

• Massey's Illustrated •

(PUBLISHED MONTHLY.)

March Number

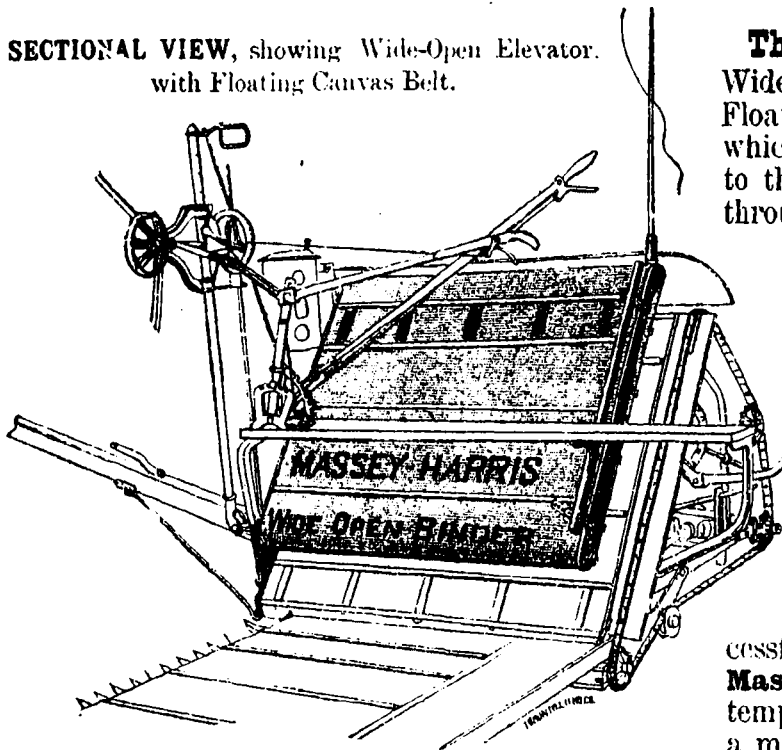
New Series, Vol. 5, No. 3]

[Toronto, March, 1898.



Massey-Harris Wide-Open Binder.

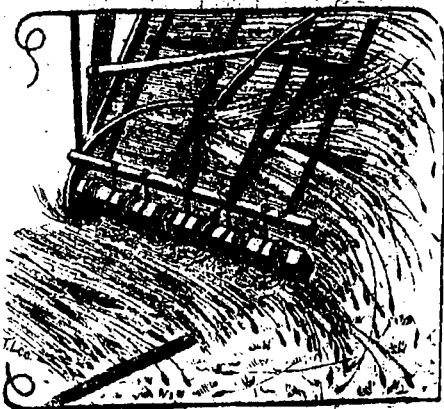
SECTIONAL VIEW, showing Wide-Open Elevator with Floating Canvas Belt.



The Secret of Success in our Wide Open principle is the Upper Floating Elevator Canvas Belt, which automatically adjusts itself to the quantity of grain passing through the elevator. When long, heavy stuff passes up, it expands; when short straw is being elevated, it contracts, ensuring smooth, even and certain elevation in both cases, and effectually prevents all bunching of the straw, which so frequently chokes the elevators and binders of other machines.

No Open End Binder can be a success without the **FLOATING Elevator Canvas Belt**, the Patents for which we own and control in all countries.

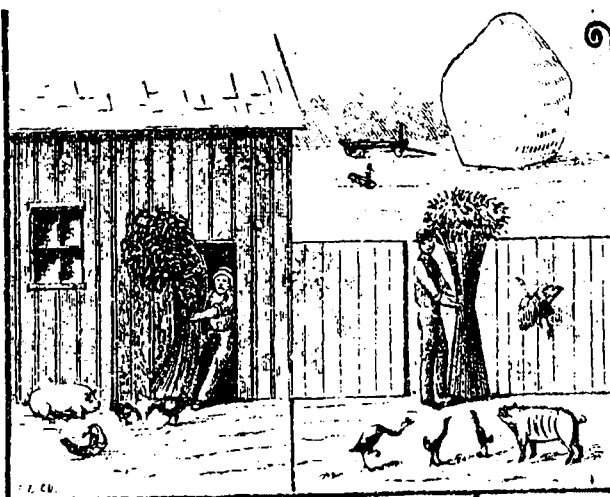
COMPETITOR'S MACHINE.



The first and only successful Open-End Binder is the **Massey-Harris**. Numerous attempts have been made to get up a machine on this principle, but

Result of trying to make an Open End without an Upper Floating Elevator Belt.

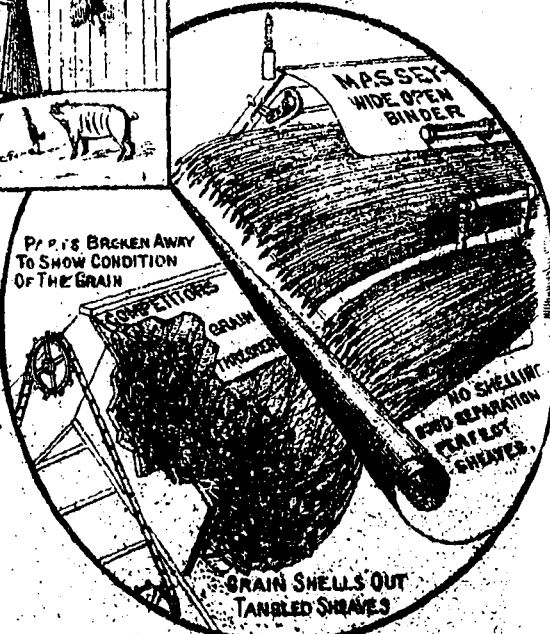
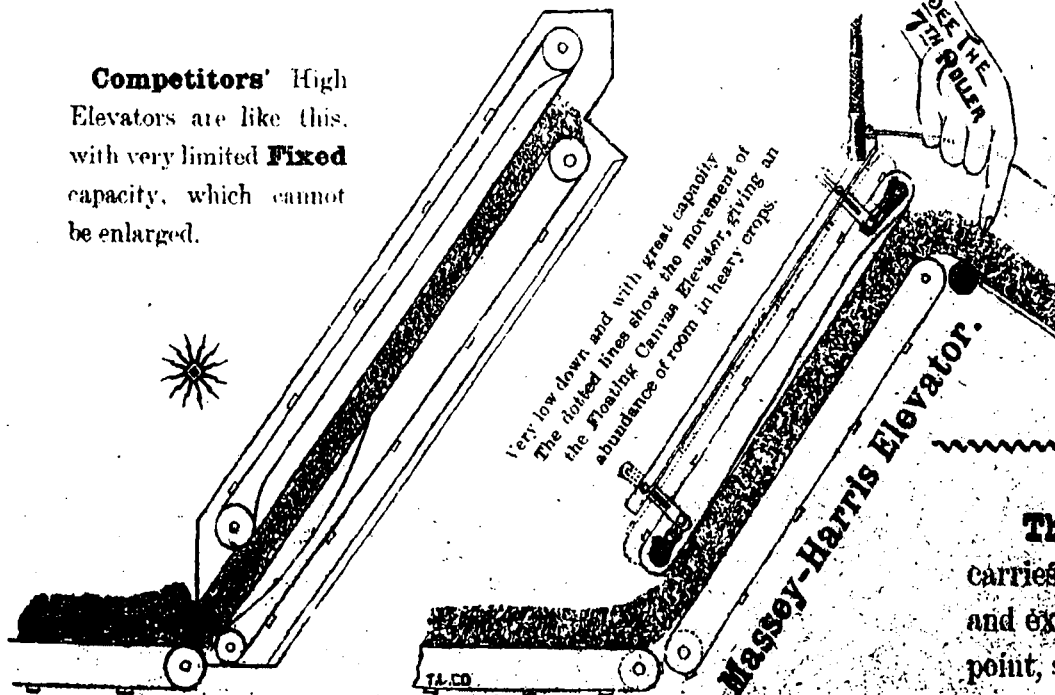
until the introduction of our **Wide-Open Binder** all other efforts were miserable failures. That the machine described on this page is a most complete success, and that it is no experiment, is clearly **proven by the 12,000** that were used last season in all parts of the world in every kind and condition of crop, giving the most complete satisfaction and working successfully where other makers' machines failed. We venture to assert that its record is entirely without parallel. It is the only machine which will handle the longest rye and the tallest corn, and no other machine can compare with it in elevating and binding tall crops—in fact, it will handle crops well with which no other Binder yet made can cope. Other Binders with closed backs jumble the heads of long straw all together, making it impossible to make a good separation and a good sheaf; and, further, they cause a terrible waste by shelling out the grain.



