

• Massey's Illustrated •

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• Massey's Illustrated •

(PUBLISHED MONTHLY.)

A Journal of News and Literature for Royal Homes

NEW SERIES.]

TORONTO, CANADA, NOVEMBER, 1895.

[Vol. 7, No. 11.]

Written for MASSEY'S ILLUSTRATED.

The St. John River Country.

CARLETON CO., NEW BRUNSWICK.

BY W. F. BURDITT.

PICKING up in Woodstock, N.B., a copy of the midsummer number of MASSEY'S ILLUSTRATED, I am reminded that here some time since I parted from its readers with a promise to return again to the subject, if not to the place. It so happens that we meet here again though many hundred miles of travel have since intervened. I have already remarked on the bustling air and business activity of this little town. Being so near the American border it seems to have partaken somewhat of the spirit of Yankee hustle, while there exists between it and the twelve mile distant town of Houlton, Maine, a wholesome spirit of rivalry or emulation in regard to public improvements and all the indications of progress and prosperity whether public or private. Woodstock, in the newness of its streets and buildings, has an appearance of youthfulness quite misleading as to its real age. This is due to the fact that in former years it has been several times badly scorched by fire; but since the establishment a few years ago of a good water supply service the town has enjoyed almost complete immunity from such visi-

tation and may now expect to grow old gracefully, only reminded of its former insecurity by the heavy insurance rates still maintained by the companies, presumably to reimburse themselves for past losses.

The St. John River is here spanned by a magnificent steel bridge nearly half a mile

long—a Provincial Government work, completed last fall. The superstructure, made and erected by the Canadian Bridge and Iron Co. of Montreal, consists of ten spans of about 200 feet each, and one of 260 feet over the principal channel, all resting upon massive piers of granite masonry.

There has been the usual amount of squabbling in regard to the site selected and charges of jobbery and corruption, etc., which seem to be a necessary accompaniment of the carrying on of any public work in Canada. Some of them who are familiar with the playful eccentricities of the St. John River during freshet time, and who pretend to understand just when and where it is safe to obstruct his mighty current, predict that these massive piers of granite will be swept away like so many piles of driftwood before the first heavy run of ice; others aver that a better and safer site could not have been selected; while the visitor, unaffected by local political jealousies, will admire the bridge as a splendid piece of engineering work as creditable to the Province and its builders as it must be serviceable to the community.

Crossing the bridge and climbing the hill upon the opposite side of the river something like a bird's eye view of the town and surrounding country is attained. In the foreground almost beneath our feet flows the river, divided just below the bridge by an island. Away to the right the river's course, winding among the hills as it comes

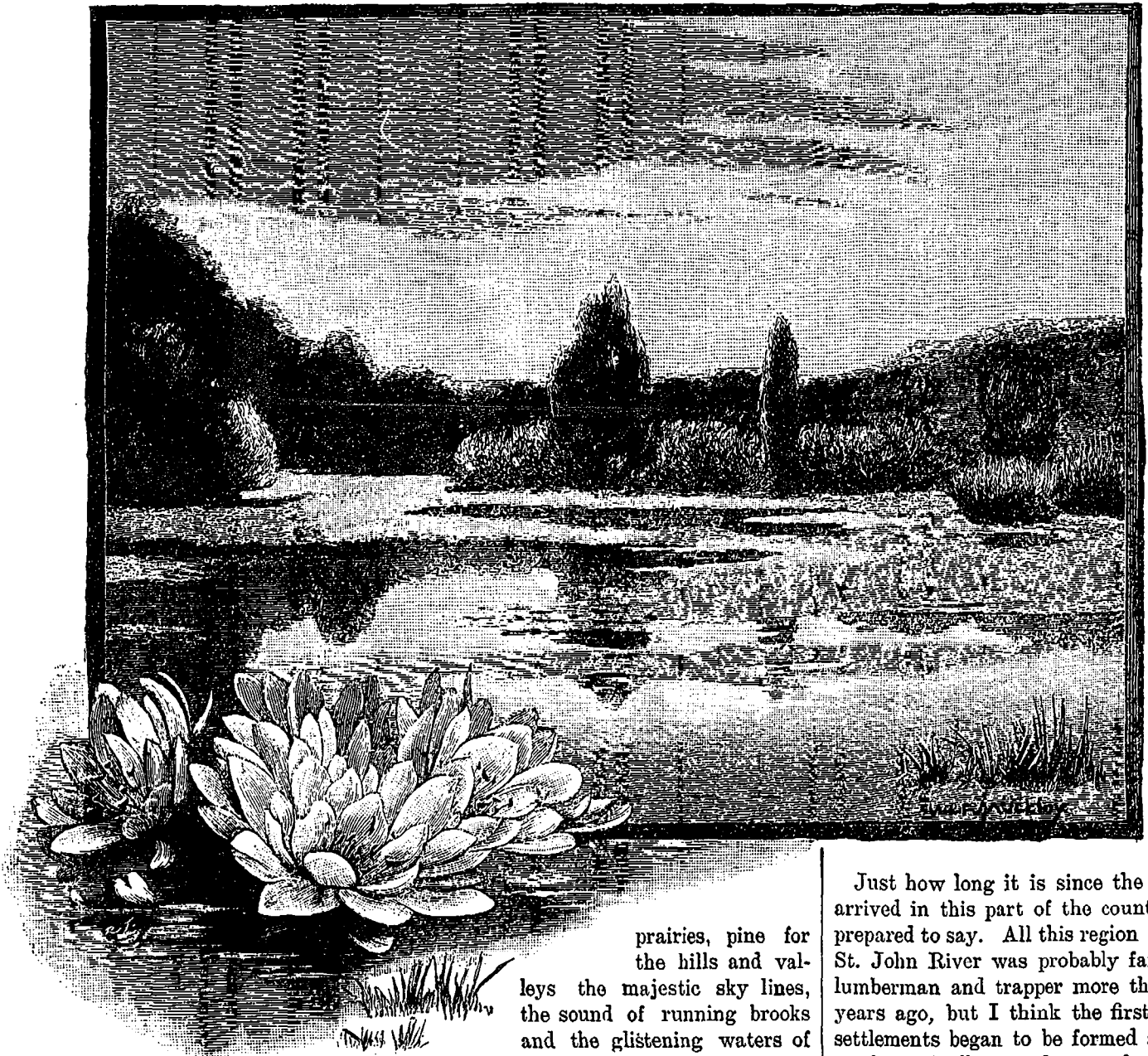


from the north, may be traced for several miles; crossing it in the mid-distance are the lattice girders of the bridge which here carries the C. P. Railway over to the east bank, using another mid-stream island as a stepping stone. Opposite to us the town itself is seen in one of its most picturesque aspects, though Woodstock is a pretty place from almost every point of view. Beyond and back of the town the rolling upland stretches away, gradually ascending toward the horizon.

In this upper part of its course the St. John River flows between high banks in a narrow valley which in places partakes almost more of the nature of a canyon than a valley. Since the ice age the river has cut its way down

There is one high hill in particular about half way on the road from Woodstock to Houlton, from which a panorama greets the eye such as it would be difficult to surpass in any country. Undulating hills and valleys alternate with wide stretching fertile plains; cultivated fields are everywhere diversified by patches of woodland; farm houses glisten white among the deep green foliage of shade trees, and nowhere has the country been wholly denuded of its splendid growth of hardwood, principally birch, beech and maple, which half a century ago completely covered almost the whole of it in forest primeval. No wonder that those who part from such scenes as these in the hope of acquiring wealth more rapidly on the western

refers rather to the superior climatic conditions and levelness of the latter country than to any superiority in natural fertility of soil. This, according to one of our best authorities, Mr. Edward Jack, C.E. of the Provincial Crown Land Survey, is only a small portion of an extensive belt, 70 to 100 miles wide, of fertile country, the great bulk of it still an unbroken forest, stretching right across the northern part of this province; but the country on the east side of the river is more broken and hilly or even mountainous, and I doubt whether the land is as good, except here and there in limited areas, as is that in the west side of the river. At all events the latter seem to have been preferred by the early settlers.



through a depth of one or two hundred feet of builder clay, leaving in successive flats and terraces, now far above high water level, well defined indications of where the banks and bed of the river at different times existed in succeeding bygone ages. Hence those who follow the usual course of travel by road or rail along the river bank shut in on either side by banks still higher, seeing nothing beyond, can form no conception of the character and extent of fertile country through which they are passing. It is only from one of the many hill tops such as this one opposite Woodstock or another at Florenceville that any adequate idea can be obtained of the beauty and fertility of this section of country.

prairies, pine for the hills and valleys the majestic sky lines, the sound of running brooks and the glistening waters of their native province, until at last many of them return acknowledging that notwithstanding such advantages as the "Great West," may possess, there are after all few countries better to live in than New Brunswick.

In Carleton Co., N.B., on the west side of the St. John River and lying between it and the United States boundary, is a strip of country about fifty miles long with a breadth varying from about twelve miles at its southern extremity to only two or three miles at the northern limit of the county, which for agricultural purposes can hardly be surpassed in any portion of the Dominion. It will at least compare favorably with any district I know of in the older provinces, with the exception of the Western Ontario peninsular and this exception

Just how long it is since the first settlers arrived in this part of the country I am not prepared to say. All this region of the Upper St. John River was probably familiar to the lumberman and trapper more than a hundred years ago, but I think the first agricultural settlements began to be formed about Woodstock, gradually extending northward along the river front, during the early years of the present century. At Florenceville, twenty five miles north of Woodstock, the first clearing was made, I am told, about seventy years ago. From that time forward during the second quarter of the century, although every acre of land had to be reclaimed from an impenetrable forest of hardwood timber, the country was rapidly settled, land contiguous to the river being first taken up and the clearings gradually pushed backward on the west side of the river, toward Uncle Sam's domain until now, I believe the whole of this area is occupied, there being in the lower part of the country seven tiers of farms between the river and the United States boundary. In those days there were no

traceless prairies within human ken to tempt the immigrant with promise of easy reclamation and quick return for labor expended, so that once the fertility and productiveness of the soil became known the difficulty of clearing it of its forest growth was not considered a great obstacle and the land was taken up much more rapidly than has any similar area since that time.

A large portion of every farm in this section is now under cultivation, fairly good highways intersect the country in every direction, and small villages and hamlets occur at frequent intervals. A drive from Woodstock in a north-westerly direction as far as Centreville, a thriving village about half way between the river and the boundary line, taking the visitor for about twenty-five miles through the heart of this region, enables him to form a good idea of its character and capabilities. Good dwelling houses and farm buildings are the rule, and a good deal more taste is displayed in external decoration, the planting of shade trees, etc., than is usual, I regret to say, in the rural districts of this province. Road-side fences, with their accompaniment of underbrush and weeds, have been generally discarded, so that fields are cultivated right out to the margin of the road. Farmers of Carleton County, generally speaking, keep good stock and keep it in good condition, drive good teams, use improved machinery—Massey-Harris implements are to be seen on every hand—and the country, in fact, bears an appearance of thrift and prosperity considerably in advance of that met with in most other sections of this province.

The average size of farms in this locality is probably about 150 acres, and about two-thirds of each farm—still speaking of averages—may be said to be under cultivation. The principal crops grown are hay, oats and potatoes. Not only are oats found to be better adapted to the soil and climate than any other cereal, but the feeding of teams in the lumber woods during the winter affords a local market for a large part of the crop at fairly remunerative prices, and hence they are grown to the almost total exclusion of other grains. A portion of the hay crop also finds a near-by market in the lumber woods, the remainder of it being shipped to St. John and Boston. Potatoes, which are the chief dependence of farmers in the neighboring county of Aroostook, Maine, are here relegated to third place as a money-

producing crop. Having, in the case of potatoes, to depend upon the same market for disposal of his surplus product, with the American duty against him, the New Brunswick farmer is at a decided disadvantage as compared with his Yankee neighbor. The McKinley tariff had a considerable effect in discouraging the growing of potatoes on this side of the line, and though the difference is not now so great, they are not, in this county, grown very largely in excess of local demands. Without reference to official statistics, I should estimate the average acreage of oat crop in this part of Carleton County at about 30 to 40 acres per farm, and the average yield at about 1200 bushels. Very few farmers in the district of which I am writing thresh less than a thousand bushels, while two thousand bushels and upwards is a more usual crop. As to prices,

promptly met at maturity, has been deferred.

Florenceville, already mentioned, is a village on the west bank of the St. John River about twenty-five miles above Woodstock, at which point is another fine bridge, a wooden one, built ten or twelve years ago. The railway, having crossed the river a mile or two above Woodstock, runs along the east bank for a distance of nearly fifty miles to Perth, where it again crosses to the west side. Between these points only one bridge, that at Florenceville, crosses the river, and though there are numerous ferries, this being the only bridge in such a long distance, Florenceville becomes as a natural consequence the shipping point for a large part of that fine agricultural section of which I have been writing. Not only so, indeed, but previous to the opening of the Bangor & Aroostook Railway last winter the produce of a

large section of Aroostook County, Maine, found its outlet at this point, coming through Centreville to Florenceville and across the bridge here to this station, where as many as twelve or fifteen car loads of produce have sometimes been shipped in a single day. The Aroostook County produce was of course shipped in bond, under supervision of customs' officers, and sent through in sealed cars to Bangor and Boston. It is not surprising, however, that when shippers were paying only \$1.00 per barrel for New Brunswick potatoes, while they could afford to give \$1.60 for those grown across the border, their tubers sometimes very mysteriously and suddenly changed their nationality, becoming, as it were, naturalized American citizens in



RACHEL'S TOMB.

the average price of oats in the fall, delivered at the nearest railway station, would be about 30 cents per bushel, and of hay, up to last winter, about \$8 per ton pressed and delivered at railway. During the past winter, however, the price of hay has been unprecedentedly low, due partly to the magnitude of last year's crop, and partly to the decreased demand in cities, caused by the displacement of horses by electricity as a motive power for street railways, etc., and also to a certain extent, no doubt, by the extended use of bicycles. During last winter \$4 to \$5 per ton has been all that dealers could afford to pay for the best hay pressed and delivered at railway stations in this county. Farmers have been reluctant to accept such low prices, with the result that many hundreds of tons of hay were carried over, and payment of bills, which would otherwise have been

the course of a night; or that carloads of potatoes, although shipped in bond and duly sealed by Uncle Sam's custom's officers, were sometimes confiscated by other officers at destination on suspicion that not all of them had been grown in the right kind of soil. But since the opening of the rival railroad on the other side of the line all this American traffic has been cut off, and although Florenceville still ships more produce probably than any other station on the line, and is the entrepôt for several car loads of Massey-Harris implements in the course of a season, it does not present the scenes of activity it used to when the farmers of Aroostook County were compelled to reach their markets over the C.P.R. Still, Florenceville is a comparatively lively place, with every prospect of steady growth.

