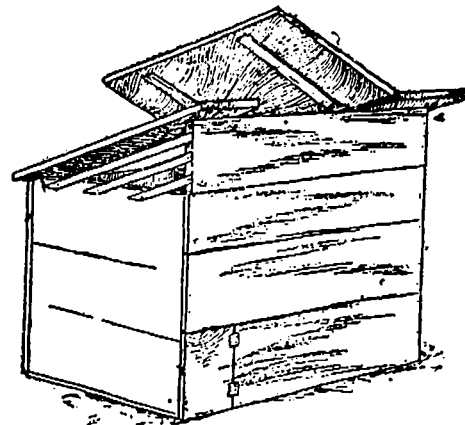
**New Year Resolutions for the Dairy.**

- I resolve—
- That I will work on business principles.
- That I will not let the skim milk go to waste.
- That I will use only a good brand of dairy salt.
- That the cows shall have pure water to drink and plenty of it.
- That I will see that the cows are warm in winter and have shade in summer.
- That I will sell my good butter and my poor cows, for it is profitable to do so.
- That I will temper the cream with a thermometer instead of with my finger.
- That I will not let another drought catch me without something to tide it over with.
- That I will carefully weigh and record each churning and keep an account with my cows.
- That I will use harmless artificial coloring when the cows fail to color the butter.
- That I will not make butter as my grandmother did, but as progressive dairymen do now.
- That I will tell my representative in the legislature to support pure food bills and measures aimed at the illegal sale of oleomargarine.
- That I will use parchment paper to wrap my butter or cover it in the tub, instead of using muslin or old rags.
- That before planting time comes I will investigate the subject of cow peas, scarlet clover, ensilage and various roots.
- That I will not be cajoled into thinking that there is any better place to make butter than on the farm.
- That I will look into the subject of improved portable creameries and see if they are not handier and more economical than pans or crocks.
- That I will investigate the matter of box stalls, adjustable stalls and patent ties and see if there is not something more humane than the old stanchions.
- That I will not be penny-wise by begrudging the cows plenty to eat, or practise false economy by using old fashioned appliances when new ones can be had at reasonable prices.
- That I and my neighbors will give a deaf ear to any smooth-tongued "creamery shark" that comes into our neighborhood and wishes to put a \$2,500.00 public creamery for \$4,500.00.
- That I will champion the cause of progressive and intelligent dairying as the best, most profitable, and most pleasant factor in a system of diversified farming.

LEGHORNS of any variety will do well mated twenty females to one male. If the larger kinds eight or ten will give the best results.

**The Poultry Yard.**

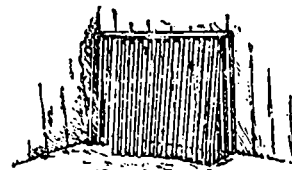
THE illustration herewith shows how dry-goods boxes have, for a number of seasons, been adopted by Mr. D. Webb, for use as chicken



SERVICEABLE CHICKEN COOP.

coops. The box is placed in its natural position, one side being made higher by a single board. This provides for a sloping roof, the central portion of which is hinged as a door to give access to the interior of the coop. The space left open at the ends is slatted to keep out intruders, and give good ventilation to the coops in warm weather. The roof should extend over the sides and ends several inches, which will aid in keeping the interior dry during a shower, or rain storm. In selecting dry goods boxes for this purpose it is well to select such as are made with matched boards, in which case, though the boards run lengthwise, instead of up and down, very little, if any, rain will enter.

THE device shown herewith, from a sketch drawn by Mr. W. Donnel, will enable a poultry keeper to secure cleanliness in the food and drink he supplies his fowls. The slatted arrange-



TROUGH FOR POULTRY.

ment is placed upon one side of the fowl house, a portion of the front being hinged, to permit food and drink to be placed close behind the slats, long troughs being used for the food, to permit all the fowls to eat at once. The enclosed space can be made long enough to provide accommodations for all the fowls which are kept on the place.

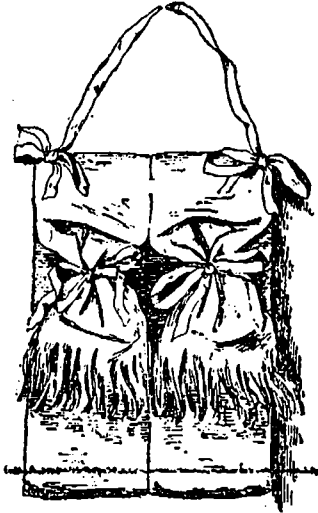
HEREIN lies the great cause of frequent failures in the poultry business. People say a hen scratches no more for twenty chickens than for one, and think a man or woman can care for 100 fowls as easily as for 20, but it is as much a fallacy there as when applied, as it often is, to the human family. One may expend as much money and care in providing for one child as others do in bringing up a half dozen, but that does not prove that six children need no more than one.

WE need more information in regard to what will constitute a "well-balanced ration" for laying hens, moulting hens and hens that are taking a vacation from laying, as well as for growing chickens. Experiment stations and agricultural chemists have been able to give invaluable information in regard to feeding milk cows of the various breeds, even to those who had already a lifetime of practical experience in the business. Now can they turn their attention to the hen and the egg-production.



**Photograph Case.**

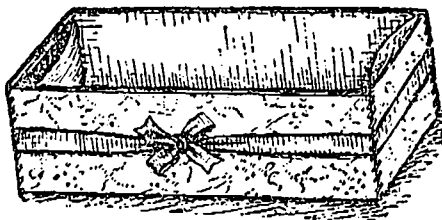
Buy a half yard of each of two colors of ribbon which is two and a half inches wide. Sew the pieces together all the length except four



inches. Fold back six inches, and sew the edges together to form a badge, hemming the top edge.

Then fringe out the two separate ends, and tie around each a Tom Thumb ribbon an inch above the fringe. Five inches from this end sew on a piece of the same narrow ribbon to hang it up by, and it is ready for use.

**Convenient Work Box.**



Grandma used a pasteboard shoe box for her work, because it was "long enough for shears and knitting needles, and narrow enough to set on the window-sill." So "the girls" made her a pretty work-box that pleased her so much we gave a sketch and description of it for others to use.

Two shoe-boxes were taken apart—five pieces in each. The pieces from one box were each covered on one side with pretty figured silk; those from the other were covered with plain blue satin—each end-piece having in addition a double fold of bias satin tacked across it, half-way up, to form a pocket. Then each pair of pieces, a plain and a figured, were overhanded together, and the parts were joined so as to bring the figured silk outside and the plain satin inside for the lining of the box.

A blue satin ribbon was tied around the box, and was fastened in place by a row of stitches in coarse blue silk at each corner. Similar stitches might be carried all around the top if desired, and cotton padding might be used between the lining.

The little pockets are very handy, and do not shorten the length of the box at the bottom.

**A Pretty Footstool.**

The foundation of this stool is only a block of soft pine wood. It is nine by twelve and five inches thick, and the corners and edges are rounded by being whittled off a little. A layer of cotton batting covers the block all over; it is

kept in place by twine, which is wound over and across it a few times—just enough to hold it till the cover is put on.

Two pieces of gaily-flowered carpeting, each thirteen by sixteen inches, are required for the cover; one is laid over the top, folded smoothly down at the corners and held in place by a few tacks; the other is fitted over the bottom in the same way, and a brown leather strap two and



a half inches wide, tacked on with little gilt tacks, is bound around the stool.

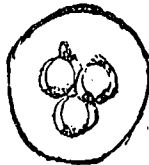
Where the ends of the strap meet, at one end of the stool, the overlapping end is arranged to form a loop by which the stool may be handled or carried about. The stools are solid and pretty, will bear rough treatment and never tip over.