WHICH IS EASIER—To carry the sheaf through the small door or through the "wide-open" gate?

WHICH IS EASIER and the best way to get tall grain from the conveyor to the binder through a closed back, hooked-up elevator or through the Massey-Harris Wide-Open Binder?

Competitors' High Elevators are like this, with very limited **Fixed** capacity, which cannot be enlarged.



The **7th Roller** of the Massey-Harris Binder carries the grain to the binder deck smoothly and evenly, and prevents any "winding" at the point, so troublesome in other machines.

• Massey's Illustrated •

(PUBLISHED MONTHLY.)

A Journal of News and Literature for Royal Homes

NEW SERIES.]

TORONTO, CANADA, MARCH, 1893.

[VOL. 5, No. 3.

TWO TECHS ABROAD.

IN FIVE CHAPTERS.

CHAP. I.—ON THE YANG-TSZE.

WHAT is a "Tech?" The term is "short" for technologist, and is applied to students and graduates of technological institutes.

The "two Techs" whose travels I will relate were, first, Mr. Justin Wright, C.E., and second a person who shall be nameless. We left the Institute theoretically civil engineers, with the world before us and an ambition to go to the ends of it, if the successful practice of our profession should take us there.

At our class supper at graduation, our old engineering professor dropped in. He was called upon to give his parting word. He was not an orator, but a true man from top to toe nevertheless. What a drill he had given us! the best he had. His soul was in his teaching, and his classes the apple of his eye.

"You are the missionaries," so he ended his speech—"missionaries of science. You go forth to make the earth a better habitation for mankind, to build its railroads, to drain its swamps, to irrigate its waste lands, to light it with electricity, to make it healthy. Your vocation is something more than merely practical; it is ennobling.

"I would not say a word slightly of those self-sacrificing men and women who go forth into foreign countries with the Bible and hymn-book in their hands. Their spirit is worthy of all reverence. I only say that you have it in your power to emphasize their work, and to illustrate the Christianity they proclaim. You will find—as they do—that the world is full of disease, poverty, filth and misery, because the conditions of life are bad. It is your business to better these evil conditions. Go ahead and do it. Do it vigorously and well. God bless every one of you! Good-by!"

It will be seen that the professor took a broad view of the mission of science, and had great faith in his "boys"—a faith which I fear few of us will fully justify. In short he is an optimist—one who believes in or hopes for the best of all things. Such persons are laughed at by pessimists—those who have no hope for anything good in the world.

Wright and I soon found such a man on the other side of the world; for we had made a plan in accordance with the professor's advice, and soon set off on a tour with our eyes open for improvement in our profession.

Leaving home on the first of September, we crossed the continent to San Francisco, and afterward sailed for Yokohama and Shanghai. Here we remained two months, learning what we could of railroad projects for China—for we had an idea that we might secure contracts for building sections of the proposed roads.

One day early in March we embarked on the Yang-tsze passenger steamer *Tai-Wo*, and went up the great river to Nankin, where we fell in with a fellow-countryman named George Frost, who had been in China two years. Frost was an American of a class which the traveller and tourist is now likely to meet with in every country—the class of pushers and schemers.

He was a companionable man—genial, shrewd,

experienced in many kinds of business enterprise, and full of "go." He had no technical education, but he had been almost everywhere, and acquired much practical knowledge.

He had got out red cedar lumber on the west coast of Florida, and mahogany from San Domingo and Honduras; he had been sealing in Bering Sea, and had introduced patent rabbit exterminators in Australia. Money he had made and lost time now and again, but failures, which he termed "throws," depressed him little.

At this time he was in the employ of a Chinese gentleman of the mandarin class, who lived sixteen hundred miles up the Yang-tsze River, near

the confluence with the Min, in the Province of Sz'chuen. For reasons which will appear I prefer to conceal the real name of this Chinese grandee, and will speak of him as Lee Wung. Frost had come down to Han-kow, and later to Nankin, in a steam launch for the purpose of procuring, secretly, a small steam boiler and engine.

"Railroads?" said he, quizzically, in reply to our enquiries. "You are all wrong. Don't waste an hour more on trying to build railroads. It's no go. The Chinese won't have them."

"Why not?" we asked.

"Oh, well, because they're Chinese. Take my word for it; they won't build them—not in



REED WARBLERS.

our time. China is China. It's old and tired. The priests, the philosophers, the scholars, the people are all ancestor-worshippers, and don't want anything new. Here and there a mandarin is eager to make money, like this young fellow I am now with. He is trying to get in steam, but is forced to keep quiet about it."

His words piqued our curiosity.

"He's a strange fellow," said Frost. "Belongs to an old Chinese family of Sz'chuen. They own silk farms, wood-oil mills, iron mines, coal mines and salt wells, all about the upper province. They also largely control a great brick-tea trade to Tibet.

"This Lee Wung is a mandarin, as Americans understand the word, though it doesn't really mean so much in China as foreigners suppose. He is hardly more than a boy; only twenty-two or three years of age, I think, but he was in Europe two years, and spent six months in America. He speaks French and English.

"He wants to be a millionaire, spend his money in Paris, and go cruising around the world in an elegant steam yacht; so he has set to work to develop his properties. I have been with him a year. We are at work very quietly, so as not to stir up a hornet's nest at Peking.

"The Old China party that now rules things is flatly opposed to steam, electricity and all other Western inventions. The people share their prejudices. So there'll be no railroads very soon. You may be sure of that.

"I can get places for you with my man up in Sz'chuen," Frost continued. "If you can handle water or gas he will hire you. But if you're particular about working for a good principled man, you won't find him in my fellow. He is absolutely unscrupulous. I have seen a good many bad men in different parts of the world, but this youngster makes me cringe at times. He has no more regard for human life than for a fly. Yet he is as innocent and gentle-looking a little fellow as you ever saw."

"A good man is always preferable to a bad one," Wright said. "But really I suppose this man's morals need not harm us. If he has engineering work that we like and he will pay for, we will do it."

We went up the Yang-tze River with Frost in the steam launch—a craft something like a tug—of about ten tons' burden. For the first eight hundred miles our route lay through the vast alluvial plains of the Province of Hupeh, where the stream is often higher than the adjacent lands, and is only restrained from forming vast lakes by embankments which will sooner or later yield to the spring floods, and cause wide-spread disaster.