Opening the Great Lakes to the Sea.

THE boldest plans hitherto offered for a ship-canal between Lake Erie and the seaboard have none of them contemplated less than thirty-five locks, and one of the most feasible would have required fifty-five. To be adequate for the traffic they would bear, these locks would have to be as capacious as the new lock at Sault Ste. Marie, the largest and finest in the world. The latter is 800 feet long, 100 feet wide, and 21½ feet deep, and is costing more than \$5,000,000. With locks like the Sault, the cost for lifts alone for the contemplated ship-canal would be at least \$175,000,000 on the St. Lawrence route, and upwards of \$250,000,000 on what is known as the Oswego route, that is to say, from Oswego to the Hudson. So long as nineteenth-century engineering was unable to advance beyond the lock invented by Leonardo da Vinci, about the time that Columbus discovered America, the problem could not be solved. The cost would have been too great for even governmental undertaking.

It has remained for an American engineer to cut the Gordian knot by the invention of a new lock, exceedingly simple in design, easy and cheap of construction, and quickly and inexpensively operated. In 1890 Chauncey N. Dutton, a young Pittsburg engineer, took out in the principal countries in the world letters patent for what he described as a pneumatic-lock. His design, revolutionary as it was, seemed, on the whole, so simple that engineers stared in wonderment that no one had thought of it before. Colonel Haskell had already applied the compressed-air principle to the pneumatic dry dock, now in use in all countries. Mr. Dutton proposed simply to make the pneumatic dry into a wet dock by building up the side walls and putting in end gates between them. Simple as this device appears, it puts navigation hydraulics upon an entirely new basis, and, in the judgment of the most eminent engineers, must revolutionize canal construction all over the world.

Merely to indicate the meaning of this new invention, it will now be possible to construct huge ship-lifts of equal size, and at least eight times as high as the greatest lock now in existence. Two locks, each lifting 160 feet, could replace the twenty-five locks now required along the Welland Canal. The cost of these new locks, built as large as the new lock at the Sault, would not be more than \$3,000,000 each. They would pass a ship from Ontario to Erie in an hour, where it now requires a day.

It is from the invention of the pneumatic-balance lock that Mr. Dutton has developed his huge scheme for a maritime canal, which has recently been before Congress and the Legislature at Albany. It will extend from the mouth of the Welland Canal on Lake Erie, descend, by a pair of locks set tandem, into the Niagara River at a point about opposite Lewiston, utilize and enlarge the present Canadian canal system along the St. Lawrence as far as Lake St. Francis, and there fork in two directions; one arm will reach by a

new canal to Montreal, and thence by the St. Lawrence River to the sea, while another will extend from Lake St. Francis to Lake Champlain, reverse the current of that lake, and reach from the lower end of Champlain to Waterford, on the Hudson River. It will involve only about ninety miles of artificial canals, and afterwards fifteen miles of this will be cut out by the construction of a new canal from Lewiston, on the Niagara River, to a point above the Falls on the American side. The project will require the expenditure of a vast sum of money, but Mr. Dutton has associated with him some of the best known engineers in the country, together with a number of heavy capitalists, and it is proposed to construct this gigantic system without a dollar of subsidy from either the Canadian or United States government. The Canadian Govern-

ment, in chartering the North American Canal Company two years ago, gave it the right to use the summit levels of the Canadian canal system along the St. Lawrence and across the Welland Peninsula, to acquire and enlarge any present locks, and to construct new locks and canals as will be required to complete the enterprise. Such national legislation as is needed in this country has been introduced in Congress by Senator Allison, of Iowa.

Specifically, Mr. Dutton proposes to build a canal equipped with locks of sufficient size so that an ocean freighter like the *Cevic* may sail at river speed from New York to Chicago, and that without material interruption. He proposes a canal system with locks of 26 feet draught, 65 feet wide, and 510 feet clear length, which will lift vessels carrying 12,000 tons of freight. In place of the thirty-five to fifty-five



locks required in any other plan yet proposed for a similar canal, this project involves but five. In a word, instead of an estimated expenditure of at least \$200,000,000 for locks, the latter, under the new construction, will not require more than \$15,000,000. The projector estimates that to carry the first ocean steamship from New York to Chicago will require the expenditure of \$10,000,000, and to complete the canal to enable vessels like the *Civic* to make river speed through the dredged channels will require the outlay of as much again—in all, some \$200,000,000.—*Harper's Weekly*.

The late M. Louis Pasteur.

To the greater number of English-speaking folk the personality of Louis Pasteur is only associated in connection with his famous, and, it must be admitted, oft-disputed "cure" for hydrophobia; but as long ago as 1856 he had been awarded by the Royal Society the Rumford Medal for his researches relative to the polarization of light; and the class of scientific work to which he was most devoted was always directly or indirectly the means of conferring practical benefits on humanity. Indeed, it would be impossible to over-estimate the services he rendered to the material prosperity of France, if only by the discoveries which resulted in the resuscitation of the silkworm industry.

Louis Pasteur was born at Dôle (Jura) seventy-three years ago. His father, who had served in the Grande Armée, was a tanner, and to the end of his life the great scientist retained the most grateful recollections of both his parents. He was brought up and educated at Arbois and then at Besançon. It was at the latter place that he first took up the subject of chemistry. When twenty-one years of age he entered the *Ecole Normale*, and four years later he took his doctor's degree, being appointed in 1818 Professor of Physics at Strasburg University. He remained in the province nine years, and then returned to Paris to enter once more the *Ecole Normale* as head of the Scientific Department.

One of the first to realise the importance of the young Professor's remarkable gifts was Napoleon III. It is said to have been owing to his intervention that M. Pasteur owed his appointment in 1857 as Professor of Chemistry at the Sorbonne. Even at that time his scientific researches had resulted in the most valuable discoveries, notable in what concerned all forms of fermentation; and it was through his

interest in this subject that he was led to apply to all forms of disease what is generally known as the germ theory. Among the first English medical men to acknowledge the value of his researches and to profit by his discoveries were Sir James Paget and Sir James Lister: the latter represented England on the occasion of the celebration at the Sorbonne of Pasteur's seventieth birthday. It is impossible to enumerate a tenth of the services the late French savant rendered to science and the world at large. In 1865, when the silkworm industry of France seemed on the point of ruin, Pasteur put aside the work in which he was especially

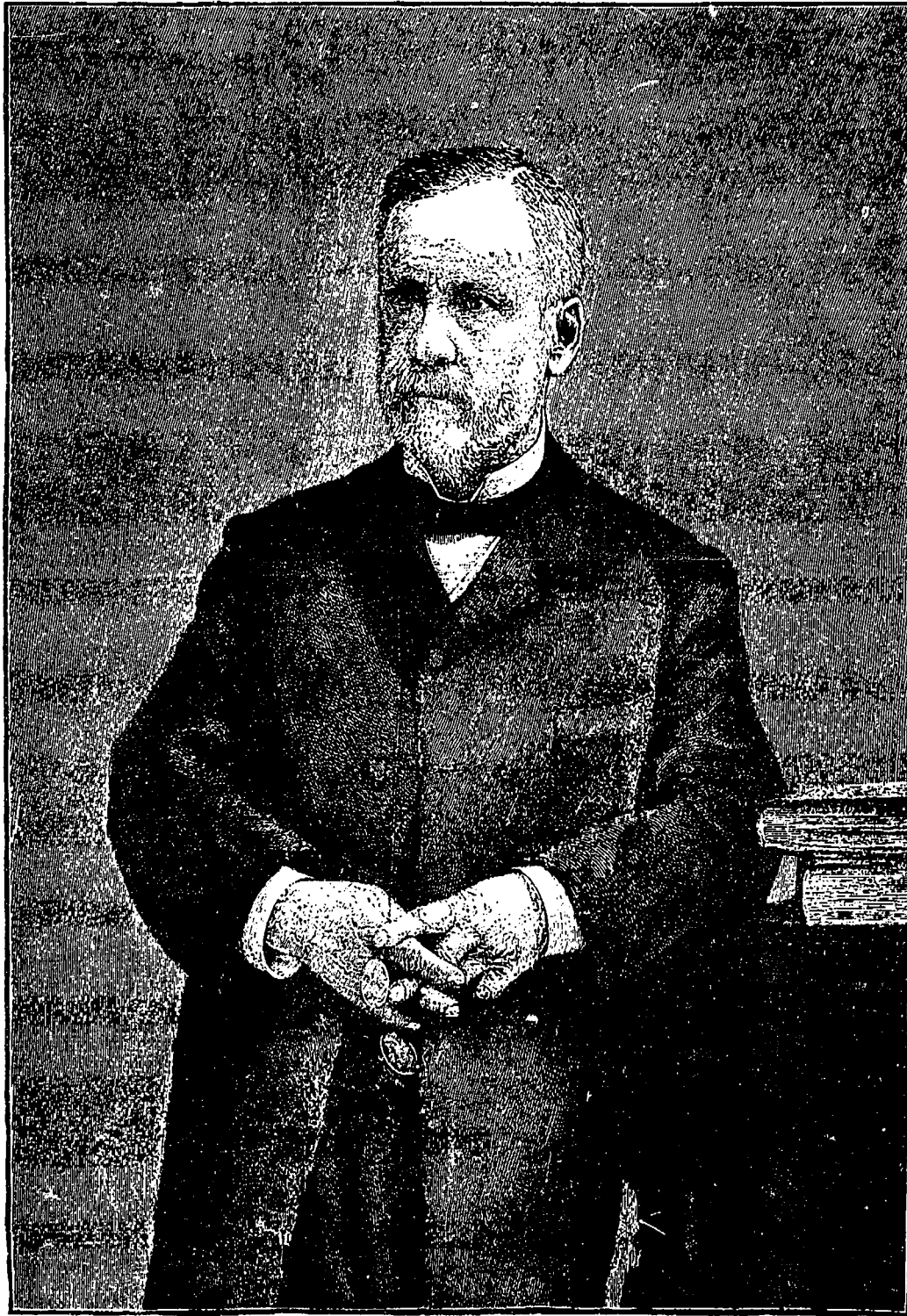
eases. When he was asked to prove his theory, he set up his laboratory on a mountain top, and showed conclusively that in pure air, where there could be no contagion of germs, no fermentation could occur, and that therefore there was no spontaneous fermentation. His friend and colleague, M. Dumas, did not believe in this theory until it was proved. He, however, was convinced by the mountain-top experiments, and, as the first chemist in France, his sanction carried great weight. Professor Tyndall, in England, also acquiesced in the value of the experiments, and said, "They have restored the conviction that life does not exist without antecedent life."

With the acceptance by the scientific world of these two original theories of M. Pasteur there came to him a generous recognition, and he was made a member of all the considerable scientific academies in the world, and he received medals the like of which none but successful soldiers usually receive. But in a certain sense he was a soldier, a combatant against the misunderstood ravages of nature. To give a list of his decorations up to this time would fill a quarter of a column of this paper.

In 1868 he had a paralytic stroke, and all his later experiments had to be carried on more or less from an arm-chair. In 1881 he announced in a lecture at the Sorbonne what may be considered the greatest practical achievement of his life—namely, the inoculation treatment of splenic fever in cattle.

During the last few years—indeed since Nov. 14, 1888—he and his wife, who has been for forty years the savant's most faithful friend and companion, had lived at the Pasteur Institute, a house and laboratory built at a cost of £100,000. There most of his experiments in connection with the treatment for hydrophobia have been conducted, and thousands of persons belonging to all nationalities have submitted themselves to his theories. Here, also, M. Pasteur gath-

ered round him quite a number of disciples, of whom the most distinguished, Dr. Roux, claims to have discovered an inoculation cure for croup. M. Pasteur leaves two children—a son, Jean Baptiste, an attaché to the French Embassy at Madrid; and a daughter, Madame René Vallery Radot, the wife of an admirable writer, best known in England for his charming life of his father-in-law, entitled "L'Histoire d'un Savant par un Ignorant," a little book of which the English edition, translated by Lady Claud Hamilton, boasts of a fine preface by the late Professor Tyndall.—*Illustrated London News*.



THE LATE M. LOUIS PASTEUR. From the *Illustrated London News*.

interested at the time, and devoted a portion of each year for four years to ascertaining the cause of the disease and discovering a remedy. This he finally did with complete and lasting success.

His next success against accepted ideas was on the subject of spontaneous generation. It was in the investigation of fermentation and similar phenomena that he this time came in conflict with the accepted idea of the scientists. He declared boldly that there was no such thing as spontaneous generation, but that life always came from life. This was the birth of the germ theory in the treatment of many dis-



THE BICYCLE ON THE ROAD.

Good health to all, good pleasure, good speed,
A favorite breeze—but not too high—
For the outbound spin! Who rides may read
The open secret of earth and sky.

For life is quickened and pulses bound,
Morbid questionings sink and die
As the wheel slips over the gliddery ground
And the young day wakes in a crimson sky!

Oh, the merry comradeship of the road
With trees that nod as we pass them by,
With hurrying bird and lurking toad,
Or vagabond cloud in the noonday sky!

Oh, the wholesome smell of the good brown earth
When showers have fallen for suns to dry!
Oh, the westward run to the mystic birth
Of a silver moon in a golden sky!

Good health to all, good pleasure, good speed,
A favoring breeze—but not too high—
For the homeward spin! Who rides may read
The open secret of earth and sky.
—Scribner's Magazine.



Massey's Magazine.

THE attention of our readers is directed to the announcement which appears on page two of the cover for this month. We will have more to say about this newly proposed MASSEY'S MAGAZINE in our next issue. Meantime MASSEY'S ILLUSTRATED looks forward to a final visitation to its long list of readers next month (December) when it will bid them a fond farewell, after which it is expected our career of usefulness shall cease. No, we will not say cease, for perhaps we have accomplished some good which shall live on long after us, and further, we know that the warm friendships we have made will continue and increase with the more magnificent and artistic magazine which is to succeed us. Let us bespeak for MASSEY'S MAGAZINE—which is to be an elegant monthly in standard magazine size, superbly illustrated, and supplied with literature from the pens of Canada's best writers—a very cordial reception. Let it be such a reception as shall be worthy the enterprise which has had the courage to place in the homes of the Dominion, a Canadian monthly at a price within the reach of all.

The price will be \$1.00 per annum, or 10 cents per single copy. Agents will have no authority to give away specimen copies, and copies will not be sent to any one whose subscription has not been paid. Note the clubbing list on page 2 of cover, where most exceptional prices are named on all leading magazines and periodicals in connection with the new MASSEY'S MAGAZINE.