**Jewellery Case.**

Two round pieces of very heavy cardboard, each measuring seven inches in diameter. Cover each with white cotton flannel, and sew the two together around the edge overhand.

Make three strips of the board, each measuring eight inches long and one inch wide, cover with cotton-flannel and place on to the round piece, as in the picture, sewing securely to the bottom and also to each other in the centre. These form the cases for the jewelry.

Take a strip of light China silk, measuring

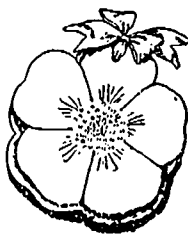
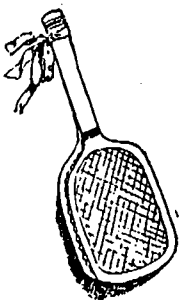
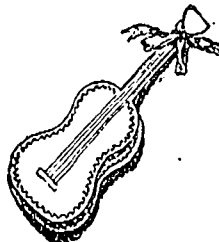


thirty inches one way and five inches the other, sew together and gather in the centre, first fringing the edge about an inch. Attach to the case in the centre with long stitches.

Over this gather one yard of white lace, three inches in width, and over the middle of that place a bow made of ribbon one and one-fourth inches wide, the same color as the silk.

**Needle-Books.**

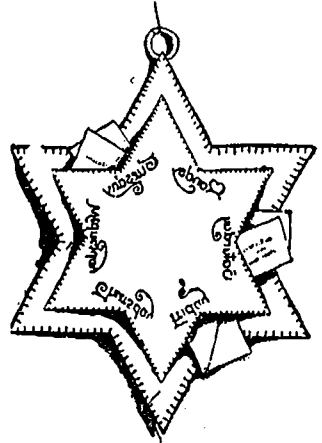
PRETTY little needle-books may be made in a variety of shapes, to suit the special tastes of those who are to receive them; a palette for the artist, a racket for the tennis player, a guitar for the musician, a wild rose or pansy for the flower-lover, etc.



These are all made by cutting pieces of cardboard in the required shape, and covering them neatly with velvet or silk. Insert several leaves of white flannel and tie together with ribbon. The outside may be decorated with some simple design, embroidered in silk as suggested in the drawing.

**An Engagement Calendar.**

Cut two stars, each with six points, from paste board. Cut one about ten inches, and the other seven inches, from point to point. Cover the larger one with velvet or silk, and the smaller



one with silk or linen, in pretty shades. On the smaller one have stamped the days of the week, which can be printed with a brush and gold paint, or outlined with silk.

Now sew the two stars together by catching at each point. Buttonhole a small ring with silk the same shade as the larger star, and attach to one of the points to hang it up by. This is to hold letters, cards or invitations, for each day.

**Home Millinery.**

If you once learn to tie a bow, you will have no difficulty in trimming a hat. It takes practice, however, and it is well to practice upon some old piece of lining silk or old ribbons. The Virot bow, as it is called, requires a piece of bias silk one yard long and three-eighths wide; the edges are turned in and blind-stitched, making it double, and the two ends are sewed together so that it becomes a circle. Then fold it in four loops, two on either side, the upper ones a trifle longer than the lower ones, and the lower edges of all the loops drawn tighter than the upper edges. Holding the loops in place with the fingers the left loops are turned over the right ones and tied into a tight knot. This makes a knot in the center and confines the bow without sewing. Fasten it to the hat with a fancy buckle and stick pins.

**REVIEWS.**

NOTABLE features of *Outing* for December:—"A Jamestown Romance," "The Japanese Theatre," "Sledging in Norway," "Boating in Samoan Waters," and "A Woman in the Mackenzie Delta."

The *Chautauquan's* new department of *Current History and Opinion* is receiving favorable comment from all quarters, and is attracting many students to take up the special course of study for which it is designed.

*Scribner's* Christmas number presents a remarkable list of popular writers, including Rudyard Kipling, Robert Grant, H. C. Bunner, Brander Matthews, and George W. Cable. The illustrating is fine and largely of a novel kind.

PROFESSOR Drummond's article on "D. L. Moody and his work" is one of the special features of *McClure's* for December. The second "Napoleon" article, with numerous illustrations, also appears.

"INDUSTRIAL Agreements and Conciliation" are topics treated by Hon. C. C. Kingston, Premier of South Australia, in the *December Review of Reviews*. This magazine is now publishing a series of articles by leading Australian statesmen, of interest to American readers.

The *Century* for December contains the second portion of its "history of Napoleon," and many bright and readable articles besides. This magazine has expeditions in various parts of the world pursuing investigations the results of which, it is expected, will be very important.

The *Youth's Companion* has just published a calendar for 1895 which is a work of art—indeed, three works of art in one. Scenes typical of three seasons of the year. Winter, Summer, Autumn, are shown. The first picture represents a mother and son pausing in their walk in a snowy field, across which a rabbit is running, much to the amusement of the boy. This attractive calendar and a full Prospectus for 1895 will be sent free upon application, to any one considering a subscription to *The Companion*. From no other paper can so much entertainment and instruction be obtained for so little money (only \$1.75 a year). If you subscribe now you will receive the paper until January 1st., 1895, and for a full year from that date, including the Thanksgiving, Christmas and New Year's Double Numbers. *The Youth's Companion*, Boston, Mass.



### CHIC-A-DEE-DEE.

THE ground was all covered with snow one day,  
When two little sisters were busy at play,  
When a snow-bird was singing close by in a tree  
And merrily singing his chic-a-dee-dee,  
Chic-a-dee-dee, chic-a-dee-dee,  
And merrily singing his chic-a-dee-dee.

He had not been singing his tune very long,  
Before Mary heard him, so loud was his song,  
"Oh! sister, look out of the window," said she,  
"Here is a dear, little bird singing chic-a-dee-dee,"  
Chic-a-dee-dee, chic-a-dee-dee,  
"Here is a dear little bird singing chic-a-dee-dee."

"Oh! mother, do get him some stockings and shoes,  
A nice little hat, and a cloak if you choose;  
I wish he'd come into the parlor, and see  
How warm we would make him, poor chic-a-dee-dee,"  
Chic-a-dee-dee, chic-a-dee-dee,  
"How warm we would make him, poor chic-a-dee-dee."

The bird had flown down for some pieces of bread,  
And he heard every word little Mary had said,  
"What a figure I'd cut in that dress?" thought he,  
And he laughed as he warbled his chic-a-dee-dee,  
Chic-a-dee-dee, chic-a-dee-dee,  
And he laughed as he warbled his chic-a-dee-dee.

"There is One, my child, though I cannot tell who,  
Hath clothed me already, and warm enough, too,  
Good-bye! for who are so happy as we,"  
And away he went singing his chic-a-dee-dee,  
Chic-a-dee-dee, chic-a-dee-dee,  
And away he went singing his chic-a-dee-dee.

### The Horse as a Reasonable Being.

WHEN the late Mr. Rarey, the horse-trainer, visited England, I listened with much attention to his preliminary discourse, and watched his mode of dealing with horses which were supposed to be incorrigibly savage.

After the performance I called upon him, and after giving the meed of praise which was due to his treatment of the horse, took exception to his discourse.

He told the audience that he conquered the horse because he possessed reason, while the horse possessed only instinct. I pointed out that his practice and his theory were diametrically opposed to each other, and that if the horse did not possess reason, that of the man would have nothing to act upon. In fact, he conquered the horse not because it had no reason, but because the reason of the man was superior to that of the animal.

His first move was to assure the horse that he was not afraid of it, and was not going to hurt it, so that it need not be afraid of him. His next move was to make the horse believe that he was the stronger of the two. Therefore, he never shouted at the animal, nor attempted to drag it by force.