Along both banks, and as far over the plains as the eye can penetrate the soft haze, are hundreds of villages and cities, and on the broad river itself are thousands of boats and junks laden with coal, salt, wood oil, rice, cotton, silk and opium. One must see China in order to be able to realize its populous immensity.

Foreigners commonly speak of the river as the Yang-tze, but the Chinese of different sections and provinces along its course call it the *Kiang*, or River. They call it, too, the *Ta Kiang*, Great River, and on its upper course, the *Kin-sha Kiang*, or Golden Stream, from the gold which is washed from the gravel bars in its bed through western Sz'chuen.

In size and volume the Yang-tze resembles our Mississippi, but not in other respects. For on the Yang-tze above Ichang, twelve hundred miles from the sea, there is a long series of rapids. Here for three hundred miles the great river flows through a long succession of gorges which often confine the channel to a breadth of four hundred yards, and display perpendicular or overhanging cliffs from two to three thousand feet high.

The scenery is grand, often terrible; always picturesque. Many of the frowning cliffs are crowned with pagodas, or temples; quaint old walled towns and numerous villages are built at nooks and angles of the crags, and everywhere, either slowly towed by hundreds of "trackers," with their long cry of "Chor! Chor! Chor!" or descending rapidly on the

eddy yellow current, are high-sterned river craft of from forty to two hundred tons' burden, laden with the produce of the country above.

Our launch stemmed the current without much difficulty, and we voyaged rapidly up the river. As Frost had with him a young Chinese *lao-ta*,—captain,—whom he was training to attend to the engine, two firemen, two deck hands, a *tai-kung*, or pilot, and a cook, we were much at our ease, with leisure to enjoy the scenery.

Directly above Ichang the river broadens and assumes the aspect of a deep mountain lake, nearly a mile in breadth and several miles in length, surrounded on all sides by high precipitous hills. Steaming toward the upper end of it, we could discern no inlet of the river till suddenly, in the rocky face of the precipice on the right hand, a great chasm opened, very narrow and wild, seeming to be scarcely wide enough for a boat to enter. Through this gorge the river issues.

Our chart describes this as the Ichang Gorge; but the Chinese term it the *Hsia Hoang Mao*, or gorge of the Yellow Cat, from a tawny crag at the entrance which is thought to resemble a cat.

A bright moon shone during the first four nights after passing Ichang, so that we were able to go on steadily, and, indeed, stopped only when obliged to do so at rapids, where the channel was obstructed by boats and junks descending or being towed up. Frost took every precaution to avoid collisions, for if one had occurred, causing loss of life, an investigation would have followed. In that case the fact that steam was being used on the upper river would have been officially reported in Peking.

At about nine o'clock the second evening we arrived at the foot of one of the most dangerous rapids and gorges. As the sky was obscured at intervals by broken masses of clouds, the *Little Dragon*, our launch, was moored in a bight of the shore ledges on the south side, where an arm of the turbulent stream makes a deep eddy round the base, and runs back to the rear of a huge rock.

This is the *Jeng Hsia* or Bellows Gorge, so called from a huge crag which is fancied to resemble a Chinese blacksmith's bellows. A more craggy canon it would be difficult to find anywhere. The rocky walls, jagged, rent and distorted, rise to a height of fifteen hundred feet or more.

At this season, a strong cold-air current sets through the great gap. We were not alone at our insecure mooring, but came in just above a large Sz'chuen junk, laden with lime, below which there were three other junks, loaded with raw cotton and wax.

The mighty stream, in its throes through the gorge, had a vast rhythmic motion, now heaving up so ponderously in the sheltered eddy where we lay, that the launch was with difficulty prevented from bumping into our neighbor, the junk, and now subsiding into comparative quiet.

But at last we obtained a firm hold for our lines, and at about eleven o'clock turned in for a few hours' sleep, although the shouting and singing on the junks was not conducive to rest.

These sounds came half-muffled by the sough of the wind and the subdued deep roar of the river. At the top of a Smoke Tower on the heights across the river burned a red beacon fire, the glare of which fell on a row of junks tied to the farther shore, and on a yellow Chinese gun boat and two red life-boats moored in a pool, a little way below.

Not long after midnight we were aroused by loud shouts of "Ta-chang! Ta-chang! Ta-chang!"

This signifies "Unmanageable!" or "Broken loose!" Alarmed shouts from the neighboring junks followed. We jumped up and ran out to see what had happened. The cause of the uproar was at once apparent.

In the blended moonlight and firelight a large junk loaded with wood-oil, which in China is the universal substitute for paint, could be seen coming down the gorge, stern foremost, quite

uncontrolled. We thought it would pass us, but it made a sudden sheer into the eddy, like a runaway horse, and ran with a horrible crash into the junk next us.

The shock smashed things generally, and was followed by such a yell as only three or four hundred excited Chinese can utter.

Our launch had been shoved violently around and pushed up a shelving ledge, half out of the water. With some difficulty we regained our legs on the sloping deck, and hurriedly took such measures as we could, to prevent further damage.

While we were in the midst of these efforts, and were not much attending to the shouting of their neighbors, a tremendous roaring noise began. It increased in volume momentarily, and grew till it was as if a volcano had burst forth.

"For heaven's sake! Mr. Frost, what's that?" Wright shouted.

We climbed from the rocks to the deck of the launch and looked around. From the junk alongside us a great commotion arose as from the boiling and spluttering of a gigantic caldron. Soon the vast white clouds prevented us from seeing anything. The Chinese were scrambling ashore for their lives.

One or two leaped aboard our launch, wild-eyed and yelling with terror. What to make of it all we did not know, until Frost caught one Chinese word for *lime*.

"Great guns!" he exclaimed. "That junk is full of quick-lime. She's filling with water, and it's all slaking at once!"

The noise was deafening. Steam spurted out of the junk's hull. Her deck split, her sides cracked and bulged. Lime dust and steam flew out at the opened seams.

Suddenly a red jet of flame streamed through her decks. Then a fresh outcry rose, not only from this junk, but from the wood-oil junk and the cotton junks below. In half a minute the lime junk was all ablaze.

"We're lost!" groaned Frost.

"Get buckets!" shouted Wright.

Frost rallied a little, and called to our men. Snatching every pail we could find, we threw water over our little craft, drenching the deck, deck-house and sides. There came a vast rhythmic heaving of the eddy, which fortunately separated us from the burning junk.

It heeled over into the deeper water on the channel side, and fouled with one of the cotton junks below. By this time the wood-oil junk that had caused the mischief was on fire, and burning like a tar barrel.

These three crafts lay afoul of each other, and blazed fiercely. It grew terribly hot. Sparks and shreds of rigging fell in showers. Flame was driving down stream in sheets and clouds. Standing on the rocks we threw water, like madmen, over the launch, taking refuge under its side when we could no longer face the heat.

Then another of the cotton junks took fire. The third one cast off and dropped down stream. Next the wood-oil junk drifted loose all ablaze, and went down the river a veritable fire ship, while yells from the crews of boats below evinced their terror at her approach.

Drenched to our skins, we piled our water buckets so well that, although the lime junk was scarcely twenty feet clear of us, we succeeded in preventing the launch from taking fire.

One of the red life-boats came across and aided us a little. But it was not till daylight that we dared seek any rest from our watchfulness and labor.

The two cotton junks had burned steadily till morning, the lime junk was gone, the oil junk totally consumed. Their crews now sat forlornly on the rocks, in the cold dawn, looking at the wreck in dull bewilderment, the picture of hopelessness.