THE outlook of affairs generally may be described as satisfactory. Trade is fairly good, there is a gradual and healthy improvement in the demand for merchandise and a comparatively busy winter is hoped for.

WE learn from the Ontario Department of Agriculture that it is the intention of the Government to have the lectures at the Farmers' Institute meetings this winter illustrated by stereopticon views. This is a new departure, and we think an excellent one, as it will serve to obviate any misunderstanding on the part of the audiences and greatly simplify the work of the lecturer or professor.

WHY do you expect merchants and manufacturers with whom you deal to give credit? If you go to the circus or theatre you pay cash. Express companies demand cash, so do railway companies. Why should not the country merchant demand and receive cash? Credit fosters extravagance—the purchase of goods that could in many cases be done without. It is worth a trial to see if this system could not be eradicated. Credit is responsible for more evils that affect the financial and business world than all other agencies combined.

THE retirement from the position of Deputy-Minister of Agriculture of Mr. John Lowe is an event of more than common interest to the farming community of Canada, and Mr. Lowe cannot be allowed to step down from the position he has so long occupied with credit to himself and advantage to the country without a word of praise from the agricultural community. During his long service he served under more than one good master, and saw not a few changes come over the relations of the Government to the farmers. He saw many improvements effected, and in many of them he played an important part himself. His ideas were broad and advanced, his methods careful, and his manner always conciliatory and amiable. He secured in an inordinate degree the confidence of those who had to do business with him, and was held in high esteem for his personal good qualities. It is a matter of satisfaction that he will occupy the position of technical advisor to the Department of Agriculture, and that in that connection his extensive experience will be available to the cause of agriculture. He will be succeeded as Deputy-Minister by Mr. Scarth, of Winnipeg.

TIME, that most inexorable of all tests, is on the side of improved roads. We have often added our mite to the discussion of the subject,

and aided to the best of our ability the advocates of better things. Time, as we have said, is on our side. Year after year, the opinion is steadily and surely, if somewhat slowly, gaining ground that many advantages would accrue from improved roads. It is not our purpose in this brief paragraph, to enter into the merits of the question—we hold that the thesis for good roads has been proved—but it is timely to note the progress made in the country with respect to this question. Not a few of the counties are showing a lively interest in the subject; the provincial press is devoting much space to speeches and letters dealing with one or other aspect of the question; the central association, *i. e.* the Ontario Good Roads Association is meeting with encouraging success in its efforts to promulgate its facts and figures; and in this connection it may be stated that the association has completed arrangements whereby speakers will be available at every farmers' institute, dairymen's and other kindred associations' meetings during the season; bulletins will be issued for the information of municipalities, in a number of which a plebiscite on the statute labor question will be taken during the next municipal elections; and local associations to push the question are being formed. This is a record fraught with near results, and results which it may reasonably be hoped will be of a thorough character, and to the factors which are materially exerting an influence on public opinion, may be added the bicycle, which of late has sprang into such popularity as a necessary aid to the busy man. The bicycle has gone to the farm. Farmers and farmers' sons ply the wheel and on a good road find it much handier and more expeditious than the old mare or the colt and buggy. The cause is prospering and there is reason for indulging in feelings of sincere satisfaction at the prospect in view.

AMONG the intelligent correspondents who air their views in the press on the importance of the culture of flax in Ontario, there be few who have given the subject more careful thought than Mr. John A. Donaldson, whose views deserve consideration. In a recent letter he urges attention to the subject thus: "Since flax culture is now engaging the attention of the agriculturists of our country, it may be interesting to the reading public to know of the many qualities it possesses, when compared with other crops. The most suitable land is a sandy loam, with clay subsoil, and when in bloom it is the prettiest crop that grows. It produces a large quantity of seed, which is converted by machinery into linseed oil and oil cake for feeding cattle, the latter being largely exported to Europe, after supplying our cattlemen throughout the Dominion. After the seed is removed by machinery the straw is carted out to the level grass field, and remains there from two to three weeks to dew set. In Ireland, Belgium and other countries it is put into pools of water, which produces a finer and more valuable article than in the dew-setting system. It is then brought from the field to the scutch mill, and when a finer quality is required it is put through a hackling press, which is more common in Ireland than Canada. The fine tow, after going through the hackles, is often woven into coarse yarns, for making linen towelling, etc. In Ireland, where Irish linen is manufactured in various grades, the great value of the flax plant is appreciated. The finest descriptions of table linen, cuffs and collars, linen gaiters for men and ladies' hose are among the products made from a little speck of seed no larger than the eye of a goldfinch. In the present depressed state of the wheat market, the low prices for horses, and potatoes going for nothing, this branch of Canadian industry is engaging the attention of the farmer, both here and in the North-West, more than ever before, and is likely to become one of the leading branches of an important trade. It will no doubt bring improved farms to be more saleable in the near future, and at better prices."

As a concession to the demands of organized labor, the Canadian government has appointed Mr. A. W. Wright as a special commissioner to enquire into the sweating practices alleged to be in existence in connection with some of the industries in which women and children are employed. The appointment has given satisfaction to the wage-earners, Mr. Wright being recognized as one of the ablest leaders of the working people in Canada. It is expected that the enquiry will be exhaustive and that he will report to the next session of parliament.

As evidence of what may be accomplished by "intensive farming," Mr. D. M. Macpherson, the well-known proprietor of the Allen Grove Cheese Factories at Lancaster, Ont., writes:—"I can show some things that have never been attained in farm practice, that is, to produce an estimated crop value during this summer of over \$ 5,000 on 120 acres of land, in corn fodder, grain, hay, milk and pork. 70 odd milk cows pasturing on 35 acres, giving 1,500 to 1800 pounds per day; over 100 tons of hay from 35 acres; a prospect of 700 to 800 bushels of grain from 18 acres, and 700 tons of corn from 30 acres, and 70 pigs pasturing on 2½ acres."

AGAIN has the stubborn North Pole refused to be discovered. Lieut. Peary, the Arctic explorer, has returned defeated. The North Pole has persistently turned to him the coldest of shoulders, and frigidly declined to encourage his endeavors to scrape an acquaintance. A tremendous amount of labor and energy has been expended and many valuable lives lost in trying to reach this hitherto unreachable North Pole. Many have been the efforts to reach in the midst of the world of ice the mystic city whose mirage has been seen in Alaska. But failure has been the rule; and no one has learned more than that the ramparts are high and apparently impregnable. The question comes, is it worth the lavishing of men and means on this search for a land that, when we find it, will likely be of little profit save to satisfy our curiosity.

ONE of the most important railway appointments within recent years is that of Mr. Hays, of St. Louis, who will assume charge of the Grand Trunk railway as General Manager, *vice* Mr. Sargeant. Mr. Hays comes from the Wabash, of which company he was vice-president, with a high reputation for untiring energy and great business ability. He will need all his qualifications in his new sphere if he is to succeed in bringing into concurrence English ideas and Canadian needs. But under the changes recently made in London, and the consequent visit of the new President, Sir Charles Rivers-Wilson, to Canada, the task may be regarded as more hopeful. The course of events will prove of great interest to the Canadian public, and the career of Mr. Hays will be keenly watched.

AN interesting despatch from London, Eng., on the Labor Insurance Law, gives the following passage of interest:—"It is stated that investigations have been made of the operation for ten years past of Germany's law for the insurance of laborers against sickness, accident, and old age, with the view possibly of adopting something similar to it in Great Britain. The report of the investigation shows that there has been paid on account of this insurance, from the time the law went into effect, \$437,500,000, the Government, the employers, and the employes sharing the expense. German industrials complain of the heavy tax involved in the payment of the insurance, but the report

indicates that the nation as a whole is proud of the institution. The Germans are the pioneers in this class of insurance, but Austria has partly followed suit, and Switzerland is now engaged in formulating a labor insurance law. Sweden and Norway also are said to contemplate the adoption of the German system."

AN English correspondent sends the following to the *Country Gentleman* as showing the recent development of the Danish bacon trade there: Denmark in her struggle now with the Australian colonies for supremacy in the English dairy produce market has been quietly developing a bacon industry, a very necessary concomitant to factory dairying. That New Zealand will follow suit cannot but be expected, and the English bacon pig will then only be raised for household consumption, and the question of profitable pig feeding be a more difficult one than ever. Our little bill of bacon last year was £8,083,000, for which we received 3,716,000 cwt. of bacon from abroad. Of this quantity Denmark sent 766,000 cwt., worth £2,189,000, and the United States 2,561,000 cwt., worth £5,082,000. Total import in 1893 was 518,000 cwt. less and cost £396,000 more. We have in eight months this year had 2,762,332 cwt. of bacon—including 659,303 cwt. from Denmark, and about 1,877,000 cwt. from the States—and this at a still lower price. A point to observe is that the Danish import has reached one-third of that of the United States. There are now 34 bacon-curing factories in Denmark where pig-curing is carried on on a large scale, half of them being coöperative concerns managed by the actual producers of the pigs.

No country in the world is better situated than ours in the matter of cheap food for the production of bacon. The quality of our makes is conceded on all hands to be far superior to that made in the United States. Here we have a large market ready when we can supply what is called for, and at remunerative prices.

CORRESPONDENTS are a motley crew. They are made up of all sorts and conditions of men and women too, and the farm has produced a plethora of the tribe. There is the complaining contributor whose special talent is to find fault.

There is the serious one who has a mission for the press and is jealous of its space. There is the man who has formed an ideal of what a journal should be, and strives to convert the editor. But among them all there are reasonable, kindly writers whose facts are valued, and whose considerate interest is ever welcome. To one of these we owe a genuine pleasure for the perusal of a letter on the much written about subject of "Life on the Farm." The letter is too long for publication but the plea for the farm, so eloquently put and with such rare ability, would otherwise merit a careful perusal. The writer is full of his subject, and handles it *con amore*. Not that he is blind to the discouragements, and disappointments, and occasional disasters of the farm. A farmer's life is not always rosy, but on the other hand there are advantages and these sometimes spring from the very disappointments experienced. For instance, when calculations are upset by weather, blight, bad crops, etc., there are so many the more causes for the exercise of the mind in acquiring scientific knowledge, in learning to bear patiently, in rearing a strong character, based upon resolution and courage—in short, there are blessings in disguise. But there are positive advantages and pleasures which can be enjoyed on the farm as nowhere else. He has the luxury of independence, of robust health (as a rule) of pure air, water, and pleasant surroundings, and of at least a comfortable and sure living. In this manner our genial correspondent finds life on the farm the ideal life and were his views entertained widely by his brethren there would be not only more happy farmers but more successful ones.



1st.—Annual meeting Provincial Dairy Show of Ontario held at Gananoque.... Great loss of life reported as the result of severe storms on the upper lakes.... The death took place of Wm. Plewes, of London, Ont., one of the oldest millers in western Ontario.

2nd.—General O. M. Poe, the well-known United States engineer, died at Detroit.... Reports received showing that the Sault Ste Marie Canal is working very satisfactorily.... Opening ceremonies of Knox College took place.... Sir Julian Pauncefote visited Montreal.

3rd.—Professor E. E. Barnard severed his connection with the Lick Observatory, after seven years of signal service to the cause of science.... Statement issued by Dr. Dawson, director of the Canadian Geological Survey, computing that there are a million and a quarter miles of unexplored territory in Canada.

4th.—International Law Congress decided to hold their annual meeting for 1897 in the United States.... The steamer *Lake Winnipeg*, which went aground in the St. Lawrence, was brought safely to port.

5th.—Advices reached Ottawa from the Government of Cape Colony enquiring as to the subject of lobster propagation.... Funeral of Professor Pasteur took place at Paris.

7th.—Sir Oliver Mowat reached Toronto much improved in health after a prolonged visit to Great Britain.... Farewell banquet tendered by the leading citizens of Ottawa to Lieutenant-Governor Patterson of Manitoba.

8th.—The Provincial Council of Bishops closed at Montreal.... Mr. Laurier opened his political tour in Ontario by an open-air meeting at Morrisburg.... Hon. Wm. Harty, Commissioner of Public Works, who was unseated, was elected to the Ontario Legislature without opposition.

9th.—Blockade of the Armenian churches in Constantinople continued.... A fire took place at Snider, Ont., a station on the Canadian Pacific Railway, resulting in the death of six members of one family.

10th.—The town of La Paz, Mexico, was completely destroyed by a hurricane.... Lieutenant Alexander MacLean appointed A. D. C. to Major-General Gascoigne.

11th.—The Provincial Government of Quebec announced the removal of the commercial tax.... Annual convocation of Victoria University was held.

12th.—An order was passed by the Canadian Government requiring that no wheat that is scoured or brushed to remove smut be excluded from No. 1 hard.

14th.—A circular was issued by the Canadian customs department proclaiming the French treaty in full force in Canada.... Mr. S. Barfoot, a private banker of Chatham, Ont., suspended payment.

15th.—A decision was rendered by the Treasurer at Washington that bicycles may be entered into the U. S. free of duty.... The American Street Railway Association's fourteenth annual meeting opened at Montreal.

16th.—The sale of a consignment of Canadian salmon prohibited at London, England, on the ground that the fish was bull trout.

17th.—Rev. Edwin Palmer, D. D., Archdeacon of Oxford, is dead.... First snow of the season at Montreal fell.... Hall Caine reached Ottawa and had an interview with Sir Mackenzie Bowell.

18th.—Miss Frances Willard says the bicycle is a great factor in promoting temperance.... Prairie fires did great damage in the neighborhood of Winnipeg.

20th.—British battleship *Victorious* was launched at Chatham.... License granted to the Independent Order of Foresters to operate in Illinois.

21st.—A pastoral letter was issued to the Roman Catholic clergy in Quebec, defining the duties of the press.... Captain John Ritchie, commodore of the Allan Line of steamships, will retire at the end of this year.

22nd.—Ruggiero Borghi, the Italian statesman, author and philosopher, died.... Alarming recession in the water of the River Ottawa.... Mr. John Lowe, Deputy Minister of Agriculture, has been superannuated.

23rd.—The announcement was made that Sir Mackenzie Bowell and Sir C. Hibbert Tupper will represent the Canadian Government in the Behring Sea case at Washington.... The memorial statute to Sir John Macdonald was unveiled at Kingston, Ont.

24th.—Eleven degrees of frost were registered at London, Eng.... Lieutenant-Colonel Gilson retired from the command of the 13th Battalion, Hamilton.... Rev. Dr. Laidlaw, Hamilton, Ont., died of consumption.

25th.—Mr. Frank Madill, M. P. for North Ontario, died of paralysis.... Sir Charles Halle, the virtuoso, died at Manchester, Eng.