Still less did he beat it, or inflict pain upon it. He scarcely spoke above his breath, and always in a gentle and soothing manner, and no matter what the horse might do, never lost his temper. But he so contrived that the horse found itself obliged to do anything which Rarey required from it, without knowing how or why. When Rarey strapped its fetlock to its knee, the horse found that it could not release itself. Its intellect was not able to discriminate between the strap and the hand which fastened it, and so the animal believed that the man was stronger than itself, and yet would not hurt it.

This important lesson having been learned, and the horse having placed absolute confidence in him, the next lesson was to teach it that it need not be afraid of other objects which might terrify it.

I have seen a horse fly at Rarey as if it had been an infuriated tiger, screaming with fury, snapping with its teeth, striking with its fore legs, lashing at him with its hind feet. In twenty minutes Rarey was running about the area, with his hands in his pockets, and the horse trotting after him with its nose on his shoulder.

The horse is a curious being. It is at once the most timid and the most courageous of animals. A horse which will shy or balk at a

feather blown by the wind, will charge a battery without flinching, simply because it has been taught to face cannon, and the feather is strange to it.

Acting on this principle, Rarey then taught the animal that it need not be afraid of the most alarming sights and sounds, and in a short time he could open an umbrella in the horse's face, fire all the chambers of a six-shooter revolver close to its head, or beat a drum under its nose, without causing the slightest alarm. So rapidly does the horse learn under a good instructor, that scarcely half an hour was occupied, first in taming the horse, and then in teaching these lessons.

Not long ago I witnessed an interesting scene at one of the great junction stations in England. Three of the principal lines converged upon it, and carriages are perpetually being shunted from one line to the other. This task is mostly performed by horses, and the animals know their business so well that they are not even accompanied by drivers.

One of these horses was standing alone in the middle of the tracks, and facing a locomotive. Suddenly the engine blew off steam in front, enveloping everything in vapor, and producing a roar loud enough to startle even a strong-nerved man. When the vapory cloud was dissipated, there was the horse standing in his place. He was perfectly calm, and had not moved a foot.

Country-bred horses are always afraid of railway-trains when they first see them. But, when they find that the noisy, rushing monster does them no harm, their reason tells them that they need not be afraid of it, and in a day or two they will graze close to the railway track, without even lifting their heads as the train rushes by.

When bicycles first came into use, horses were sadly frightened by them, and in England an attempt was made to suppress bicycles because horses were afraid of them. Wiser counsels, however, prevailed, and in a short time the horses treated the bicycles with perfect indifference.

So, if a horse should balk or shy, the very worst plan is to drag at the bridle, shout at it, or beat it. The creature balks or shies because it is frightened needlessly at something. The rider or driver should therefore try to find out the cause of the horse's alarm, and should show it that there is no ground for fear. No balky horse ever baffled Rarey, and if we would treat our horses in the same considerate manner, we should in the first place see fewer balky horses, and in the next, we should soon be able to cure the animal of this vice, which is only another name for groundless fear.

I had occasion to drive to Streatham, a place about five miles distant from my house. On the way I noticed that the driver did not use his whip, though the road was a hilly and troublesome one. Of course I complimented him on his kindness, and was surprised when the man told me that he did not possess a whip, not being such a fool as to want one.

The same carriage conveyed me home again, and I kept a careful watch on the driver. Then I found that he did not even use the reins, but that he guided the horse entirely by his voice.

A long and steep hill lies about half-way between Streatham and my home. At the foot of the hill, the driver descended, and walked up the road, the horse following him. After we had gone about half-way up the hill, the driver turned round and said, "Now you may have a rest." He then resumed his walk. The horse went on until she reached a lighted lamp, and drew up under it, the driver continuing his walk. After a while, he turned round and said, "Now, my lady, if you are quite rested, come on."

She turned her head, looked at him as if to acknowledge his remark, and then resumed her position. She had *not* rested sufficiently.

The driver went on, and presently the horse turned round of her own accord and followed him to the summit of the hill.

Within a quarter of a mile from my house is the road which leads to the stables, and I took care to see how the man and horse would act. Just as she came to the road in question, round went her head.

An ordinary driver would have given a jerk to the opposite rein and a slash from the whip. This man did neither. He only said, "Not just yet, my lady. Straight on, if you please." And she went on accordingly.

On talking with the driver at the end of the journey, I found that he had studied the character of the horse for himself, and had acted upon his studies. He said, and rightly, that the horse wants to obey man. It only wishes to find out what are its driver's intentions, and will carry them out better if it be not kept in a state of constant terror and nearly constant pain, as is the case with most horses while they are at work.

The night being a very dark one, I had scarcely seen what kind of an animal it was that possessed such a master. But while patting and praising her, I thought that her bones protruded more than might be expected, and asked her age. She was twenty-six years old, and still full of work.

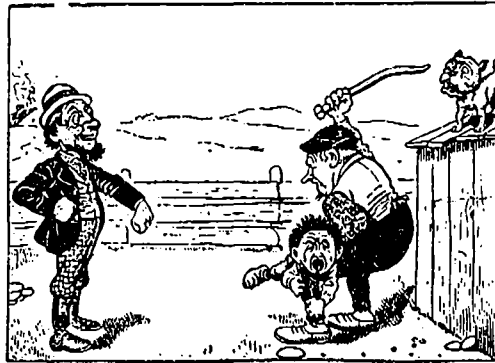
It is scarcely necessary to say that I never afterward employed any other driver, except when this man was engaged.—J. G. WOOD.



A FRIEND IN NEED.



FARMER HARDACRE—Silas Haywood, I caught your boy and his dog down in my orchard, and if you don't lick him I will, and I'm goin' to wait here till you do it, too!



—(Gloatingly.)—“That's right; give it to him for all y'r worth! It does my heart good to see a father punish a sinful son in that way.”



—Don't be afraid! Give him a good one!



—“Never mind the dog!”



—!!!—\*\*!!!!—\*\*?



THE BOY (as FARMER HARDACRE moves from the fray)—Talk about your Abraham and Isaac, father!



RUN TO EARTH.

HOW THE GREAT DETECTIVES SEIZE UPON THE EVIL-DOERS.

“OFFICER Sleuth,” said the great chief of the western city, “what report have you to make on your murder case?”

Sleuth—“Arrested a woman and locked her up sir—”

“Ah, good. Any clues?”

“Took a file of officers in and told her her husband had given the whole thing away—”

“Ah, ha! Did she show any confusion?”

“Yes, indeed. Said she was confused to know what he gave away, who he gave it to, and why the fool man didn't sell it—”

“And did she show any concern?”

“Yes, sir; she said she had only \$1 in her pocket, but if we wanted that—”

“Anything further?”

“Then we ran her husband down in his place of business.”

“Was he startled?”

“Very much. Wanted to know what it meant.”

“Well?”

“We locked him up and told him his wife had given the whole thing away—”

“Was he confused?”

“Not a bit. Said we lied; that his wife was too blank stinky to give anything away.”

“Well?”

“We told him she had confessed that he murdered the man—”

“Hah! Then he confessed?”

“Yes! Said he was ready to confess that—”

“Good! Good! Go on, sir.”

“We were the most disgusting and pig-headed lot of idiots he had ever met—”

“And you learned nothing from either about the murder?”

“Nothing.”

“Not the faintest clue?”

“Absolutely nothing.”

“And what are you doing now?”

“We have imprisoned both of them on suspicion.”

“Good! Keep a close watch on them. We are on the right track. Make them confess, if possible.”

And the sun piercing the shadows of the prairie bunchgrass, was not more vigilant than was the march of Sleuth.