It was reported that one of the "lao-tas" owner-captains had thrown himself into the water in despair, and many more of the poor fellows looked as if they wished themselves dead.

"Oil, cotton, junks and all had gone up, and not a blessed cent of insurance!" said Frost.

CHAPTER II.—TORPEDOING A "FIRM WELL."

In the morning we got the *Little Dragon* afloat, with native assistance, and found that she had suffered no damage from the rocks. We soon resumed our voyage up the Yang-tsze.

On the thirteenth day we reached Suchau, near the confluence with the Min, where we landed to go to the residence of the Wung family, about three miles below the city.

From the landing-place a curious Chinese "road," nearly half of which consisted of stone stairs, led for four miles over hills completely covered with the graves of dead Chinese. These vast cemeteries occupy great areas of cultivable land, and the veneration of the Chinese for the bones of their ancestors is such that not one of the graves can be disturbed to free the land for any useful purpose.

At last we ascended a hill through an avenue skirted by dense old orange-trees, passed through an elaborate carved stone archway, and found ourselves in a large courtyard, surrounded by Chinese structures in stone and wood with gaily tiled roofs. This was the *Jang*, or country-house of the Wungs.

Frost, who had gone before us, ushered us into the *k'o'tang*, or guest hall, where Chinese servants wiped our faces and hands with hot cloths and attended us while preparing for dinner, which was announced for six o'clock in the afternoon.

We were assigned to handsome tiled bedrooms, furnished with English brass beds.

While Wright and I loafed round the orange groves in the afternoon, Frost arranged for our employment by our host; and when we met him at dinner, he received us quite as if we were already in his service, or rather as friends from whom he had been expecting a visit. We four sat down on stools at a square table in a red dining-room, attended by twelve servants in black and yellow. We had new satin-wood and ivory chop-sticks and red paper napkins. A very kind of drink, called samshoo, was handed us first, as an appetizer, in tiny glasses. Then followed fifteen set dishes of sweatmeats, and after that pork, venison, fowls, pheasants and ducks. The attendants loaded our small plates with tid-bits.

Our host was the chief subject of interest to us. He was a small, flat-faced, dissolute-looking Chinese youth, as effeminate in appearance as a girl of sixteen, and no larger. He was dressed in pink and black silk, with a glossy queue, and had delicate, colorless hands.

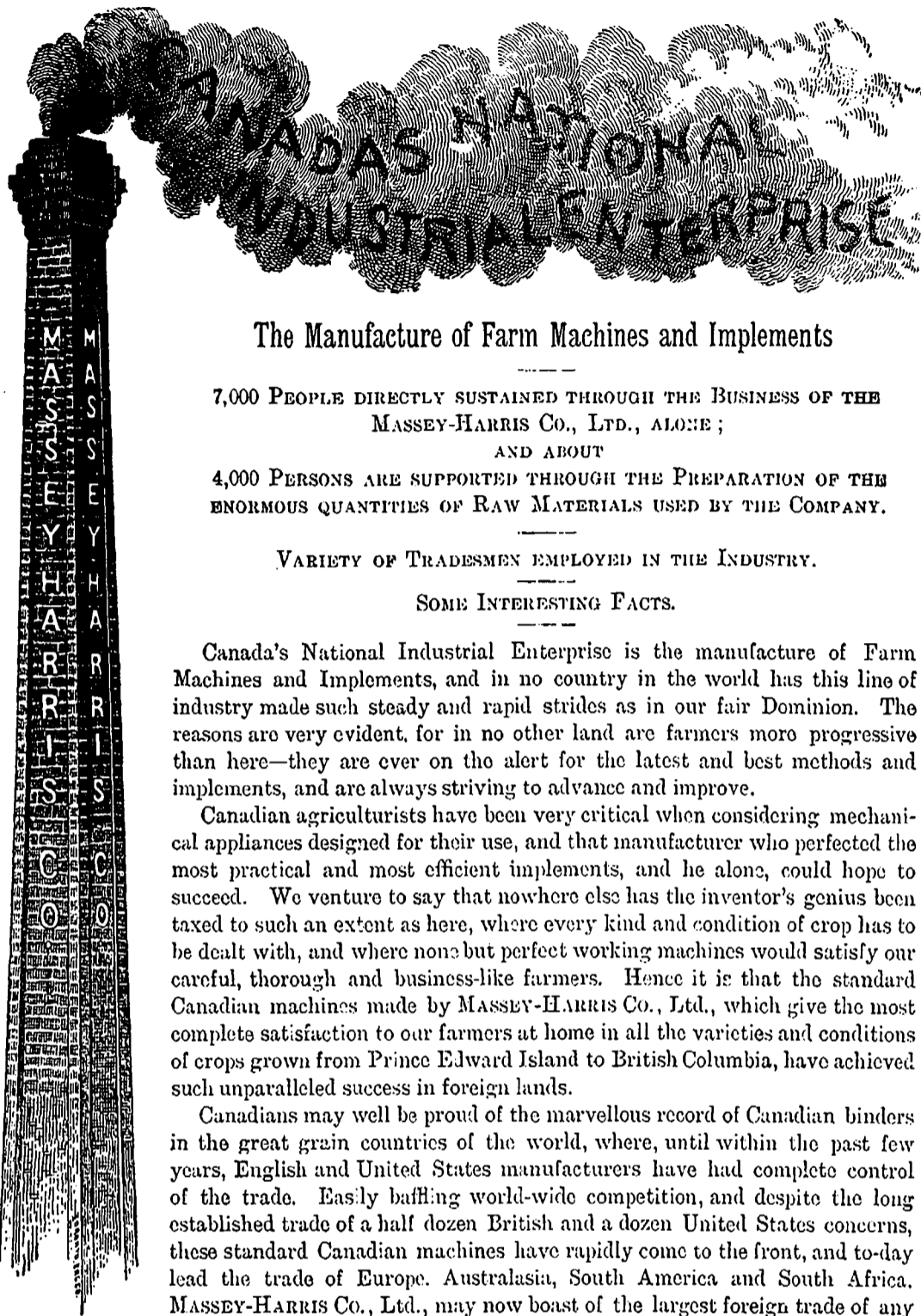
He had withal a certain dignity and gentleness of manner that came from a sense of hereditary power, good breeding and association with the highest people of the empire, and added to this an experience of the world and of foreign countries, including all that such a youth with plenty of money would learn in Paris, Berlin, London and Constantinople.

He addressed us in English with such kindness of tone and manner that we wondered whether Frost had not slandered him in calling him a bad man, for he seemed a sweet-tempered gentleman.

It was a warm evening, but our host had a great English ulster, lined with sables, cast over his seat, half-supported on a rest behind his back. An attendant at times raised it loosely about his shoulders, and once fastened it for a few moments with a diamond clasp.

(To be continued.)

A MAN down East has invented a washing machine, the motive power of which is a swing in which a child is placed. The child swings to and fro, and the motion causes the machine to run, with the result that the family washing is done up in good shape. As long as the child does not know that it is doing any work, it would seem that this would be a good scheme; but those who are familiar with the nature of children, will readily see that as soon as the child finds out that the swing is connected with a washing machine, it will suddenly take a strong dislike to the amusement of swinging and get out of it by some excuse or another.—*People's Sun.*



The Manufacture of Farm Machines and Implements

7,000 PEOPLE DIRECTLY SUSTAINED THROUGH THE BUSINESS OF THE MASSEY-HARRIS CO., LTD., ALONE;

AND ABOUT

4,000 PERSONS ARE SUPPORTED THROUGH THE PREPARATION OF THE ENORMOUS QUANTITIES OF RAW MATERIALS USED BY THE COMPANY.