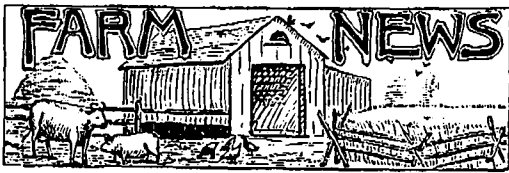
26th.—It was announced that Mgr. Satoli will be made a cardinal in November.... The new experiments of propelling boats by electricity was successful at Tonawanda, N. Y.... Monument unveiled at Chateaugay.

28th.—Annual meeting of Prisoners' Aid Society held at Toronto.... Announcement made that Rev. D. J. Macdonnell, Toronto, was recovering.... Mr. Hall Caine banqueted at Hamilton, Ont.

29th.—Meeting held at Carleton Place of the Missionary Committee of the Montreal Methodist Conference.... Annual celebration of the St. Alphonsus' Club observed at Toronto.

30th.—Legislative Assembly of Quebec opened.

31st.—Hallowe'en observed throughout the Dominion of Canada.



A clean and secure Well House.

THE advantages of a tight, well-made well house are so many that it is a wonder that so few are seen upon the farms of the land. They shelter the pump and make its period of usefulness much longer than where it is exposed to the weather, and they especially aid in keeping the pump from freezing in winter. Moreover, where cattle or horses are watered at such a pump, they oftentimes set their noses into such contact with the spout that one's pleasure in drawing drinking water from the same channel

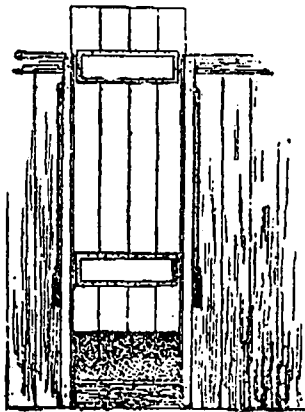


A WELL-PROTECTED PUMP.

is lessened, to say the least. Such a house as is shown in the illustration is inexpensive, but capable of serving its purpose admirably. It is just large enough to inclose the platform of the pump, and is constructed of matching boarding, nailed upon a light frame, two-by-two stuff being sufficiently stout for this purpose. A trough is located outside, which keeps the pump, and the platform of the pump, entirely out of reach of cattle or horses.

Hanging a Stable Door.

IN windy climates some other way of hanging a stable door than swinging it on hinges is greatly desired. A device to do this is shown in this engraving from a sketch by J. L. Townshead of Utah, and can be made from the following description. For a doorway three by eight feet, make a batten door in the usual manner, weigh it, and procure two square sash



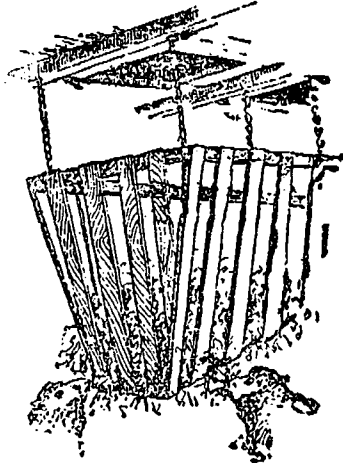
A SECURELY HUNG STABLE DOOR.

weights that together will just balance the door, or make the door to balance the weights. Purchase about eight yards of sash cord and two large sash pulleys. Place in position a frame made of two by eight inch plank having the pulleys near the top, and fit the door so that it will slide up and down without wearing the cord. Fasten the sash cords at the

bottom of the door near the batten. On each side of the door fasten to the frame strips of inch square pieces to hold the door in position. The weight may slide up and down on the sides of the frame, which may project out far enough for the purpose, or be bored in to protect them and the cord from the weather. This method costs less than the common overhead hangers, is very durable, can be used for doors or shutters, and any farmer who is handy with tools can easily put it into practice.

Convenient Feed Rack for Sheep.

THE usual method of feeding sheep has a number of disadvantages. When fed from the floor adjacent to their pen, the lambs are quite sure to be found all over the hay and grain, and making themselves generally at home in the uttermost parts of the barn. The sheep, moreover, wear off the wool from their necks and disfigure themselves when feeding through opening the side of the pen. Where the fodder is thrown down from the floor above the pen an arrangement such as is shown in the illustration may be found serviceable. It is a hanging rack with slats all around it, and made narrow at the bottom so that the flock can reach even the

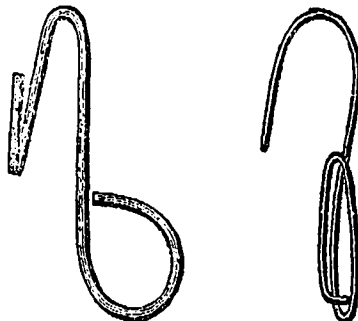


HANGING FEED RACK.

last spear of hay. There will be no crowding with such an arrangement. The feed will not be soiled, and the pen can be kept closed so that the lambs cannot escape from it. Even when the fodder is not thrown down from the floor above such a rack may be hung near the side of the pen, and the hay thrown over into it from the feeding floor, giving much more feeding space to the flock than would a rack nailed against the side of the pen.

Two Little Assistants.

I send you a sample of a corn tie and a fruit hook. The corn tie should have a stout cord about 6 feet long with a loop on one end to be hooked on the tie at time of use, and taken off when put away. In using it, take a stout cord 5 or 6 feet long. Tie a knot in one end, and tie another knot about two inches from the first, but before drawing it up, put the first knot through it, which will form a loop. When ready to tie a shock, put the loop over the little



CORN TIE.

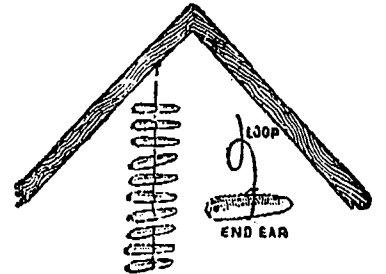
FRUIT HOOK.

part of the tie, the loop occupying the middle bend. The large bend is for the finger to pull by. Put string around shock, and draw it up

on the inside of sharp bend, in which draw the cord tight and it will hold itself. The string and ties should be kept separate when not in use, to prevent tangling. It takes about 9 inches of round wire 8 inches in diameter. The fruit hook should be made of stout wire about three-sixteenth of an inch in diameter, and about 8 inches long when made. They are also suitable for house painters when working on ladders. The object of having the hook made in this shape is to make it easy of attaching or detaching from a pail bail, and have it so it cannot get off without help. I generally use a large tin pail for gathering fruit. If to be used on a basket handle, the bend in the lower part will have to be made larger accordingly. It takes about 18 inches of 3/16 inch wire.—H. Sherman in the Country Gentleman.

Storing Seed Corn

MOST farmers have some unfurnished attic or outbuildings where seed corn can be stored. The rafters or joists make a very convenient place from which to hang the ears. Desiring a better and more economical plan than tying two

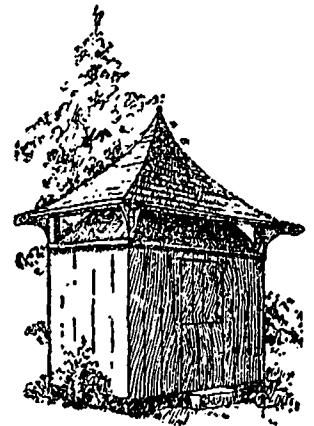


HANGING CORN.

ears together, I now take a piece of binding twine, tie to the end one ear, then with a single loop of the string for each ear secure about 10 ears in a line. Hang these to the rafters as shown in the illustration.—J. N. Sanborn.

Design for an Ice House.

MANY small farm ice houses have to stand out by themselves, and are thus exposed to the full effect of the sun's rays. These falling directly upon the roof cause a good deal of heat to be generated within, to the consequent loss of ice. The illustration shows an ice house with two roofs, with an air space between, which will very greatly obviate this trouble. Such an extra roof can easily be placed upon a small



DESIGN FOR ICE HOUSE.

building, to the saving of no small amount of ice during the heat of summer. Every farm should be equipped with a well-filled ice house, for ice is a necessity, not a luxury. There are many new ideas in harvesting, storing and using ice nowadays, which are fully treated in Hiles' new book, *The Ice Crop*, which is indispensable to all interested in ice, whether purchasers or customers, or both.

CLOVER seed is wanted in England, according to the exports, which were double in September those of the month before, being respectively 684,000 lbs. and 309,000 lbs.

Live Stock.

Hints to Old-Fashioned Butter Makers.

Don't imagine that because you generally make good butter from your shallow-pan setting, that this is the best method. So far as quality is concerned it is all right, but, as a rule, it is not economical, too much cream being wasted. Deep setting is more economical—the separator is still better.

Always use a thermometer to temper the cream before churning. The old-fashioned way, which is still so often used, of guessing at it by sticking in the finger, is unreliable—too often widely misleading. A good thermometer is the only safe way.

Although good butter can be made with the old dash churn, it is a laborious method, and it is far more inconvenient to operate than the barrel or box churns. In the old dash churn, you skim the butter out—in the other you draw off the milk. The former plan requires so much working of the butter to remove the milk that it becomes salvy—the grain is destroyed and the value decreased. In the box churn, every trace of milk can be removed without any working, by two—sometimes three—washings.

Find out how much salt your patrons like in a pound of butter and then weigh it out at every churning. The old guesswork plan is a most vicious one—there is nothing more unreliable, and butter made under it will be found to vary from one to three ounce of salt to the pound.

Partially filled tubs of butter should have an inch of strong brine on the top of the butter, removing it carefully before more butter is added, then returning it. This keeps the air from the butter and prevents any changes. The butter will not absorb any perceptible quantity of salt from the brine.—*American Agriculturist*.

Go where you may, and you will seldom if ever, find a breed of live stock with the same characteristics, the same type, as existed even a few years ago. We do not attribute these changes, be they for better or for worse, wholly to the influence, and as a result of variation. Yet it is true that variation should be attributed some measure of the successes so manifest to the intelligent breeder of modern times. What is meant by variation? The universal underlying principle of all breeding is, that like produces like, yet we see on every hand noticeable exceptions to this axiom. It may occur that we have seemingly taken every precaution in mating, that we secure either a young animal inferior to the parents, or one far superior to either sire or dam. That is, we see in the progeny a more or less strong tendency to vary from the original type. Now the valued feature of this possible variation to us is this: Should a more desirable type of animal be produced than we had in the parent, the intelligent breeder at once seeks to encourage this tendency to vary in the desired direction, and at the same time attempts to fix the new type by the law of heredity. These facts have been substantiated, and have been found useful in actual practice. Nor do we need to be content with waiting for chance to bring about desirable variations. We can so govern the environments of the farm animals that we may be reasonably certain to secure desirable variations in our young stock.

It is easy to muddle the novice with a variety of advice, and to get away from the possibility of doing that I wish to offer the following hints as the most valuable and concise that occur to me. Study your farm conditions and learn exactly what sheep will thrive best upon it. If you are not able to purchase even a small flock of pure bred or high grade sheep, then put all you can advantageously to a pure bred ram, and after that do the best you can in ewes. Start

right even upon a small scale. The sheep will rapidly increase. In purchasing a ram get one fully developed, strong in bone, straight shaped and thoroughly typical of his breed and sex. I have always had an intuitive liking for a lamb that will leave a group of his fellows in the field and boldly front you. Do not purchase sheep that you have no trust in for proper development. It is only the experienced breeder who can forecast development. Never take an ill-doing sheep even if it is cheap, with the expectation that it will become right. In selecting sheep, handle them so that you may know how much of their form is due to themselves and how much to the servers. Select as critically as you can to a chosen type. Uniformity is a cheap feature for you to buy and yet a valuable one in a flock. There is no sheep that embodies perfection in sheep qualities. Judging between different sheep is a checking of weakness and a balancing of qualities. Be inclined toward the sheep that appears better every time it catches your eye. The purchaser will find it to his interest to select from the field for the show. The best time to buy is usually in the fall. Provision may be made with the seller to have the ewes served by a ram of different breeding from the one you buy, and thereby you add another season's use to the ram of your flock.

THE American Shepherd, says the *Weekly New York Times*, must improve his methods of cultivating the food crops for the flock. The sheep does not get sufficient care to make it as profitable as it might be. Not one sheep in a thousand is supplied with the right food for the nutrition of the fleece. There is no other food so useful for the growth of wool of the best quality as are the plants of the turnip tribe, the turnip itself, the cabbage, mustard, rape, and the clovers, especially the white clover. Wool contains only one kind of mineral matter, which is sulphur. Its composition is much the same as that of flesh, hair, horn and skin. But it has more sulphur in it than any of these. It has about one-sixth part of nitrogen, and hence the supply of these two important elements in the food is paramount to the growth of the fleece. This is to be taken account of when the provision for the winter feeding of a flock is thought of. But quite as much so as to its pasture. The sheep, too, is only to be maintained in the best condition by succulent food. It is naturally given to constipation of the bowels, and this, of course, is quite inconsistent with that condition of health on which the growth of the skin and fleece depends. So that for its flesh and wool both the very same kind of feeding is imperative, and that which will secure the best growth of the carcass will equally insure a good fleece. The finest carcass of mutton must have the finest growth of wool. They go together, and if one fails, the other must fail with it.

The Poultry Yard.

November in the Poultry Yard.

If the poultry house has not been thoroughly repaired and cleaned, and the flock warmly housed and settled for the winter, it is imperative that it be done at once. If not, the fowls had better be killed and marketed without delay, for all hope of profit is gone.

A hen will not lay—in fact she cannot—if it takes all she eats to keep her alive. A certain amount of every ration has to be applied to keep her warm and to nourish her body. It is the surplus over and above this that she turns into eggs. If there is no surplus there are no eggs.

To lay freely, the hen has to be in good health, her blood pure, her whole system in good working condition. If the house is filthy and full of unwholesome odors the fowls cannot remain healthy. With every breath, while

confined they absorb poison; they become weakened and soon disease of some kind carries them off, and the profit goes with them.

If the cockerels of the early hatches have not been sold, do not delay doing it any longer; they will not pay for the food which they will consume. What is saved is so much easily earned, and the feed these cockerels would need will keep nearly as many laying pullets.

When housing the pullets for winter, do not put too many in one house. If not fully grown the proper number will not seem to fill up as the house should, but as they grow they will occupy more and more of the space. Eight square feet of floor space is none too much for each fowl, and ten would be better.

Clean out the droppings often enough to keep the house sweet and clean. Use plenty of plaster under the roosts. A sprinkling of air-slaked lime over the floor will do good, but do not put it under the perches, as it will hasten the escape of the ammonia and lessen the value of the droppings.