A LITTLE STORY OF EDITOR DANA.

MR. DANA was managing editor and I a correspondent of a metropolitan journal. Abraham Lincoln had signed a proclamation, the first call for troops during the civil war. I think it was in April, 1861. Then I was in Washington at the time, and, being impressed in my little journalistic heart with the importance of the occasion, I ventured, as an introduction to the literal proclamation phrase, upon a quotation from a favorite hymn in our family circle, worded thus:

“We are living, we are dwelling, in a grand and awful time, In an age on ages telling, to be living is sul lime.”

“What, then, must it be to be a factor in the affairs of nations, such as Abraham Lincoln, president of the United States, who to-night has affixed his signature to the proclamation?” And then followed the Lincolnian document. Two days afterward I received from Brother Dana by mail, not by wire, a cautionary suggestion to the following effect:

“Dear Mr. Howard.—After this, if, in your dispatches you really must drop into poetry, telegraphy being four cents a word, won't you kindly wire us the number of the hymn, as we have the book in the office?”

O'Shaugnessey (as a boat passes loaded almost to the water's edge).—“Shure, if the river was but a little higher, that boat wad go to the bottom.”

Hubby.—“Well, I guess I'll have a shave.” Wifey.—“Wait till Willie leaves the room. It is so hard to break him of bad words when once he gets started on them.”

Author.—“I'm troubled with insomnia. I lie awake at night, hour after hour, thinking about my literary work.” Friend.—“Why don't you get up and read portions of it?”

We wish that it would turn about In this old world so funny That poverty and trouble were As hard to find as money.

Blobbs.—“I know a man who has no time to eat, and yet he isn't doing anything.” Slobbs.—“How's that?” Blobbs.—“He argues that time is money, and as he has no money he has no time.”

Ethel.—“Fido's barking has really given me an ear-ache.” Cousin Bob.—“Try chloroform.” Ethel.—“Is that good?” Cousin Bob.—“Fine; saturate a sponge, tie it 'round his neck and put him under a tub.”

“How are you getting along with your new servant girl?” asked the caller. “Our new servant girl!” replied the hostess with some indignation in her voice; “why, she has been with us for four days!”

Haughty lady (who has just purchased a stamp).—“Must I put it on myself?” Postoffice assistant (very politely).—“Not necessarily, ma'am; it will probably accomplish more if you put it on the letter.”

Foreman.—“Can't get that great Japanese victory in anyway unless you kill the ball game.” Editor.—“Oh, hold it over; change ‘Japanese’ to ‘Chinese’ throughout and run it to-morrow, and we'll scoop the next day's papers.”

The rain falls down, and my spirits Fall with the falling rain As I think of that borrowed umbrella I've returned to its owner again!

His mother (after the sudden change).—“Jamie, dear, go and bring in some kindling. We'll have to make a fire.” Jamie (grumblingly complying).—“You had me huntin' the ice wagon all day yesterday. Seems to me you're awful hard to suit.”

Mary.—“'on moving day).—“The missus is very particular about this brickybac mantel-clock, and says we'll have to carry it. I'll take it.” Jane.—“No; you take the baby an' I'll carry the clock. You might let the clock fall with your awkwardness.”

“Did you know that my book was out?” “No; how much?”

She.—“Do you play croquet, Mr. Mildmay?” He.—“Not without swearing.”

Brown.—“What tobacco are you smoking most of now?” Bunker.—“Other fellows.”

Patient.—“Doctor, why does whiskey make my nose red?” Doctor.—“It's because you drink it, sir.”

“I want a position for my son as an editor.” “What are his qualifications?” “Failed in everything else.”

“What did you do with the check your father-in-law gave you for a wedding present?” “Had it framed; no one would cash it.”

Kashem.—“Why don't you put a check to that fellow who is everlastingly dunning you?” Bilker.—“What'd be the use? The bank wouldn't pay it.”

Doctor.—“Ah! I see what ails you; you have a poor circulation.” Country editor.—“Great Heavens, man! But don't let it out or my paper goes down.”

“What have you got in folding beds?” asked the customer, addressing the furniture salesman. “Got one of our clerks in one and they are just trying to get him out.”

He (slightly rude).—“I called because I thought you were out.” She (sweetly).—“Well, do you know, I thought I was out, too. The maid must have thought you were some one else.”

Fond parent.—“Goodness, how you look, child. You are soaked.” Frankie.—“Please, pa, I fell into the canal.” “What, with your new trousers on?” “I didn't have time, pa, to take 'em off.”

Tommy.—“Say, paw, what is these ‘inovable feasts’ the almanac tells about?” Mr. Figg.—“Movable feasts? Movable feasts? I guess it has something to do with these traveling lunch wagons.”

Friend.—“You still employ Dr. Hardhead, I see.” Mrs. de Style.—“He's just lovely! My husband and I both like him. When we are ailing he always recommends old port for my husband and Newport for me.”

Angry customer.—“Hullo, you waiter, where is that oxtail soup?” Waiter.—“Coming, sir—hal a minute.” Customer.—“Confound you! how slow you are!” Waiter.—“Fault of the soup. Oxtail is always behind.”

“Allow me, mademoiselle, to present this to you?” “No, no, I do not wish to accept a present.” “It is a volume of my poems.” “Ah, that is different. I could not have permitted you to give me anything of value.”

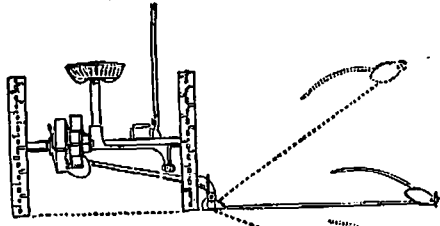
A doctor who was passionately fond of cards was called to the bed-side of a patient. He pulled out his watch, felt the sick man's pulse, and began to count, “Seven, eight, nine, ten, jack, queen, king, ace.” The patient immediately burst out laughing and got well again.

A little boy writing a composition on the zebra, was requested to describe the animal and to mention what it was useful for. After deep reflection, he wrote, “The zebra is like a horse, only striped. It is chiefly used to illustrate the letter Z.”

Little Miss Cityboarder. (who finds country fare very appetizing).—“I guess we'd better go home pretty soon, mamma.” Mrs. Cityboarder.—“Why so, darling?” Little Miss Cityboarder.—“Cause I eat so much here that if we stay a month I'm 'fraid I won't live a week.”

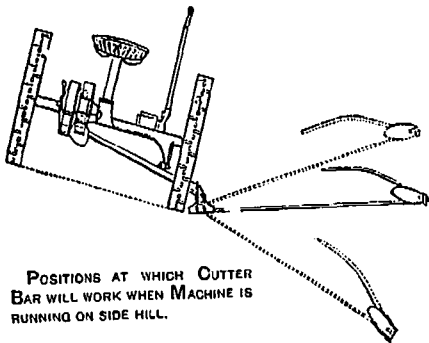
The Mower Illustrated Below is  
**NOT DRUNK**  
As the Pictures seem to Indicate.