VARIETY OF TRADESMEN EMPLOYED IN THE INDUSTRY.

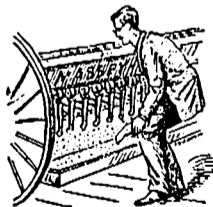
SOME INTERESTING FACTS.

Canada's National Industrial Enterprise is the manufacture of Farm Machines and Implements, and in no country in the world has this line of industry made such steady and rapid strides as in our fair Dominion. The reasons are very evident, for in no other land are farmers more progressive than here—they are ever on the alert for the latest and best methods and implements, and are always striving to advance and improve.

Canadian agriculturists have been very critical when considering mechanical appliances designed for their use, and that manufacturer who perfected the most practical and most efficient implements, and he alone, could hope to succeed. We venture to say that nowhere else has the inventor's genius been taxed to such an extent as here, where every kind and condition of crop has to be dealt with, and where none but perfect working machines would satisfy our careful, thorough and business-like farmers. Hence it is that the standard Canadian machines made by MASSEY-HARRIS Co., Ltd., which give the most complete satisfaction to our farmers at home in all the varieties and conditions of crops grown from Prince Edward Island to British Columbia, have achieved such unparalleled success in foreign lands.

Canadians may well be proud of the marvellous record of Canadian binders in the great grain countries of the world, where, until within the past few years, English and United States manufacturers have had complete control of the trade. Easily baffling world-wide competition, and despite the long established trade of a half dozen British and a dozen United States concerns, these standard Canadian machines have rapidly come to the front, and to-day lead the trade of Europe, Australasia, South America and South Africa. MASSEY-HARRIS Co., Ltd., may now boast of the largest foreign trade of any company in the world.

The great superiority of their machines over those of other makers of any and every other country has brought about this result, and in developing and perfecting a machine which will in every sense satisfy the demands of their home trade, the Company have equipped themselves with every facility to fully meet the requirements of the foreign tiller of the soil.



EXPERIMENTER.

In the January issue of MASSEY'S ILLUSTRATED we published a diagram of the extraordinary quantities of different classes of raw materials used by the Massey-Harris Co., Limited, in the manufacture of their machines for the season of 1892. Considerably over one hundred different kinds of materials are purchased; but of the staple articles alone, such as steel, pig iron, malleable iron, bar iron, etc., thirty-nine million, six hundred and eighty thousand pounds are used. And, as shown by the diagram alluded to, five and one-half million feet of lumber are annually consumed, while



DRAFTSMAN.



WOOD PATTERN MAKER.

over one hundred and forty-seven thousand square yards of cotton duck were put into self-binder belts last year.

Think of the great army of men it takes to convert this great mass of raw materials into self-binders, mowers, rakes, etc. We presume

there are but few of the readers of the ILLUSTRATED who appreciate how many hands are kept busy in the mammoth Massey-Harris beehives at Toronto, Brantford, and Woodstock, and at the Company's large distributing warehouses in all parts of the Dominion and elsewhere. Not only is the number of employees itself very large, but these employees



METAL PATTERN MAKER.

are largely heads of families; hence the number of people directly sustained by this one industry runs into very large figures. At the Company's Works,—Toronto, Brantford and Woodstock,—about one thousand five hundred employees are kept busy. To this number

must be added at least two hundred and fifty to cover the large office and warehouse staffs of the Company's Branches throughout the Dominion and elsewhere. Considering that, on the average, each employee is supporting three others in addition to himself (a low estimate), we find that this National Industry is directly sustaining 7,000 people. But besides these, a very large number of persons earn the greater portion of their livelihood through the

local distribution of Massey-Harris products—a number which it would be very difficult to correctly estimate, as the wide trade relations of the Company necessitate the employment of a very large staff of agents not only throughout the

Dominion, but also in foreign grain-growing countries, where this Company has established a large trade, which is constantly and rapidly extending. It is the Company's policy to locate agents at every important centre, and to carry a stock of extra parts for repairs (not only for machines of their own manufacture, but also for all machines made by the old Companies now merged into this one),

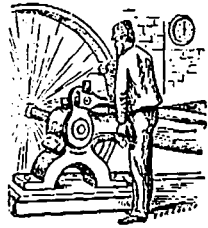
and thus provide most efficient service and every facility for giving prompt attention to the needs of agriculturists at home and abroad. This gives employment to several hundreds of men, but as previously intimated, the actual number cannot be determined since, in many instances, these persons do not devote all of their time to the Company's business.

It is surprising to note the different trades represented in the Massey-Harris Co., Ltd., Works:

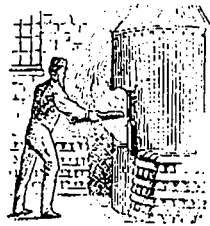
Knives, guards, cutter bars, bolts, nuts, rivets, and many other materials, also machine tools, which other manufacturers in this line purchase as raw material, this Company manufacture for themselves, which enables them to fully guarantee their machines in every particular; hence their great factories embrace a very large number of different departments, giving employment to a great variety of tradesmen. The following is a list of the several departments, and the tradesmen employed therein:



FIREMAN.



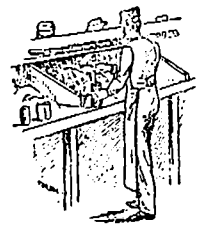
ENGINEER.



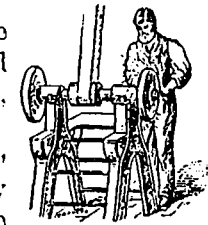
MELTER.



MOULDER.



CORE MAKER.

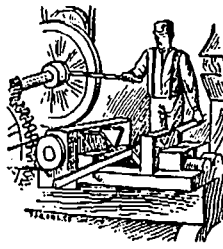


POLISHER.



BLACKSMITH.

PRIMARY DEPARTMENTS.



MACHINE SMITH.

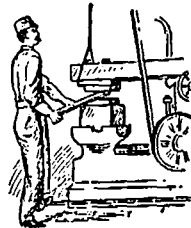
Grey Iron Foundries.—Moulders, Laborers, Melters, Core Makers, Grinders.

Pattern Shops.—Experimenters, Draftsmen, Iron Pattern Makers, Wood Pattern Makers, Shop Repairers.

Blacksmiths' Shops.—Blacksmiths, Machine Forgers, Drop-hammer Men, Trip-hammer Men, Laborers.

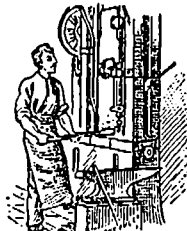
Steel Plant, Knife, Bar, and General Supply Factory.—Machinists, Grinders, Tempering and Hardening Hands, Knife Fitters, Bar Fitters, Bolt, Nut, Rivet and Washer Makers, Teeth Formers.

Lumber Yards and Saw Shops.—Teamsters, Laborers, Saw and Planer Men.



TRIP-HAMMER MAN.

FINISHING DEPARTMENTS.



DROP-HAMMER MAN.

General Machine Shops.—Machinists, Vice Hands, Fitters, Laborers, Steam Fitters.

Tool Rooms.—Tool Makers, Machinists, Tool Smiths.

Power and Heating Departments.—Engineers, Firemen.

Wood Shops.—Turners, Machine Wood-workers, Laborers.