The pullets should be laying well now, and paying for the care and feed they have received. Keep fresh water, shells and grit before them always. It will cost no more to feed a variety than one kind of food. Corn in small quantities, wheat, oats, barley and buckwheat, both whole and ground, bran, or middlings, or both, make a list from which a change can be made at nearly every meal. Green stuff and cut bone are essential to the best success after they have to be wholly or partially confined. An open shed in which the hens can scratch and sun themselves will pay a big dividend during the next six months.

If any rubbish has collected in the yards or about the houses, collect and burn what can be burnt, and bury the rest out of sight. If any of the yards have not been plowed yet, to turn under the soiled surface, it can be done now, and early in the spring oats can be sown and harrowed in. It always pays to have plenty of green stuff provided for. The rye that was sown in September should make good picking for the hens now and until covered with snow.—*American Agriculturist*.

Over-feeding Hens.

THERE is as much injury done to a flock of layers by over-feeding, as by not feeding enough. Keep their appetites sharp to make them active, not lazy. Laziness is not conducive to productiveness, and is a habit easily contracted from too much attention at feeding time. Winter weather usually creates a good appetite, but this should not be over-indulged in, and laziness replace good laying qualities. Activity must be had to induce laying.

Do not wait too long before mating your fowls for spring breeding.

Be sure that your birds have plenty of fresh water before them at all times.

It is a question which is the worst, poorly fed or over fat hens. Neither of them will produce many eggs.

Which will you have, eggs or lice? Make your selection, and remember you cannot have both in the same poultry yard.

The show season is now upon us, and this is also about the season of the year for a new crop of poultry papers to hatch out.

Exercise is necessary to keep the birds hardy and healthy, and is certainly essential to egg production. Provide plenty of good, clean litter.



Thanksgiving in a Dug-Out.

ON the night before Thanksgiving, 188—, four travellers in the northwestern corner of Kansas were looking for a lodging-place. As they had slept in the wagon and on the prairie with their boots on as often as was agreeable, they longed for beds, even husk beds in which occasionally there might be "knobs," unhusked ears of corn, pieces of grindstone, or a lost monkey wrench.

About mid-day the travellers were told that there was a ranch ten miles further north where man and beast were entertained, but the travelled way became more and more indistinct as they proceeded. It was not easy to angle, and to go around sections, and to keep the path. At nightfall no ranch appeared, and the travellers prepared to camp in a cluster of trees on a creek bottom, and dine again on jerked-beef, pilot-bread, cheese and coffee.

One of the travellers, however, making a detour, discovered a light on the other side of the creek not far away, and soon they rode up to a dug-out. Could they stay all night? They could, if they were not particular and could sleep on the floor, for the family numbered seven, and all the beds were engaged. As they were stabling the horses in the dug-out barn, the settler, whose name was Crafts, exclaimed; "Give me your hand, every one of you. Shake! You are from New-England! That's where I used to live, and I've wished a hundred times I was back there. I know your talk, as soon as I saw you"—he continued, addressing one of the travellers—"throw that trace into a bowline knot, I knew you were from New England."

As they entered the house, Mr. Crafts introduced them to his wife and five children as "Some of our neighbors from New-England; come to stay all night and to spend Thanksgiving with us." Mrs. Crafts shook hands with her guests as though they were old and dear friends, and the children took a hand in the reception. All gathered around the big cooking stove, into which the host thrust long ears of calico corn, so called because the kernels have many colors. Corn was the only fuel. Coal, even soft coal, cost much more than corn, and as for wood, there was none. The settler would burn his boots sooner than the wood in the few trees on the creek.

The dug-out was larger and better than the average. It contained three rooms, the centre-room being the living room, or kitchen. An excavation was made in the bank that faced the creek, the creek being within fifty feet of the door. The front of the dug-out was made of sods, with two windows, and a door with a half window. Resting on the front wall of sods, and the top of the bank, were tree-trunks just as they were cut, trimmed a little with the axe, but with the bark on. These formed the ceiling of the three rooms, and the support of the roof. On the beams were laid, first, brush and grass, then two feet of earth, and sods to crown all and to prevent the earth from washing away or blowing away. The roof was a little higher than the bank in front, but sloped down to meet it, and one coming from the prairie would see no sign of a dwelling except a chimney made of stones almost as scarce as trees.

But this dug-out facing, the south, was as warm and cosy as if built of granite and heated by steam, and was kept at the proper temperature with little fuel. It was in and under the earth, and in cold weather, when there were no fires, water would not freeze.

The next day, two neighbors, living two and five miles away, respectively, arrived with their families in the farm wagons, used throughout the West, drawn by mules. These wagons have no springs, but usually the seats have

springs. Most farmers have no other vehicle. A funeral procession of these wagons is a strange sight. One of the neighbors brought two young men, strangers, who like Mr. Croft's guests, had stopped for the night. The neighbors brought utensils, and contributed to the dinner. There was little space in the three rooms not used at dinner. Those who could not find place at a table, or on the top of a barrel, took the plate in the lap. Such a feast and flow of soul! And what did they talk about? About the old homes! A day of reminiscence—a renewal of other times and scenes to keep the memory green.

And the dinner—a turkey dinner! The host said it seemed a pity to kill the turkeys after they had escaped so many dangers, and lived through so many difficulties. Of thirty brought to maturity, the coyotes secured more than half. The turkeys roosted in the trees, but came down too early in the morning. Then they were shut up at night, but the coyotes dug into the coop. The only way he could save the remainder was to go a gunning before daylight. As a result of these and other excursions he had a wagon-robe and a rug for the best room made of coyote skins, and a covering for a settle of gray-wolf skins. Two coyotes quarreling over a bone will make more noise than a village of dogs, but the gray wolf is a silent, stealthy forager.

Thus the day passed—a Thanksgiving day on the prairie. The neighbors, with their sleeping children in their arms, returned to their homes, and the four travellers, rolled in their blankets, like mummies, slept again under the hospitable roof, and the next day, with many handshakes, and exchange of compliments, resumed their way.—*Country Gentleman.*

An Underground City.

THE Russians have made a singular discovery in Central Asia. In Turkestan, on the right bank of the Amou Daria, is a chain of rocky hills near the Bokharan town of Karki, and a number of large caves, which upon examinations were found to lead to an underground city, built apparently long before the Christian era. In *Popular Science News* we find the following description of this singular city: "According to effigies, inscriptions and designs upon the gold and silver money unearthened from among the ruins, the existence of the town dates back to some two centuries before the birth of Christ.

The underground Bokharan city is a little over a mile long, and is composed of an enormous labyrinth of corridors, streets and squares, surrounded by houses and other buildings two or three stories high. The edifices contain all kinds of domestic utensils, pots, urns, vases, and the like. In some of the streets falls of earth and rock have obstructed the passages, but generally the visitor can walk about freely without so much as lowering his head.

The high degree of civilization attained by the inhabitants of the city is shown by the fact that they built in several stories, by the symmetry of the streets and squares, and by the beauty of the baked clay and metal utensils, and of the ornaments and coins which have been found.

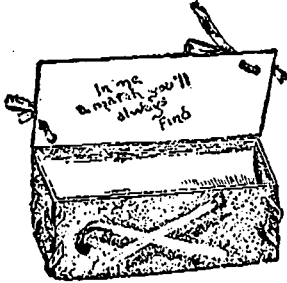
It is supposed that long centuries ago this city so carefully concealed in the bowels of the earth, provided an entire population with a refuge from the incursions of nomadic savages and robbers.





A Novel Match Chest.

A SMALL pasteboard box, sandpaper, a bit of narrow ribbon and a slight knowledge of painting are requisite in the make-up of this novel little chest. First remove the rim from the lid and attach it to the box by pasting a narrow strip of muslin on the outside of it, and on the back of the box to serve as a hinge. Punch little holes through the corners of the box and lace them up on the outside as seen



MATCH CHEST.

here, paste the ends down on the inside, bend a piece of cardboard to fit from side to side in the box, so that to have a cylinder effect, to lay the matches in. Tie small bows of ribbon through the corners of the lid, and paint a few matches on it similar to those on the front of the box.

A Glove-Mending Bag.

TAKE two pieces of satin ribbon, eight inches long, leaving one and one-half inches at the top, to be joined at the sides and headed with a tiny silk draw-string, to form a bag for glove buttons (which had better be tucked in on the card as they were bought), and featherstitch the two together crosswise at intervals of half an inch. Through the four spaces thus formed, as in the figure, skeins of the different colored cottons which come in for mending gloves are



A GLOVE-MENDING BAG.

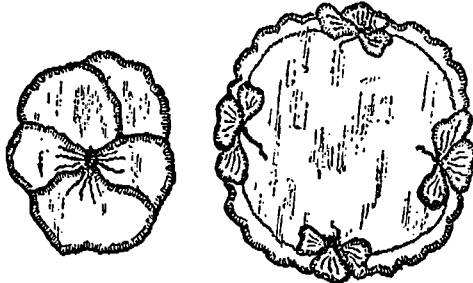
to be drawn ready for use. Of course more than four spaces may be made; or skeins of two shades may lie within one space.

Below this, insert two pieces of fine white flannel, the edges buttonholed with silk, to hold the short glove-needles. The ribbon ends may be finished by being fringed. The whole

affair is now to be enclosed in a bag made of satin ribbon an inch wide, and also headed with a narrow draw-string. The writer has had for years this dainty convenience hung by her dressing table, and can vouch for its usefulness and convenience.

Two Dainty Doilies.

THE smaller of the two doilies shown, is some four inches across, and is made of fine butchers' linen, outlined in white wash silk, buttonhole stitch. It is designed for a perfumery bottle, and nothing could be much more delicate for a toilet table. The design in black and white can give no idea of the daintiness of the white silk on fine linen in such a pansy design.

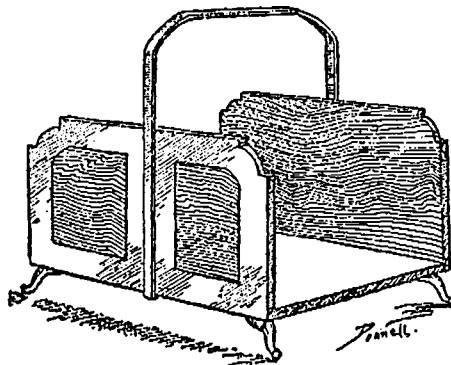


TWO DAINY DOILIES.

The other design is about six inches in diameter, and is worked in yellow silk on linen of medium thickness, buttonhole stitch, as in the case of the other doily. It is intended for individual water glasses, and may match the "tea cloth" that is in use upon the table, both in material and in color of silk used. The effect of delicate yellow upon the pure white linen is much daintier than any black and white sketch can represent.

A Wood Carrier.

THE illustration shows a very convenient article for household use, where wood must be brought into a sitting-room for fuel. This carrier may be filled, carried in and placed behind the stove until the wood has all been used, thus obviating the necessity for a stiff-looking woodbox. It may be made as ornamental as



A WOOD CARRIER.

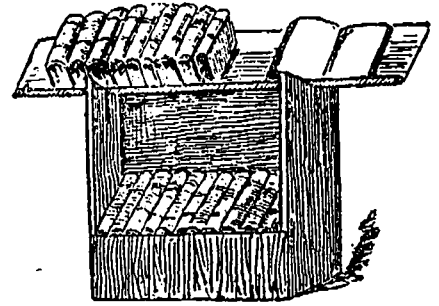
one's taste dictates, a plain form being suggested as one most easily made. The legs are closet coat hooks, screwed upon the under side of the carrier. These hooks, by the way, make excellent feet for fancy ottomans, act., being ready for use in black, or they may be gilded, if desired.

A New Book Rack.

HERE is a rack roughly made for holding reference books by a literary man who was camping out and had no book shelves with him. He is so pleased with its convenience that he intends to have one made nicely of oak for his own residence.

For a foundation he used a champagne box without the cover. Side pieces of wood the width of the box and high enough to enable a person sitting to see the books open on the top shelf were nailed firmly to each end. These

were first cut in V shape, leaving a right angled opening. Over this was laid a long board projecting at each end, to whose lower edge a strong cleat of wood was fastened as on a read-



A NEW BOOK RACK.

ing desk. A piece of board was also fastened, slanting in the box below, to support the big volumes set on edge therein. On the shelf above a dictionary is kept always open, and another row of big volumes is held in position by a cleat and tin library supports slipped under the end book.

Filling for a Pillow.

Sweet clover, in which the roadside in some parts of our country abound, is a fragrant delight for a whole year if used to fill couch pillows. Dry it in bags of very coarse, loosely woven cheesecloth; then make the outer covering of Swiss muslin with a wide frill, or of linen in pale green or white. Bunches of the clover in cases of the cheesecloth also perfume closets and bureau-drawers delightfully. In perfuming laces with rose-leaves line the bureau-drawers with thick white paper, then put in a thick layer of rose-petals that are just gathered, then the lace, another layer of the leaves, and cover the top with tissue-paper. Keep the drawer closed for a day. The roses should be picked as soon as the dew has dried from them in the morning. Cut the roses for this purpose that have just opened.

Hints to Housekeepers.

A thin hair pillow is better for the baby's head than a feather one.

Nursery walls are better painted than papered. A kitchen wall should never be papered.

There is no better silver polish than the old-fashioned Spanish whiting, moistened and applied with a soft flannel and silver brush. When dry, rub with a chamois and dry whiting.

A spoonful of chloride of lime in a quantity of water will remove mildew from linen. Strain the solution after it has stood long enough to thoroughly dissolve and dip the stained piece into it. Repeat if a first application is not sufficient, being careful to wash the lime well out of the garment after the spots have been removed.

REVIEWS.

Harper's Magazine for October has a richly illustrated article entitled "Queen Victoria's Highland Home," describing the beautiful Scottish residence of the Queen at Balmoral.

Harper's Weekly will take emphatic position on the Atlantic Exposition in a series of finely illustrated articles written by Julian Ralph.

Marion Crawford is writing for *The Century* a series of papers on Rome and the Vatican; Henry M. Stanley a paper on Africa; and Capt. Mahan, U. S. N., some studies on famous naval engagements.

An interesting article on the making of a pair of equestrian statues of Lincoln and Grant appears in *McClure's Magazine* for October; also an article on the famous British "Thunderer"—the *London Times*.

"*The Monthly Illustrator*" and "*Home and Country*," two popular illustrated magazines, have combined under one name, as above, and have made the initial number—that for October—under the new auspices, an excellent one.