THESE pictures are designed to make clear a very important point which every farmer should take into consideration when purchasing a mowing machine. Does it make any difference whether you cut and save



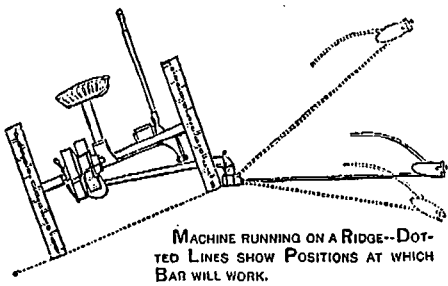
DOTTED LINES SHOW POSITIONS THE BAR WILL ASSUME WHEN MACHINE IS WORKING ON A LEVEL.

all the crop or a part of it only? Do you know that most mowing machines pass over and leave uncut a large percentage of the hay crop? It is true. The secret of saving the entire crop is



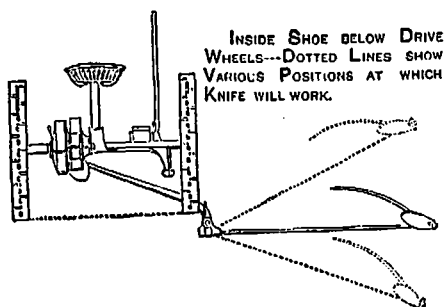
POSITIONS AT WHICH CUTTER BAR WILL WORK WHEN MACHINE IS RUNNING ON SIDE HILL.

the Flexible Cutter Bar. Careful scientific investigation showed the MASSEY-HARRIS experimental corps what was necessary. A thorough knowledge of the necessary mechanical



MACHINE RUNNING ON A RIDGE—DOTTED LINES SHOW POSITIONS AT WHICH BAR WILL WORK.

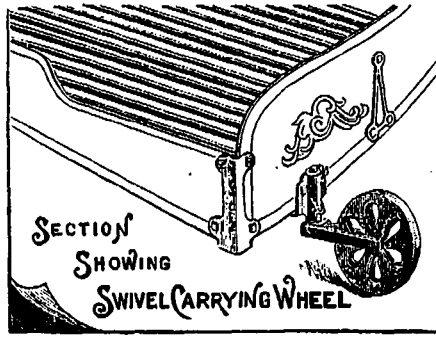
principles and a wise application of them have accomplished the desired results in the Mowing Machines made by that Company. The illustrations show the positions the Brantford Mower



INSIDE SHOE BELOW DRIVE WHEELS—DOTTED LINES SHOW VARIOUS POSITIONS AT WHICH KNIFE WILL WORK.

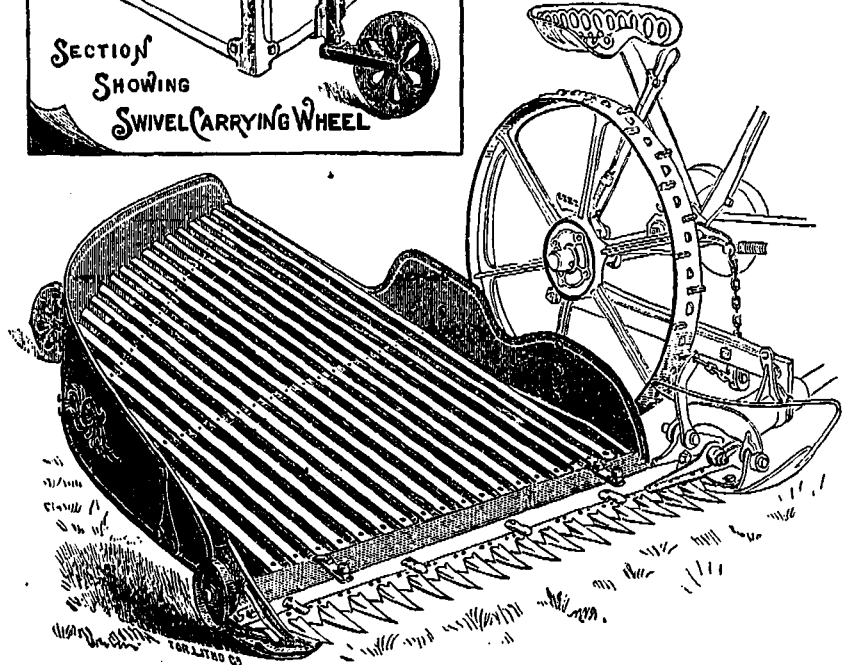
will assume when at work. In meadows and clover fields with uneven surface, deep furrows, high ridges, etc., in order to secure the crop without waste, a mowing machine must not only be provided with a sufficient range of tilt

Fig. 2.



FULLY PROTECTED BY LETTERS PATENT.

Fig. 1.



to admit of proper adjustment, but the bar must be thoroughly flexible and so attached to the machine as to run at various angles without interfering with the cutting properties of the knife. The Brantford Mower Bar will do this. When it is at work the bar may be instantly raised, without stopping the knife, to a sufficient height to pass over ordinary stumps, stones, or other obstructions, or the bar will, of its own accord, follow along a side hill while the machine is running in a ditch, and cut the same as ever. The inside shoe will also drop below the level of the drive wheel (a strong point in favor of this Mower), thus admitting of cutting in the bottom of a ditch or furrow while the machine itself is travelling on a ridge. Some of the positions the bar will assume are illustrated on this page. The dotted lines show the various angles in which the cutters will work in the positions indicated. It will thus be seen that the Brantford Mower has a bar which is in every sense thoroughly flexible.

It has great capacity, and will do good work where other Mowers fail; and, further, it will cut and save a good part of the crop passed over and left uncut by other machines.

A New and Useful Device.

**Clover Table Attachment for Mowers.**

In cutting clover for seed in the ordinary

way a large portion of the seed is lost unless the crop is cut when it is very green, which, of course, is not desirable. Various methods have been tried, some of which are very clumsy to say the least. The MASSEY-HARRIS inventors have once more shown their usefulness and have perfected a very simple and yet inexpensive device which answers the purpose admirably. It consists of a table attachment for mowers (Fig. 1), which can be readily attached to either a Toronto or Brantford Mower of standard width cut (4 ft. 3 in.) The table is very light, yet amply substantial, and it does not materially affect the draft of the machine. The rear corner is carried by a light swivel wheel (Fig. 2), which floats it over the furrows smoothly and causes it to run lightly. The table is quite deep and standing over it, hinged to the front (at the cutter bar) is a rack of smooth hard wood slats. This slat rack inclines, being six or seven inches above the table bottom at the back. As the clover is cut and falls on these slats the very ripe heads and lots of seed, otherwise entirely wasted, by falling between the slats into the table, are saved. A man following rakes off the clover as cut and occasionally lifting up the slat rack fills a bag with the seed thus saved.

Many of these Clover Tables were in use last season, and several farmers have written us expressing their great satisfaction with the device, and saying they had saved \$40.00 to \$50.00 worth of seed the first season.

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LOSSES PAID, \$145,691,920.

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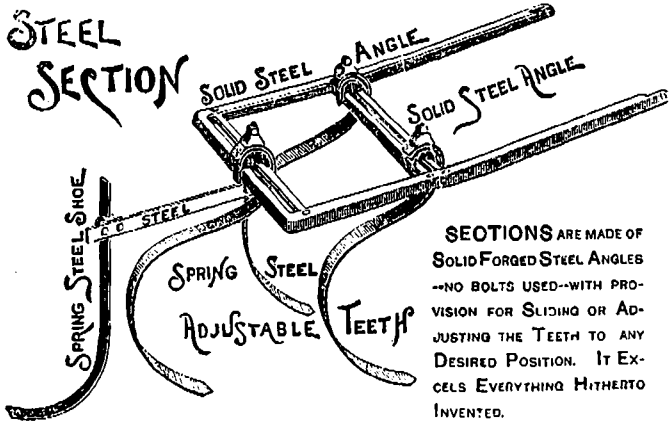
G. F. C. SMITH,  
Resident Secretary, Montreal.

OFFICE:  
20 WELLINGTON STREET EAST.

JOS. B. REED,  
Agent, Toronto District.