Constructing Rooms.—Wood-workers, Erecting Experts, Laborers, Belt Makers.

Paint Shops.—Mixers, Painters, Varnishers, Strippers, Decorators, Laborers.

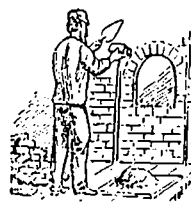
Printing and Publishing Department.—Compositors, Pressmen, Folders, Mailing Hands.

Shipping Rooms.—Packers, Shippers.

Sundry.—Night and Day Patrolmen, Storemen and Stock-keepers.

Offices.—Clerks, Stenographers, Typewriters, Telegraphers.

The tiny pictures on these pages illustrate some of the different trades and professions mentioned in the list above. In the case of some of the classes of occupation, our readers may surmise that there would be not more than two or three representatives at most on the Company's staff; as, for instance, patrolmen, experimenters, stenographers, typewriters, etc. There are, however, eight night watchmen guarding the Company's three factories, and quite a large staff is continually experimenting on the different lines of machines, endeavoring to simplify and improve. As for stenographers and typewriters, from twenty to twenty-five are kept constantly busy at the Company's different offi-



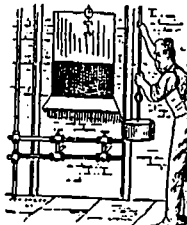
FURNACE BUILDER.



BOLT MAKER.



HARDENING HAND.



TEMPERING HAND.

ces; and while speaking in this connection it may be interesting to state that the Company's total postage, telegraph, and telephone account for the Head Office and its several branches averaged over one hundred dollars per day for the year 1892.

It will thus be seen that the large army of men in this great industry represent many different classes of employment.

But up to this point we have made no mention of the hundreds of men who find employment in preparing the enormous quantities of raw materials mentioned at the beginning of our article, which were used in making up the forty thousand machines the Company turned out last season. They, too, would constitute quite an army. According to their own statements, the Walkerville Malleable Iron Company have an average of one hundred and twenty-five men employed on Massey-Harris orders throughout the year; the Oshawa Malleable Iron Company sixty-seven or more; the Ontario Rolling Mills Company, Hamilton

and Swansca, seventy-five; Yarmouth Duck and Yarn Company, Yarmouth, N.S., twenty-five to thirty; Nova Scotia Steel and Forge Company, New Glasgow, N.S., forty to fifty; also a large number at Smith's Falls Malleable Iron Works. Besides this there are scores of hands kept busy on Massey-Harris work at various smaller factories throughout the Dominion, making screws, tacks, rivets, nail

wire, bolts, nuts, and many other classes of material (too numerous to mention, and yet which are used in large quantities).

Then, too, think of the gangs of men it would take to bring five and one-half million feet of lumber from the woods and put it through the saw mills.

Further, we have made no mention of the large number of hands employed in manufacturing the higher grades of steel, which is imported from Sheffield and elsewhere. Also the number of miners and blast furnace hands required to prepare the eleven and one-half million pounds of pig iron or

over the Company uses annually, much which, we are pleased to say, is now produced in Canada.

Again, consider how many men it would take to ready nearly four million pounds of coal and coke, and three and a quarter million pounds of moulding sand used by Massey-Harris Co., Ltd. every year.

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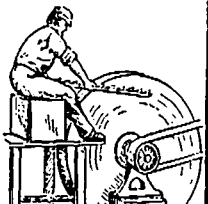
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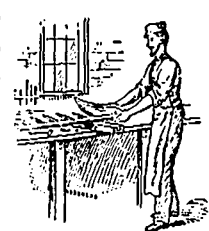
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KNIFE MAKER.



KNIFE GRINDER.



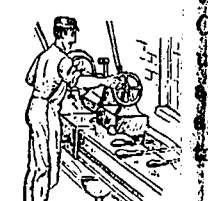
BAR FITTER.



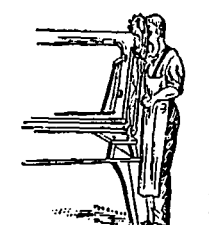
CARTER.



STEAM-FITTER.



MACHINIST.



MACHINE FITTER.

And, further, do not let us forget that back of the steel and iron rolling mills, and the malleable iron foundries, are still other large gangs of men preparing pig iron, iron and steel billets, coal, coke, etc., etc., for their use.

But what about the handling and freighting of all this material; yes, and the finished machines, too. How many railroad employees does it keep busy? 2,490 car loads of raw materials were received at the three factories during the season of 1892, and 1,698 car loads of finished machines were sent out. At the Company's North-West branch alone, 467 cars of goods were received and transhipped.

While it will thus be seen that the number of people who find employment in the preparation and handling of raw materials is very large, so at the same time it would be difficult to form more than an approximate estimate. Certainly we would not be

asray in considering; that at least one thousand men are thus employed, and if these in their turn are each supporting three others, it would mean four thousand persons all told, who are indirectly sustained through this National Canadian Industry.

Hence, we find that in all at least eleven thousand people obtain their livelihood through the manufacture of Massey-Harris machines and implements.

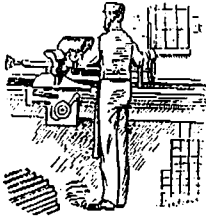
Who can estimate the great value of this one industrial enterprise to Canadians? It takes a good many acres of wheat to supply all these people with bread, and the products of many farms to provide them with Canadian beef and other necessaries.

But our remarks have applied to the Massey-Harris Company only. While it is by far the largest concern in the implement business in Canada—the largest also under the British flag—there are likewise several other

agricultural implement manufacturers in Ontario, some of which have obtained considerable reputation, and the aggregate business of all these rival institutions will run into figures of no mean proportions. Hence who can estimate the great value of our National Industrial Enterprise—the manufacture of farm machines and implements—to our country? The large foreign trade of the Massey-Harris Company, Limited, is of special advantage to Canadians, as we scarcely need point out.



WOOD WORKER.



WOOD TURNER.



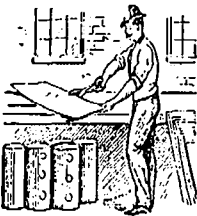
CARPENTER.



ERECTING EXPERT.



WHEELWRIGHT.



TINSMITH.



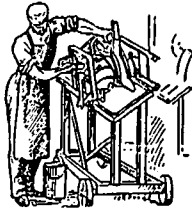
BELT MAKER.

ECONOMY.



PAINT MIXER.

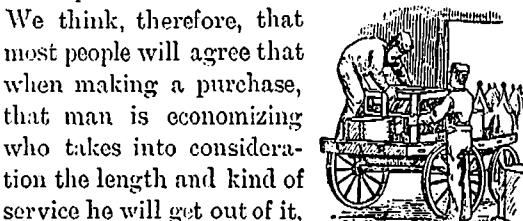
The gate-way to prosperity is economy. Almost everybody believes that. But what is economy? There may be quite a difference of opinion as to what economy really is. One man says he is economizing when he buys the cheapest suit of clothes he can find. Another man thinks it economy to pay more money and get better goods. The first man says he has saved five dollars. Has he? The second man says no, but on the contrary that he has next to wasted five dollars, and he argues that the goods which will last the longest and give the best service are the cheapest, though they cost more money, and therefore it is economy to buy them.



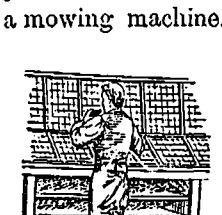
PAINTER.



PACKER.