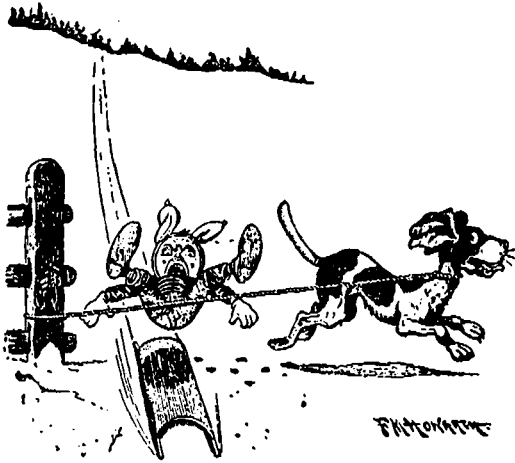
An article entitled "Robert Louis Stevenson's Home Life at Vallima" by his stepson, Lloyd Osburn, appears in the October number of *Scribner's Magazine*. It is an intimate personal account of a remarkable genius by one who loved him.

All the above first-class magazines are on our Clubbing List. Send for our List.

HE DIDN'T.



BOY ON THE SLED.—Hi! Get out of there, you fool dog! Do you want to get killed?



THE DOG (jumping away).—You bet I don't! do you?



HIS ADVENTURE.

Willbur.—"I got lost out in the woods to-day."
 Uncle Ben.—"And what did you do?"
 Willbur.—"I just got scared, and wandered round till I found myself."

"There goes a man that keeps his word." "He does?"
 "Yes; no one else will take it."

He.—"You can't impose upon me; there are no fools in our family." She.—"Sir, you forget yourself."

A stray philosopher asserts that this is the age of woman. But of course he doesn't dare give the exact figures.

"It was disgusting. The fire didn't reach my room until an hour after I had left it." "Well, what of it?" "I might have had forty minutes more sleep!"

Bumpus.—"Say, McSmith, I am acquainted with the president of this road." McSmith.—"Oh, that's nothing; I am acquainted with the porter on this train."

"It seems to me," groaned the sufferer, apostrophizing the reflection of his aching tooth in the looking-glass, "that for as small a customer as you are you have lots of nerve."

This budding craze for bicycles
 The whole broad country feels;
 And soon the horse thief way out west
 Will take to stealing wheels.

Customer.—"Bring me some lobster salad and some cucumbers." Waiter (bringing pen, ink and paper).—"Please write your name and address before you tackle that order."

Amateur artist.—"I should like to present the last picture I painted to some charitable institution. Now, which would you recommend?" Cruel lady friend.—"The blind asy lum."

Kathi (in the museum, viewing the Venus de Milo).—"Sepp, see here; they have knocked both arms off this woman." Sepp.—"Come let's get out, or they'll suspect us of having done it."

Lea (sadly).—"I don't know what to do with that son of mine. He's been two years at the medical college, and still keeps at the foot of his class." Perrius (promptly).—"Make a chiropodist of him."

Mrs. Fogg.—"Then there was a man who recited a poem or something. I couldn't for the life of me make out what, but he was tremendously applauded." Mr. Fogg.—"Evidently one of our most talented elocutionists."

"You made a slight mistake in my poem this morning," said the poet. "Sorry," replied the editor. "What was it?" "Well, I wrote, 'The clouds hang murky o'er the west,' and you made me say, 'The crowds hang turkey over my desk.'"

"It seems to me," said the manager, "that you do that part of receiving the money from the chief villain in a most awkward manner." "Mebbe I do," admitted the actor; "it has been so long since I had any chance to rehearse with the real stuff."

Upwardson.—"I had a singular experience last Tuesday. You remember it looked like rain and the weather prophets predicted rain?" Atom.—"Yes." "Well, I brought my umbrella, raincoat and rubber shoes down-town that morning." "Yes." "Well, it rained."

Employer.—"Why, Murty! What do you intend doing with all those silver dollars?" Murty.—"Shure, sind thin i' me ould muther in Oireland. Employer.—"But you should send paper mcnny, or you may lose it." Murty.—"Yiz! But did yez rade thin soigns beyant, t' "Posht no bills?"

At the dinner-table in a country hotel a guest says to the waitress:—"Miss, are you sure that this is wild duck that you've given me?" "Wild! Well, I should think it was. If you could a' seen us chasin' that duck more'n forty times round the barnyard 'fore we ketcht it, I guess you'd believe 'twas wild!"

THE following extracts are from examination papers recently handed in at a public school in Connecticut:

1. From what animals do we get milk? From the camel and the milkman.

2. The hen is covered with feathers. With what is the cat covered? The cat is covered with fleas.

3. Name an animal that has four legs and a long tail. A mosquito.

4. Name two kinds of nuts. Peanuts and forget-me-nots.

Candidate.—"I can't imagine what caused my defeat." Friend.—"The election of your opponent, I should say."

Johnny.—"Is it true, pa, that people live longer in the country than in the city?" Pa.—"Life seems longer there, my son."

People are having the same trouble they used to have. If their horses got out of wind they had to walk; now it's the same with the bicycle.

"Have you the 'Relics of By-Gone Days?'" asked the young lady, entering a book store. "Yes," replied the polite clerk, with a bow, "we have some of last year's calendars."

Teacher.—"Well, Tommy, you were not present yesterday. Were you detained at home in consequence of the inclemency of the weather?" Tommy.—"No, ma'am; I couldn't come 'cause of the rain."

A Cincinnati paper reports that the agent of a clock-dealer in that city called one day on a good German citizen of the "Over-the-Rhine" district and endeavored to sell him an eight-day clock. "My dear sir," said the sales man, "this is a remarkable clock. It is not only beautiful, but it is most useful. Why, this clock will run eight days without winding." The German opened his eyes. "Eight days vidout vinding!" he exclaimed. "Vy, dot is a great clock. But tell me dot—if he vill run eight days vidout vinding, how long vill he run if you do vind him?"

NOT SERIOUS.

Young lady (out yachting)—What is the matter, Capt. Quarterdeck?

Captain.—The fact is, my dear young lady, we've broken our rudder.

Young lady.—I wouldn't trouble about that. The rudder is mostly under water, you know, and it isn't likely people will notice it.

DUSKY POLITENESS.

A story of the colored man's fondness for good words is furnished by the New York Tribune. It is well up to date, and is about a venerable Philadelphia butler:

He was helping a visitor to put on her walking jacket the other day, and seeing her struggling to push in her rebellious big sleeves, he said, in his most respectful manner:

"P'raps you will hab de goodness to allow me to suppress dem puffs, madam."

NOTHING ELSE.

A tourist had arrived unannounced at a crowded village inn.

It was already late in the evening, and there was no spare bed. The traveller grew impatient.

"Haven't you at least a bundle of hay you can give me?" he demanded of the landlady.

That worthy was also getting impatient.

"There isn't a tiling left," she said, "except a bit of cold roast beef."

"Begoh," said Mrs. Dolan, "that b'y Pat of ours'll soon be knowin' more than his father does." "O'i'll niver moind that," replied Dolan, "if he'll go ahead an' know it for sure instid av only thinkin' he does."

"Ha," cried the bold navigator, "Bring me a glass." He scanned the horizon cagerly. "Another glass. Ha!" After the second glass he had no trouble whatever in discerning the outline of a sea serpent, which was signalling that its steering gear was not under good control.

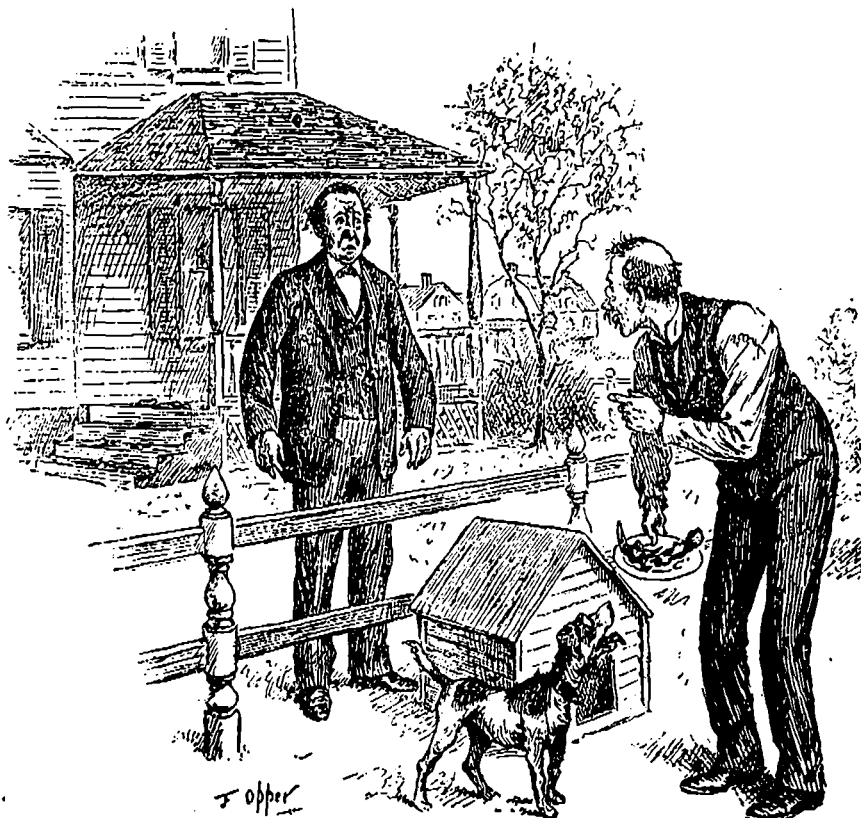
"What are you about to do?" inquired the culprit, when they tied his arms to a post and hitched a team of horses to his feet. "The inquisition," remarked an attendant, politely, "believe you possess valuable information, and we thought we'd try to draw you out a little."

Johnny.—"But my teacher says so, and I guess he knows." Uncle Reuben.—"I don't know about that. A man what's all the time givin' away knowledge to other people can't have much left for himself. I'd rather trust to a man who isn't all the time partin' with what he knows."

Lecturer.—"The boa constrictor just tried to swallow the snake-charmer, and the woman was only saved by her rare presence of mind." Manager.—"Well, well! How did it happen?" Lecturer.—"Oh, she put forth that claim about her age and clung to it; and you know nobody could swallow that!"

Little Girl.—"Did the newspaper reporters notice your papa was at the great banquet last night?" Little Boy.—"Yes." Little Girl.—"Mamma said she couldn't find your papa's name in the list." Little Boy.—"No, but the list ends up with 'and others.' That means papa. They always mention him that way."

A FEASIBLE PLAN.



NEIGHBOR.—Every time you feed your dog, he brings the bones over and gnaws them on my premises. Isn't there some way to stop it?

OWNER.—Suppose you feed him, hereafter; then he'll probably bring them over and gnaw them on my premises.

Kangaroo Hunting.

We are indebted to our Australasian correspondent for the following interesting notes on the kangaroo and kangaroo hunting, which apparently is threatened with the same fate that has befallen the buffalo on our own North-West plains:

Attention has recently been drawn to the wholesale, and in some instances wanton, destruction of the kangaroo, with the view of preventing their total extermination. In Tasmania and South Australia measures have been inaugurated for their conservation, but still in New South Wales their destruction is encouraged by the Government, and they are shot, trapped, and run down as a nuisance. This seems a shameful waste of the bounties of nature. It is alleged against them that they eat the herbage, and thus injure the squatters' flocks, but there are thousands of acres of little value to the squatter which might well be left to the kangaroo for years to come. A writer recently suggested that special areas should be set aside for kangaroo farming, and the marsupials thus preserved "in the interests of science, commerce, and of Australian generations yet unborn." It is a pity if so interesting a feature of the Australian forest should become a matter of bygone days. Like the giant tree ferns, they are fast disappearing with the progress of settlement. At the least, measures should be taken to prevent trapping till the young can run about, and should stop when the pairing season commences.

KILLING THE KANGAROO.

There are various modes adopted for killing the kangaroo. Amongst others, hunting them with kangaroo dogs, snaring, stalking them in the forest, with rifles, and driving them. Coursing them with horses and hounds is the most exciting, and is the aristocratic way of kangarooing. This, however, is often a dangerous sport in rough country, for in the excite-

ment of the chase discretion is sometimes forgotten, resulting in broken limbs to horse and rider. When a party adopts the pursuit of the kangaroo for trade purposes, driving is considered one of the best plans. This requires several guns, a driver, and a brace of dogs. When the position of a mob of kangaroo is determined, the shooters are posted across a portion of the forest, choosing the shelter of a bush or tree. The driver then rides round in a circuit with the dogs, and when he has got the mob between him and the shooters, he gallops right on to them, and sends the mob towards the shooters. On they come, crashing through the forest like a troop of cavalry—suddenly bang, bang, go the guns. Sometimes the mob breaks the line at one point, and only one man gets a shot, but frequently after the first shot they divide and run down the line, when every gun pours in its broadside.

The kangaroo hound is a large, shaggy-haired clear hound, of rather a fierce appearance. It requires a little judgment on the part of the hound to bring down the kangaroo and escape injury from its powerful hind claws.

When hotly pursued the kangaroo will take to the water, and has been known to swim two miles in the sea, a portion of the way being against a sharp wind and heavy seas.

Referring to its agility, our correspondent relates an instance of a hare kangaroo, which is of small size. While out on the plains of South Australia he started one before two fleet dogs. After running a quarter of a mile it suddenly doubled, and came back upon him, the dogs following close at his heels. He stood perfectly still, and the animal came within twenty feet before it observed him, when to his surprise, instead of branching to the right or the left, it bounded clear over his head, and on descending to the ground he fired and killed it.