# STEEL

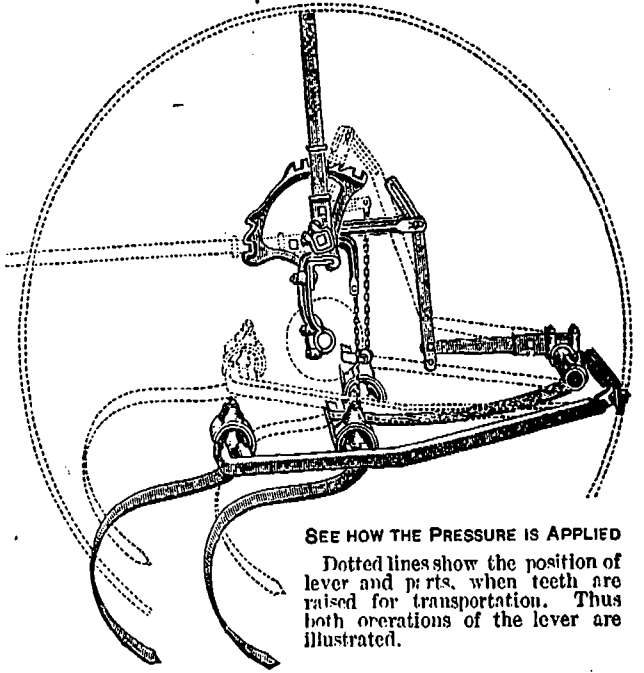
## IS ABOUT THE ONLY MATERIAL USED IN A MASSEY-HARRIS CULTIVATOR



- STEEL TEETH, OIL TEMPERED
- STEEL PRESSURE SPRINGS, OIL TEMPERED.
- STEEL HELPERS, OIL TEMPERED.
- STEEL SHOES, OIL TEMPERED.
- STEEL ANGLE FRAME, SOLID.
- STEEL SECTION FRAMES, SOLID.
- STEEL AXLE.
- STEEL SEAT SPRING.
- STEEL LEVER.
- STEEL CHAINS.
- STEEL ARMS FOR SHOES.
- STEEL PRESSURE SHAFT.

SECTIONS ARE MADE OF SOLID FORGED STEEL ANGLES—NO BOLTS USED—WITH PROVISION FOR SLIDING OR ADJUSTING THE TEETH TO ANY DESIRED POSITION. IT EXCELS EVERYTHING HITHERTO INVENTED.

### ONE LEVER DOES IT ALL.

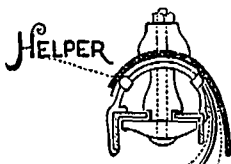


SEE HOW THE PRESSURE IS APPLIED  
Dotted lines show the position of lever and parts, when teeth are raised for transportation. Thus both operations of the lever are illustrated.

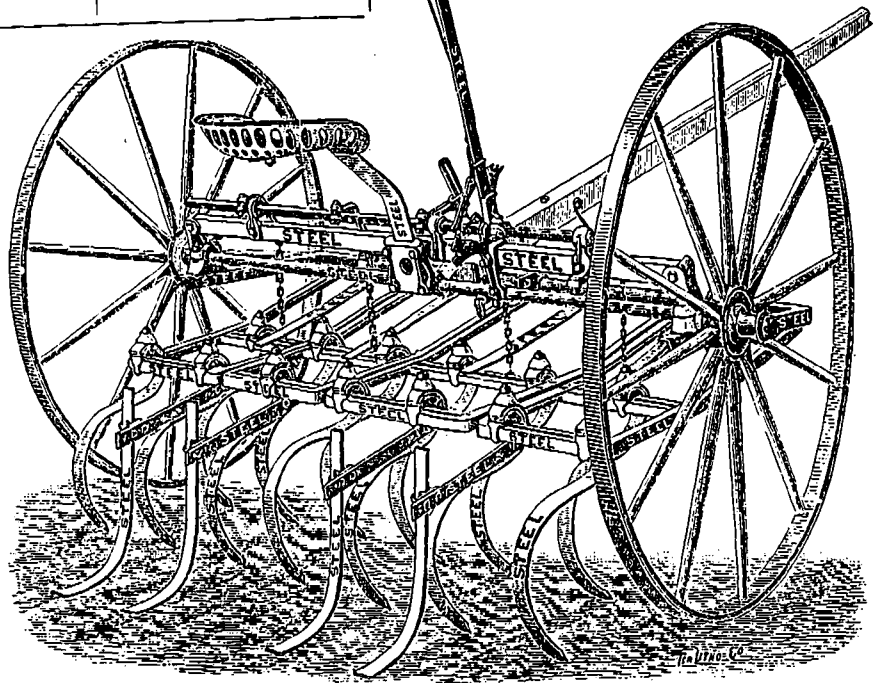
### GREATEST SALES ON RECORD.

IN ONE YEAR from the day the first sample was erected in Melbourne, over 1000 were shipped to Australia. THOUSANDS NOW IN USE THE WORLD OVER.

No Cultivator can be a success without this HELPER.



THE HELPER SAVES THE TEETH (PATENTED) THE TEETH ON A MASSEY-HARRIS CULTIVATOR WILL NOT BREAK.



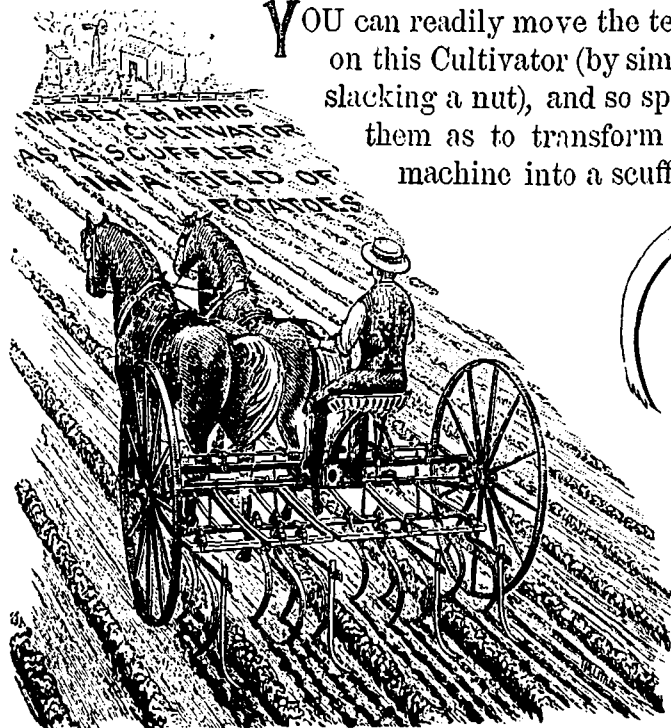
THE MOST WONDERFUL CULTIVATING IMPLEMENT EVER INVENTED.

IT WILL WORK WELL IN ANY LAND.

### Solid Angle Steel Frame.

Fully Patented in all Leading Agricultural Countries.

YOU can readily move the teeth on this Cultivator (by simply slacking a nut), and so space them as to transform the machine into a scuffler.

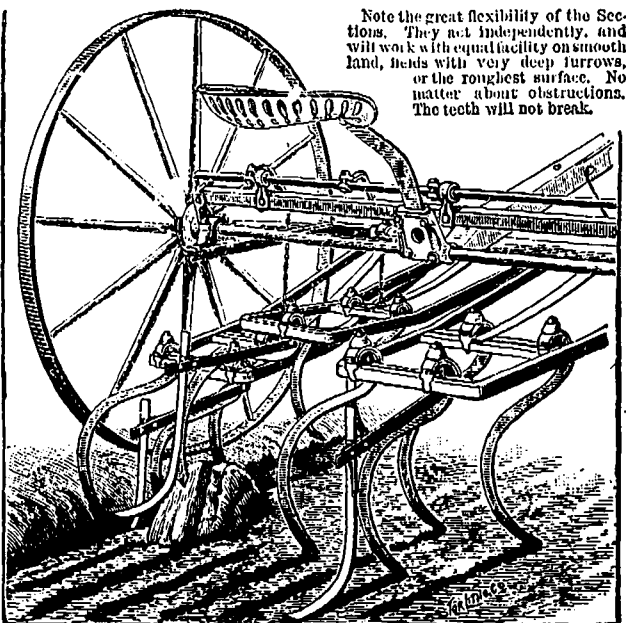


MOVABLE TOOTH SEAT

**\$ A FEW DOLLARS \$ EXTRA**  
will buy a complete Seed Box, with Distributors and Scattering Tubes, which four bolts will attach to this Cultivator, thus forming a MASSEY-HARRIS SECTIONAL SEEDER.