SHIPPER.



COMPOSITOR.

Seeding and Cultivating.

These fundamental operations of the agriculturist are performed in anticipation. In no land are good crops always certain. On the contrary, between seed time and harvest many contingencies are likely to arise. The weather may be too hot, too cool, too wet, too dry, etc., etc.



FOLDER.

Now, whatever will increase the chances for a large and profitable crop is of the utmost importance to the farmer. It is sufficiently evident that

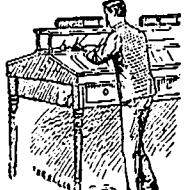
indifferent cultivation of the soil, or careless sowing of the seed, will lead to failure under the most favorable conditions of rain and sunshine.



PATHOLMAN.

On the other hand, it is now fully proven that if both the cultivation of the soil and the putting in of the seed be scientifically done, there may be well-founded hope of a fair crop under very adverse circumstances. The seed being well planted in a thoroughly prepared soil, gets a good start, and by a healthy growth is enabled to overcome future climatic difficulties.

The scientific seeding and cultivating machines made by MASSEY-HARRIS Co., Limited, have done much to bring about this result; and with the latest improvements they are attracting the attention of the leading agriculturists in all parts of the world.



CLERK.



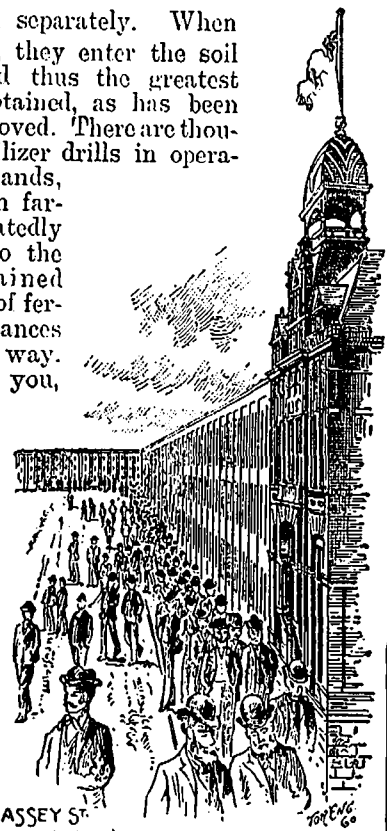
TYPE WRITER.

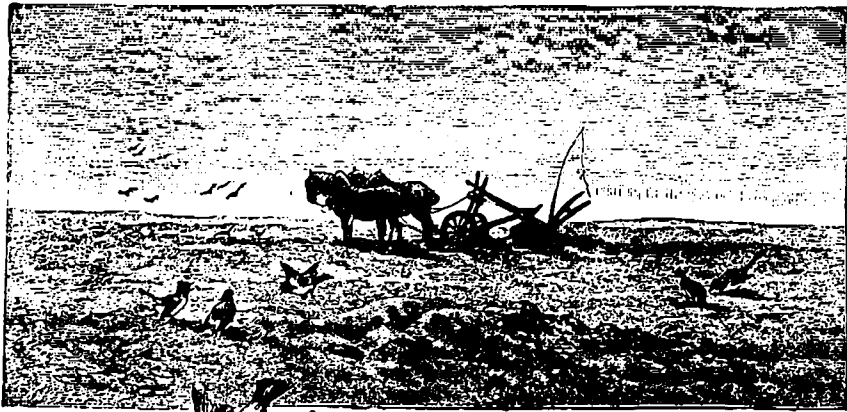
Fertilizer Sowing.

Fertilizer sowing is destined to become more and more popular. Farm lands which have been exhausted from an excessive succession of crops cannot be restored in any other way than by systematic and scientific fertilizing. Comparatively poor land can be made to do good service by the same process. On this account the increase throughout the country of the use of artificial manures in the shape of guano, phosphates, ashes, plaster, etc., as their values became known, made it imperative that the manner of their distribution should be so controlled and regulated as would give the greatest returns for the money invested, and be in the hands of the farmer a practical and reliable operation.

A machine designed for sowing fertilizer should be so made that, when desired, either the grain or fertilizer substance can be sown separately. When sowing both, they enter the soil together, and thus the greatest benefit is obtained, as has been repeatedly proved. There are thousands of fertilizer drills in operation in other lands, and Canadian farmers are repeatedly awakening to the profits obtained from the use of fertilizing substances sown in this way. It will pay you, farmers, to give this matter more earnest consideration.

The Wisner Combined Drill and Fertilizer Sower has already won a reputation throughout Ontario. Examine this machine and see what you think of it. MASSEY'S TORONTO JUST AFTER THE WHISTLE-BLOWS





John Jenkins' Sermon.

The minister said last night, says he,
 "Don't be afraid of givin' ;
 If your life ain't nothin' to other folks,
 Why what's the use of livin' ?"
 And that's what I say to wife, says I,
 There's Brown, the miserable sinner,
 He'd sooner a beggar would starve than give
 A cent towards buying a dinner.

I tell you our minister's prime, he is,
 But I couldn't quite determine,
 When I heard him a givin' it right and left,
 Who was being hit by the sermon.
 Of course there couldn't be no mistake
 When he talked of long-winded prayin',
 For Peters and Johnson they sat and scowled
 At every word he was sayin'.

And then the minister went on to say,
 "There's various kinds of cheatin',
 And religion's as good every day
 As it is to bring to meetin'."
 I don't think much of a man that gives
 The Lord Amens at my preachin',
 And spends his time the following week
 In cheatin' and overreachin'.

I guess that dose was bitter enough
 For a man like Jones to swal'er ;
 But I noticed he didn't open his mouth,
 Not once after that to holler.
 Hurrah, says I, for the minister—
 Of course I said it quiet—
 Give us some more of this open talk ;
 It's very refreshin' diet.

The minister hit em every time :
 And when he spoke of fashion,
 And a-riggin' out in bows and things,
 As a woman's rulin' passion,
 And a-comin' to church to see the styles,
 I couldn't help a-winkin' ;
 And a nudgin' my wife, and says I, "That's you,"
 And I guess I so: her thinkin'.

Says I to myself the sermon's past ;
 But man is a queer creation,
 And I'm much afraid that most o' the folks
 Won't take the application.
 Now if he had said a word about
 My personal mode o' sinnin',
 I'd have gone to work to right myself,
 And not set here a grinnin'.

Just then the minister says, says he,
 "And now I've come to the fellers
 Who've lost this shower by usin' their friends
 As sort o' moral umbrellas ;
 Go home," says he, "and find your faults,
 Instead of huntin' your brothers ;
 Go home," says he, "and wear the coats
 You've tried to fit for others."

My wife she nudged, and Brown he winked,
 And there was lots o' smilin'
 And lots o' lookin' at our pew ;
 It sot my blood a-billin' ;
 Says I, to myself, our minister
 Is gittin' a little bitter ;
 I'll tell him when meetin' is out that I
 Aint at all that kind of a critter.



The question of irrigation, so important to many of the Southern and Western States has been taken up seriously by the Montana legislature. It is felt that the success of agriculture in that state depends very largely on a proper and adequate system of irrigation, and a water-

commission is proposed, with large powers of operation, and having the character of a State authority in which the corporate power of the community shall be vested. The scheme proposed is very elaborate as to detail and if it becomes law the results of its operation will be watched far and near with great interest.