The kangaroo is a very tender and affectionate mother. When the baby is born it is the most helpless creature imaginable, blind, and not much bigger than a new-born kitten. But the mother lifts it carefully with her lips, and

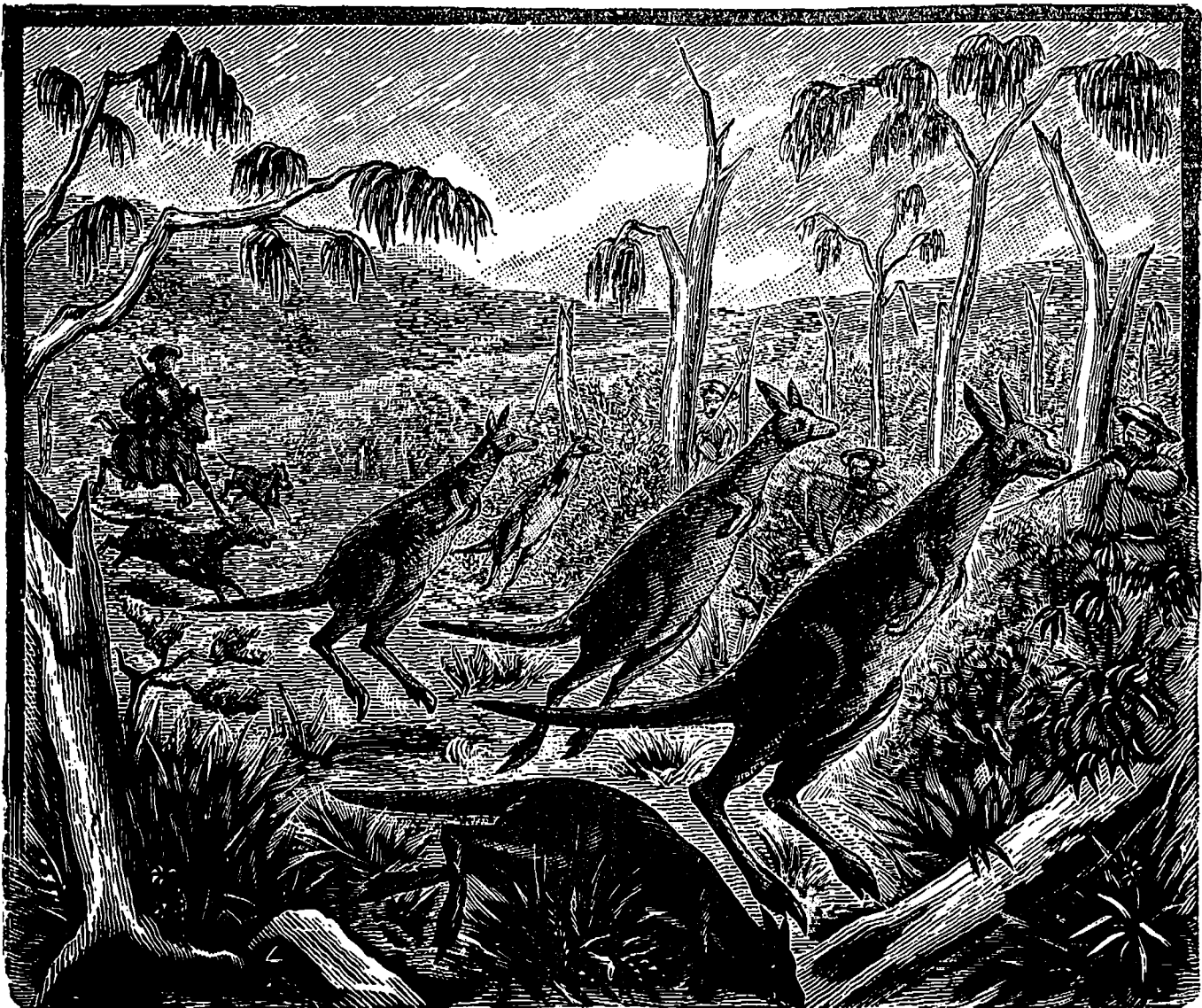
gently deposits it in her pocket, where it cuddles down and begins to grow. This pocket is its home for six or seven months, until it becomes strong and wise enough to fight its own battles in the woodland world. While living in its mother's pocket it is very lively. It is very funny to see a little head emerging all of a sudden from the soft fur of the mother's breast, with bright eyes peeping about to see what is going on in the outside world, or, perhaps, nothing is visible but a little tail wagging contentedly, while its baby owner is hidden from sight.

If brought to bay, this gentle beast will defend itself vigorously. With its back planted firmly against a tree, it has been known to keep off an army of dogs for hours, by dealing them terrible blows with its strong hind feet, until the arrival of the hunter with his gun puts an end to the contest. At other times the kangaroo, being an expert swimmer, will rush into the water, and if a venturesome dog dares to follow it will seize him and hold his head under water till he is drowned.

The following incident shows the force of maternal love among these inoffensive creatures:

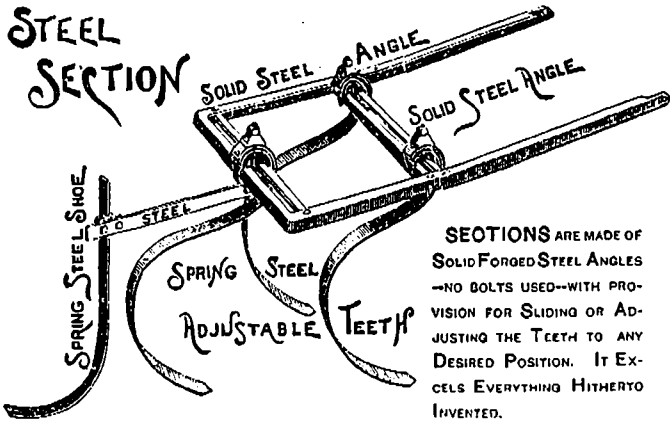
During a severe drought the owner of a country station was sitting one evening on the balcony outside his house when he was surprised to notice a kangaroo lingering about, alternately approaching and retiring from the house, as though half in doubt and fear what to do. At length she approached the water pails, and taking a young one from her pouch held it to the water to drink. While her baby was satisfying its thirst the mother was quivering all over with excitement, for she was but a few feet away from the balcony, where one of her great foes was sitting watching her. The little one having finished drinking, it was replaced in the pouch, and the old kangaroo started off at a rapid pace.

When the natural timidity of the kangaroo is taken into account, it will be recognized what astonishing bravery this affectionate mother betrayed.



STEEL

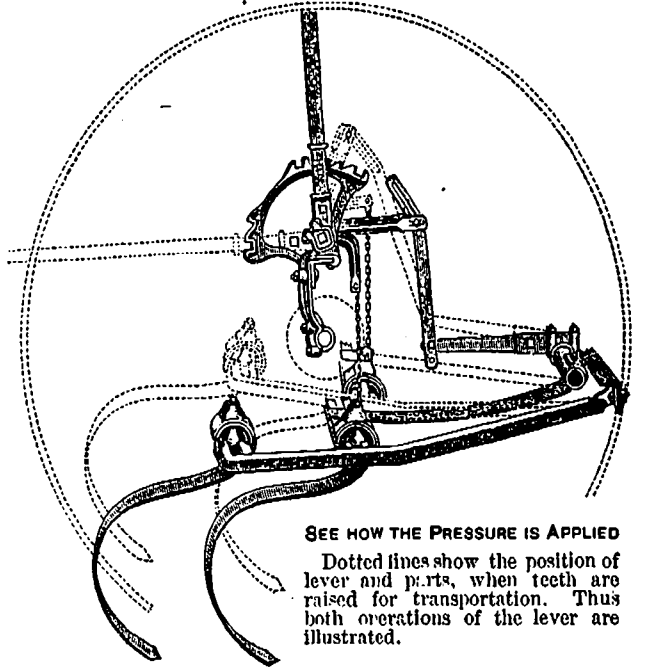
IS ABOUT THE ONLY MATERIAL USED IN A
MASSEY-HARRIS CULTIVATOR



- 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.



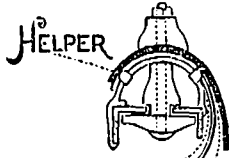
SEE HOW THE PRESSURE IS APPLIED
Dotted lines show the position of lever and parts, when teeth are raised for transportation. Thus both operations of the lever are illustrated.

GREATEST SALES ON RECORD.

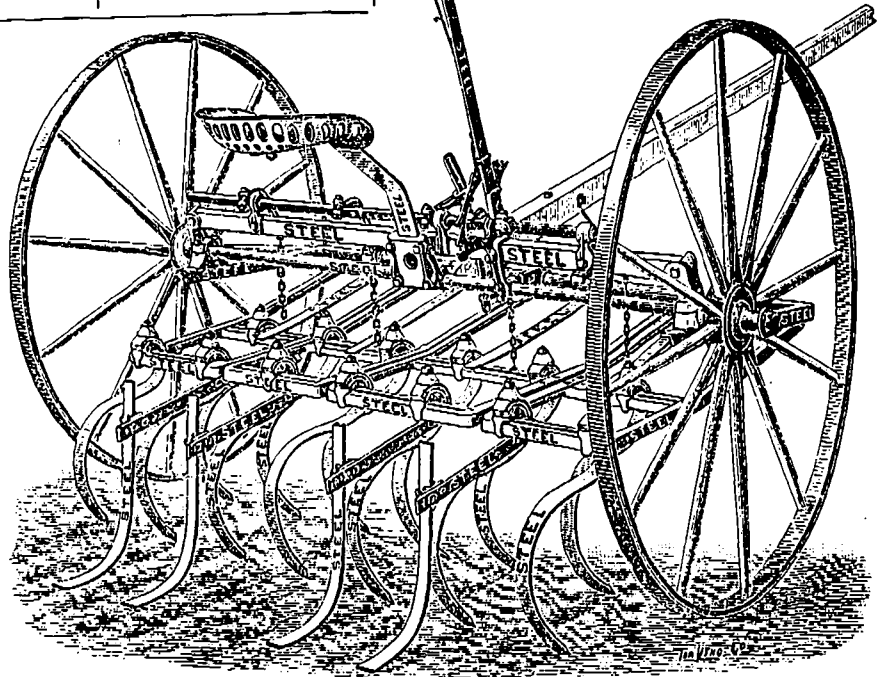
IN ONE YEAR from the day the first sample was erected in Melbourne, over 1000 were shipped to Australia.

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.



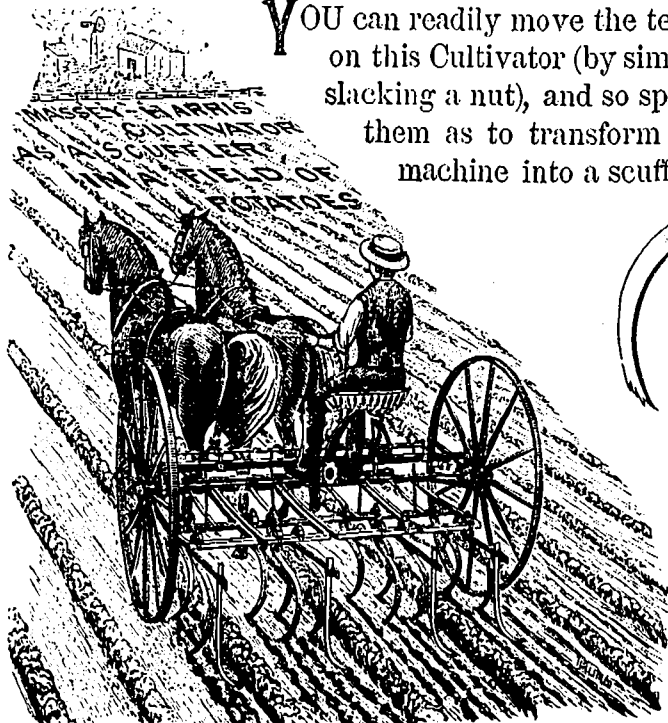
THE MOST WONDERFUL CULTIVATING IMPLEMENT EVER INVENTED.

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.

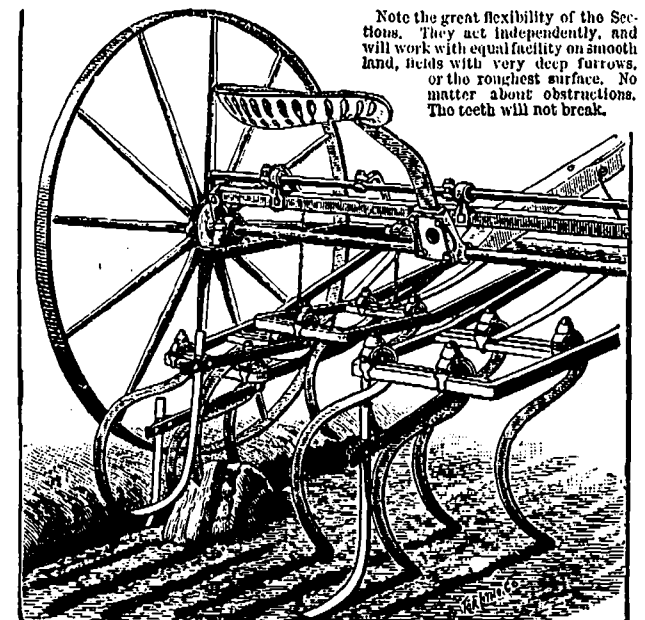


MOVABLE TOOTH SEAT

\$ 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, fields with very deep furrows, or the roughest surface. No matter about obstructions. The teeth will not break.

Rubber Belting!

THE CANADIAN RUBBER CO. OF MONTREAL

Manufacture the Best Threshing Machine Belts in America.

ASK THE MERCHANT YOU DEAL WITH FOR THEM, AND TAKE NO OTHER.

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BICYCLES



- Wait till you see the new Massey-Harris Wheel before you make a purchase. Our grand new Factory is rapidly nearing completion.
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BICYCLE DEPARTMENT, MASSEY-HARRIS Co. Ltd.
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LIVERPOOL & LONDON & GLOBE INSURANCE CO.

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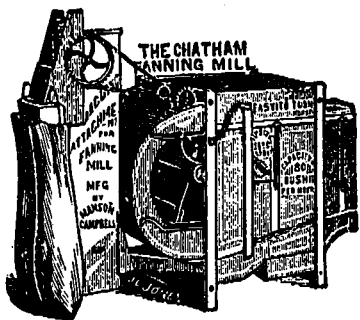
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Agent, Toronto District.

THE CHATHAM FANNING MILL.



1330 sold 1885
 2000 sold 1886
 2300 sold 1887
 2500 sold 1888
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 4000 sold 1890
 4500 sold 1891
 5000 sold 1892
 6000 sold 1893

More than have been sold by all the factories in Canada put together & doubled.

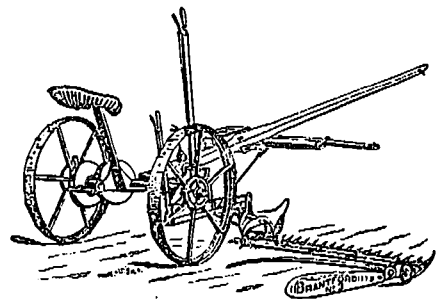
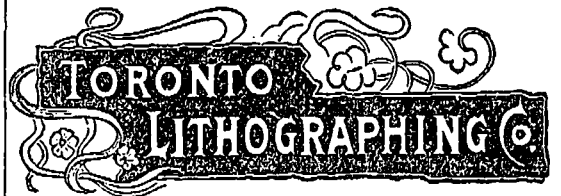
I manufacture and solicit orders for Perforated Zinc, all sizes of holes, for Threshing Machine and Clover Mill Riddles. Also Wire Cloth for all purposes.