### MARVELOUS FLEXIBILITY OF THE SECTIONS

Will do good work on any kind of Land.



Note the great flexibility of the Sections. They act independently, and will work with equal facility on smooth land, heads with very deep furrows, or the roughest surface. No matter about obstructions. The teeth will not break.



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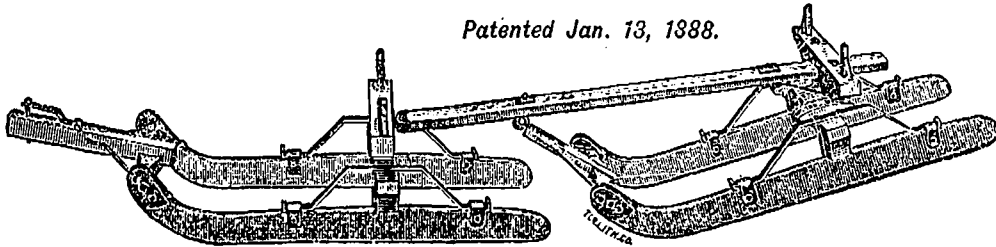
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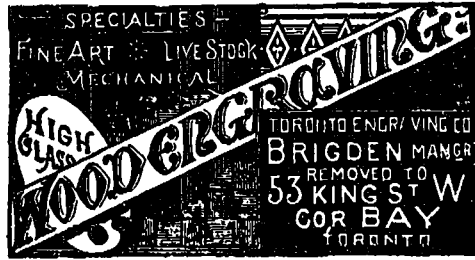
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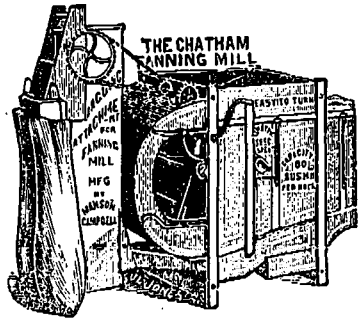
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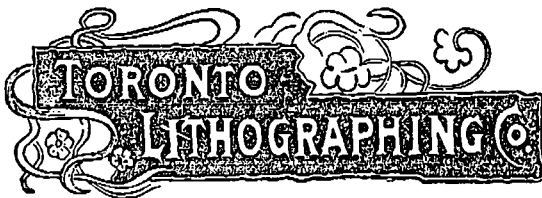
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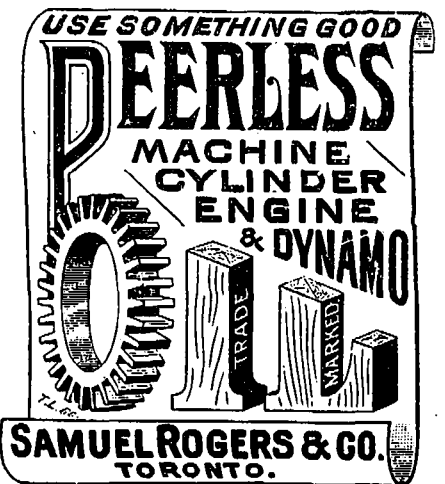
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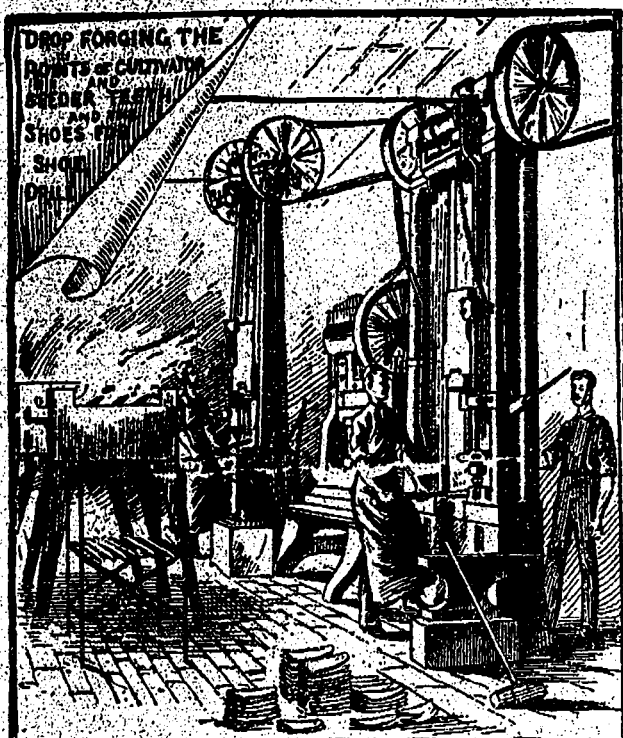
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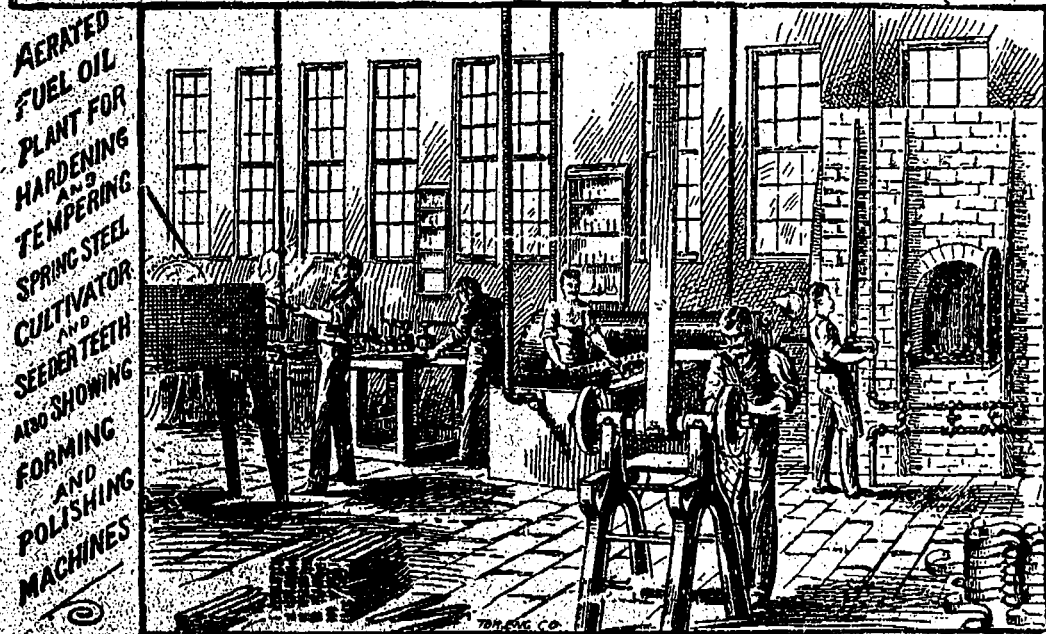
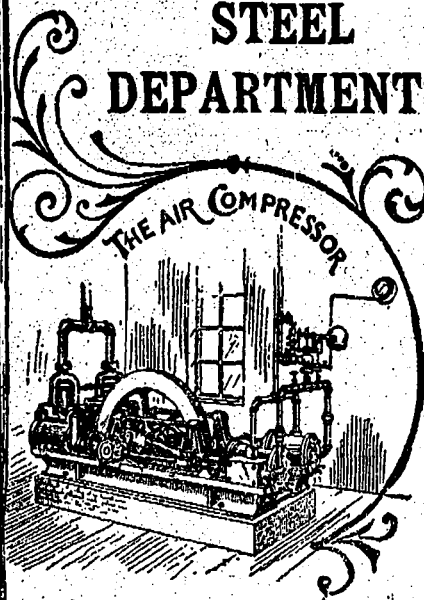
# SPRING STEEL TEETH THAT WON'T BREAK. HOW THEY ARE MADE.

New Patented Process.

Patents Owned and Controlled by Massey-Harris Co., Limited.



VIEWS IN THE  
FUEL OIL  
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This new process of manufacturing Spring Steel Teeth produces a finer grade of teeth than otherwise possible. The Fuel Oil is atomized into the furnaces and ovens under high air pressure and creates a remarkably regular, even heat, which results in the hardening and tempering of the steel teeth being perfectly performed, and without any burning or injury to the steel.

This plant has been introduced at very heavy expense, and is further evidence of the efforts of MASSEY-HARRIS CO., Ltd., to make the very best goods in the very best manner. The process is fully patented.

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# VERITY PLOW CO. LTD.

## VERITY PLOW RIDING ATTACHMENT.

Any Plow can be quickly made a Riding Plow by using this Attachment.

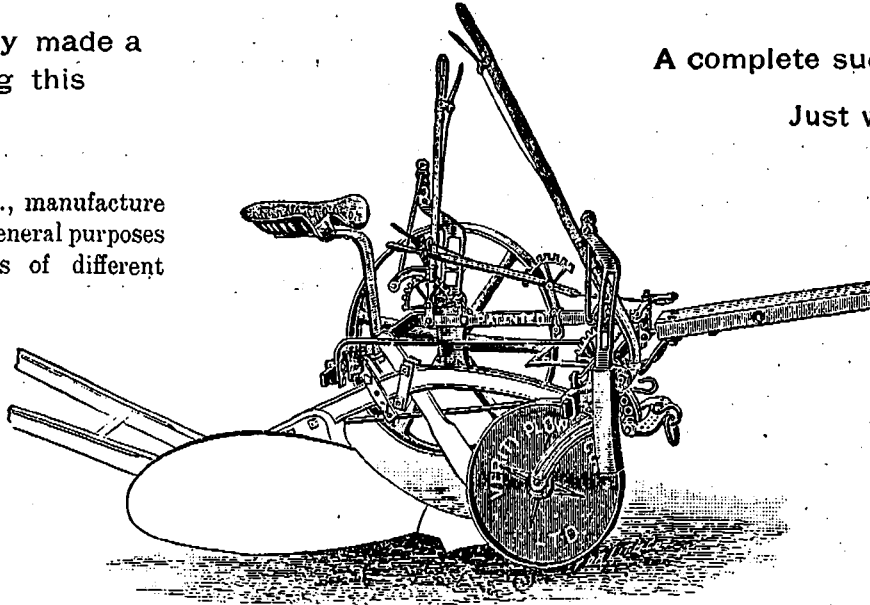
A complete success.

Just what was wanted.

You need it. Try it.

The VERITY PLOW CO., Ltd., manufacture a large line of Plows for sod and general purposes suited to the varying conditions of different countries.

American Soft-Centre Steel  
MOULDBOARDS  
on all our Plows.

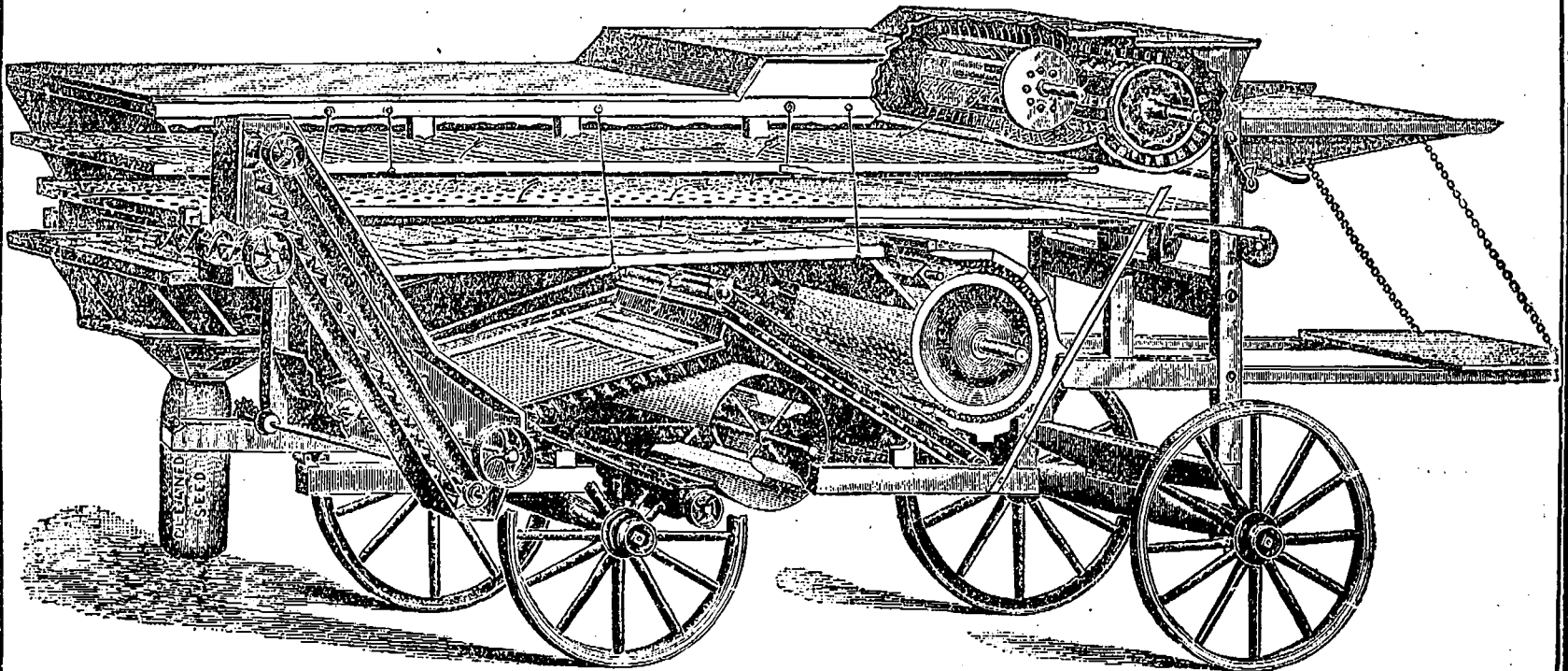


Our works at Brantford are equipped with the latest and best appliances, including the most approved devices for hardening and tempering steel, also an elaborate aerated fuel oil burning plant, by which process alone the best results can be obtained.

# VERITY PLOW CO. LTD.

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## MONITOR CLOVER HULLER.



Skeleton Cut, showing Interior of the "Monitor" Clover Huller and Tailing Elevator.

Has been thoroughly tested in Ontario for two seasons, and has satisfied both Thresher and Farmer that it has no equal.

The art of Clover Threshing, Hulling and Cleaning has been Revolutionized by the SAWYER & MASSEY CO., Ltd., Clover Huller, the "Monitor."

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