40,000 Chatham Mills now in use.
 Over 14,000 Bagging Attachments now in use.
 Bagging Attachment is run with a chain belt that cannot slip. The Elevator Clips are also attached to endless chain belt that cannot slip nor clog.
 SPECIAL ATTENTION GIVEN TO THE CLEANING OF
 ALSAC CLOVER SEED, MARROWFAT AND BLACK EYE PEAS
 The Mill is fitted with Screens and Riddles to clean and separate all kinds of grain and Seed, and is sold with or without a Bagger, though it is not wise to be without a Bagger.

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MANSON CAMPBELL, Chatham, Ont.

For Sale by all Agents of MASSEY-HARRIS Co., Ltd., in Manitoba and North-West Territories.



BRANTFORD MOWER No. 3,

MANUFACTURED BY

MASSEY-HARRIS CO., Limited,
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TO BEE KEEPERS

Send for our Circular and Price List of Bee Keepers' Supplies; also sample copy *Canadian Bee Journal* free. Four awards received at Chicago World's Fair.

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Send for our Circular and Price List of "Ideal" Spraying Pumps.

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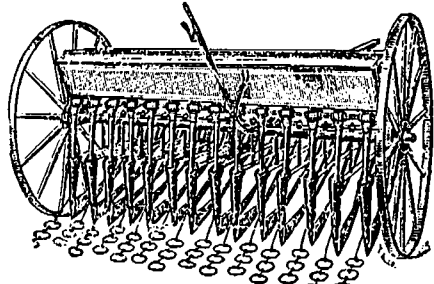
And all interested in the cheapest method of pumping water, send for description and prices of Steel Wind Mills.

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and value of E. B. Eddy's Matches, experienced by thousands, and which your father and grandfather used, has culminated in their being known from the Atlantic to the Pacific as the

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THE RURAL NEW-YORKER, NEW YORK.
 We can send it and MASSEY'S ILLUSTRATED both one year for \$1.10.

IT PAYS TO BUY THE BEST

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NONE BETTER.

THOUSANDS IN USE.

ALL SIZES OF ARMS.

ALL WIDTHS OF TIRE.



NONE MORE POPULAR.

DEMAND STEADILY INCREASING.

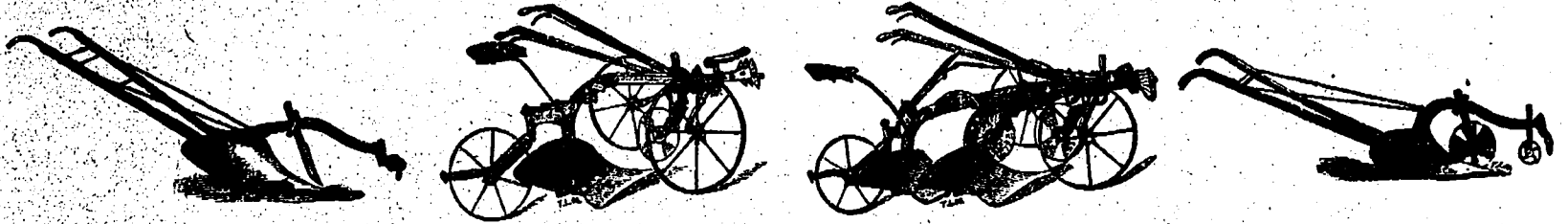
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We have TWO LARGE FACTORIES—one in Woodstock, the other in Brantford—consequently a large assortment of wagons on hand. Orders filled promptly.
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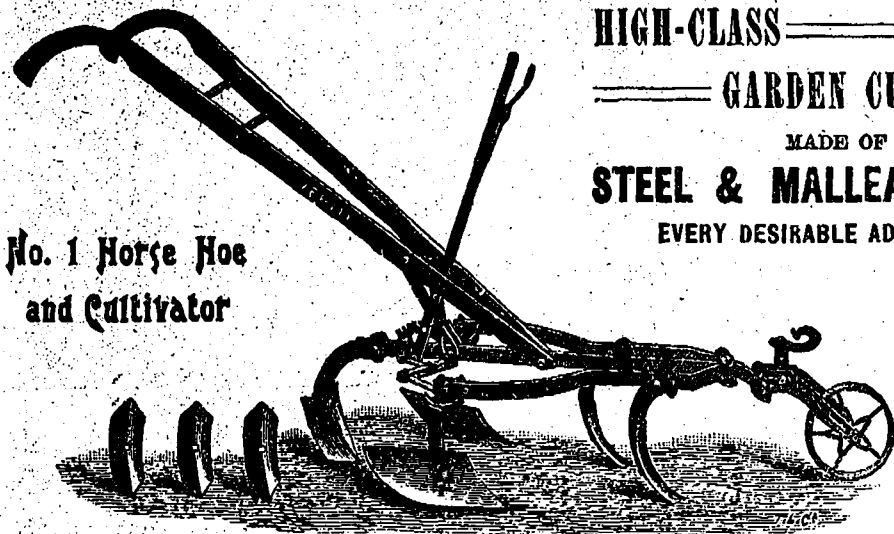
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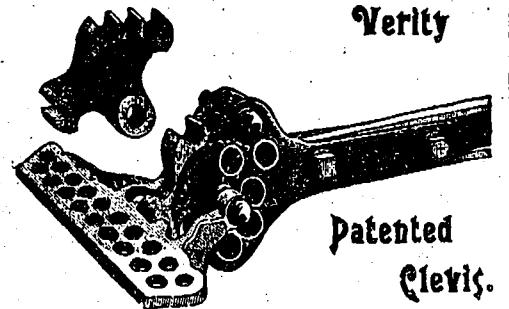


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HIGH-CLASS
GARDEN CULTIVATORS
MADE OF
STEEL & MALLEABLE IRON.
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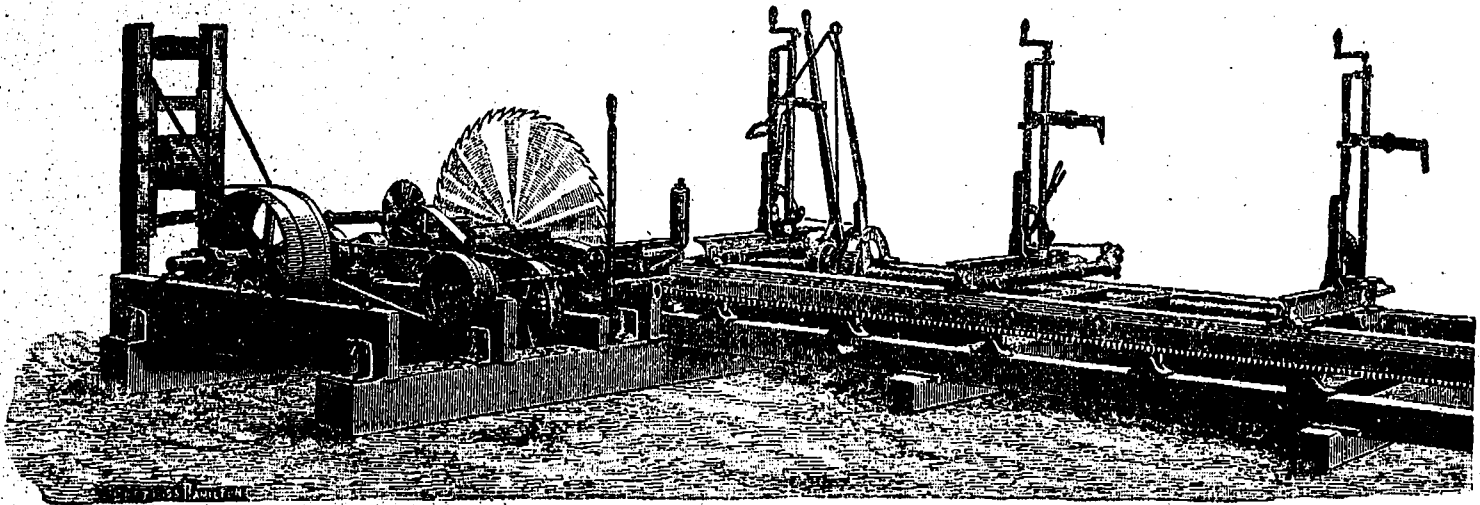
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LOOK AT THIS.



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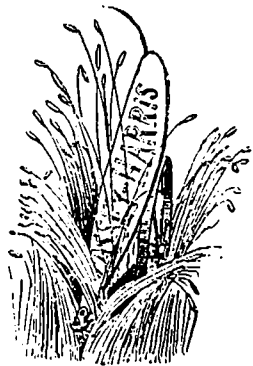
This Mill is designed to meet the wants of those requiring a Mill adapted to a wide range of work, using either light or heavy power. It is simpler and has fewer parts than other mills. It is easier to set up and keep in order—in fact it can be set up in a few hours. Is a Perfect Portable Saw Mill in practice as well as in name. The Frame will take saws up to fifty-six inches diameter. There are three heavy boxes for the Saw Mandril, one box on each side of Main Drive Pulley. All shafts are steel and larger in diameter than are generally found in other mills. Pulleys are large, with wide faces, so as to ensure no

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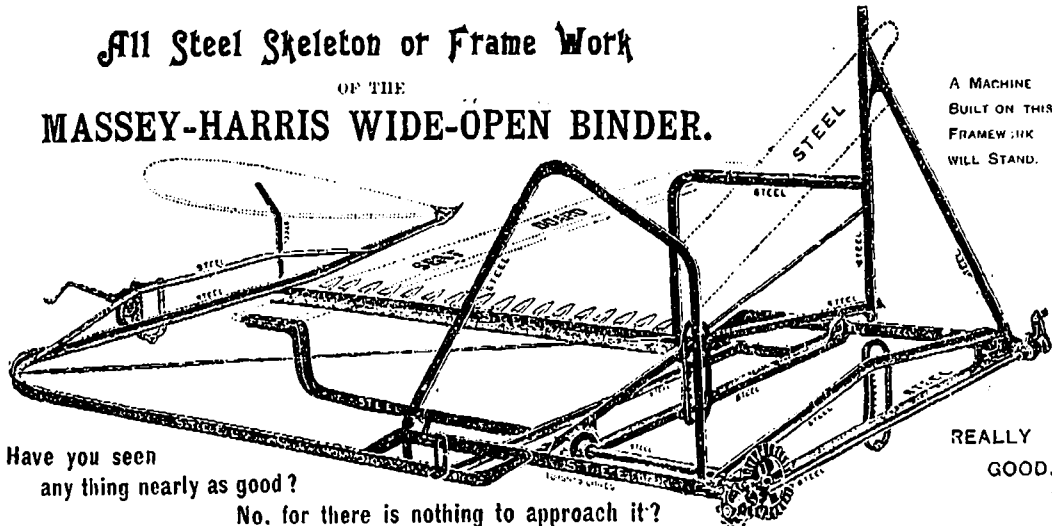
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IS OF SOLID STEEL ANGLE BARS.

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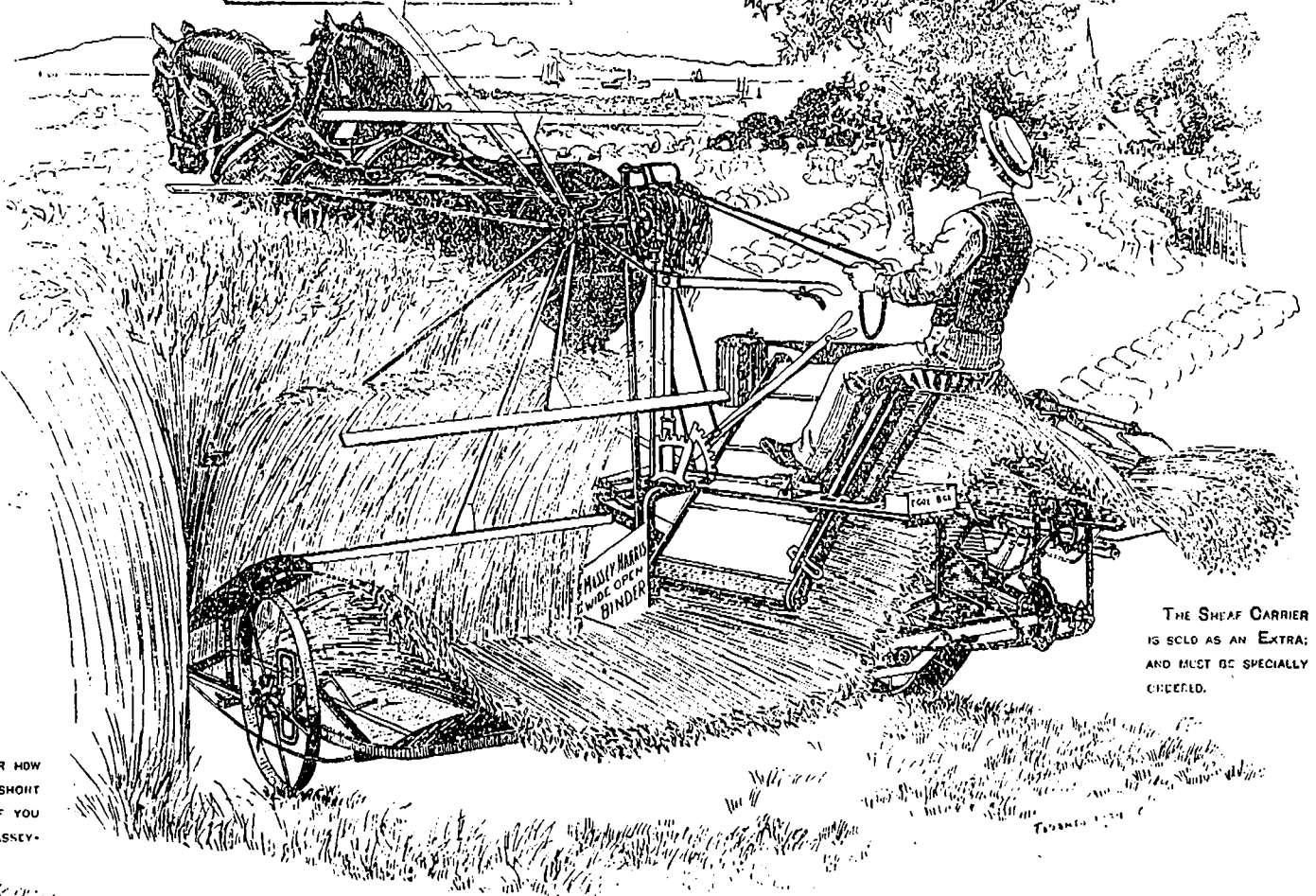
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