The provincial exchanges for the past few months contained much on the subject of farm mortgages. The discussion, as a rule, hinged on the leading question, "How to get rid of them?" A serious query, certainly, to most farmers, but not more grave than the solution which some journalists have ventured to return to the poser. There have been those who have advocated laws to legislate mortgage indebtedness out of existence in cases where it is an exceptionally severe burden. Others are more timid, but it is evident that there is a spirit of unrest in the air, raised, doubtless, by the passing wave of depression incident upon bad years and limited trade. The first thing the farmer should remember is that he borrowed the money; that he received hard cash; that the debt is a legitimate one and must, if possible, be paid. Borrowing money is a bad thing; where it is absolutely necessary, the farmer must understand that the obligation it places upon him was undertaken by himself, and for his own convenience. Probably legitimate relief might be obtained by legislation, but certainly never in the direction of wiping out the debt. While such would be iniquitous, a sliding scale of interest might be adopted and enforced, by which mortgages would bear current bank interest and no more.

We have once and again impressed upon farmers the necessity of procuring the very best roads they possibly can. The value of good roads has been frequently pointed out and the convenience, pleasure and comfort which would accrue from them are obvious. The Department of Agriculture has been induced by these representatives to take up the subject and in a bulletin issued last month, and obtainable from the Department upon application, good hints are given on the making of roads. The following paragraph in the Exordium of the bulletin is almost the very same words used in these columns: "Good roads enable the farmer to market his produce at all times, to take advantage of changes in market prices, and to utilize time that cannot be given to other farm work; they enable him to market his produce and secure his produce at less expense for hauling, with less wear and tear to vehicles, and with less injury to animals. The improvement of roads results in bringing more closely together the members of the agricultural community, and thereby increases the social intercourse of farmers. In a word, the construction of better roads brings the farmers closer to their markets and closer to one another, the financial, social and moral advantages of which are well understood by all." The bulletin does not deal with some very practical questions connected with improved roads, such as the cost of constructing and maintaining good roads, the problem of

statute labor, so vexing and many-sided. These questions are left to be decided by the county or municipality. Yet the publication of the bulletin ought to be of immense value and ought to give a stimulus to the agitation in favor of improved roads. Information is tendered on the construction of various kinds of roads, on the material that may be used to advantage, and on other features of the subject. A strong plea is urged on behalf of keeping the roadsides tidy and clear thus:—"The farmer who prides himself on the neatness and cleanliness of his farm, has just reason to protest against the roadway being used as a dumping place for the refuse of the farm or a storage place for logs and wood, or as a place in which foul weeds may mature their seeds to his injury. Every traveller who uses the roadway has a right to protest against its being defaced in this manner, as it destroys a great deal of the pleasure that would be experienced were it kept in a proper state. Nothing should be placed on the roadway that would mar the view. A well-kept farm does not appear to advantage beside a badly kept roadway. There should be as much thought and care given to improving the appearance of our roads as a good surface. The sides should be levelled and graded so that they will present a smooth and sightly appearance. Trees should be planted along the roadsides and the whole kept in a proper state of repair, and everything done to make its appearance as pleasing as possible. By doing this it will not only add to the greater pleasure to be derived in travelling, but will improve both the appearance and the value of the farms along the roadway.

If it be any consolation to the Canadian farmer, he may learn that his brother-in-calling, across the line, is a great deal worse off than he is, in this very matter. From official statistics, it would seem that one third of the farmers of the entire United States are tenants, one third own their farms, but under mortgage to their full credit value, thus rendering them virtually tenants; and only one-third own their acres free from debt. By comparison with the census of 1880, there has been an alarming increase in tenant farmers. In Illinois, for example, the growth was from 24 per cent in 1880 to 36 per cent in 1890; and in Montana it was ten-fold. In every State in the union the percentage has increased in the last decade; and more startling still, in nearly every State the absolute as well as the relative number of farms has decreased, though the acreage has increased, showing the concentration of farms into fewer hands and the remorseless reduction of the real tillers to the condition of serfs. Commenting on this state of affairs, a reliable and esteemed contemporary remarks that the startling figures given to the public prove the truth of the assertion that the "American workingman is becoming the American slave, and the American farmer the American peasant." We in Canada, notwithstanding our farm mortgages are still a good few removes from this deplorable condition.

Under various circumstances and from many points of view, has the question of how to keep farmer's sons interested in the farm, and in farming as a calling, been discussed at Institute and in the farmers' papers. Last year the Ontario Legislature devoted much time to a debate on the better education of the farmers' sons, and technical education has been advocated as a means, not only conducive to scientific farming, but as interesting the young people in the beauties of country life. The question has forced itself on the Ontario government, and in his admirable address to the Central Farmers' Institute, Hon. John Dryden, Minister of Agriculture, outlined a departure in the desired direction, which will be welcomed in the country. In answering the self-imposed question, "Can anything be done to stem the tide of emigration from the country to the town," he said. "I think there can. I would like to see

even the youngest child of our public schools bear something about the attraction and beauties of rural life, about the importance and dignity of labor, about the honor which may come to a man engaged in agricultural pursuits." The first step to bring about that result, he stated, was to qualify the teachers to sow the seed of instruction, and for that purpose the government will, during the coming summer, open voluntary classes for teachers at the Agricultural College, Guelph, where they will be taught, for a few weeks, the rudiments of the subject, and qualified to talk to the children about plant and animal life, the nature of the soil, etc. From 40 to 50 lectures will be delivered dealing with agriculture, chemistry, botany and geology. It is not intended to place an extra subject on the already too crowded curriculum, but to impart interesting information in an easy manner, through talks to the children. By this means, it is hoped the mind of the child may, perhaps, be filled with a love for pure country air, the beauties of nature and the dignity of following the plough. Every well-meant effort to effect this laudable end should be encouraged, as there can be no doubt many desert the farm for less profitable work in towns, and the country is becoming depleted. A sage remark of a contemporary will bear quoting. It is *appropos*: "If your daughters are interested in the poultry yard and get the proceeds, and your sons are interested in the crop, or have a small acreage to themselves, or own a few head of stock from which they can get spending money, they will be content with country life and not long to go to work for wages. They will also learn to love farm life and will be well calculated to carve out a living for themselves when thrown upon their own resources." We remember the case of a boy who got fifteen dollars for a calf which he tended and brought up for his summer's wages. It was his first money; the bills were kept so carefully that it was a few years before they were used, but the boy's mind was awakened, and the buying and selling of cattle became his vocation, at which he was eminently successful. Legislation can do much to stem the tide, but home encouragement can do vastly more, and a fair surplus of profits will lend unction to home encouragements.

A GRIEVANCE under which the rural community labours is that of postal delivery. In cities and towns, from the nature of the case, the facilities for collecting and delivering letters are up to date, but in the country districts this is far from being the fact. Indeed, there is, properly speaking, no post-office delivery in the country. The letters and papers are laid down at the local post-office, and there they remain until called for, unless some obliging neighbor brings them along. Now, that is not what it should be. The farmer is entitled to a delivery of his letters just as much as a merchant in town is. Are not both engaged in a legitimate business? Is not farming as much a business as selling tea, sugar and tobacco? Undoubtedly it is, and business facilities ought to be provided for those engaged in it. Why should not postmen go up and down concession lines as well as up and down streets? There is no earthly reason why. The post-office is a branch of the public service existing for the benefit of the whole, not a section of the community. But its resources have been developed mainly for the benefit of the town or village. This is not just nor reasonable. The farmer pays the taxes and he ought to share with the town man in the fat things of the country. He has it in his power to do so, and he should never rest until he gets a position of equality or at any rate of proportionate advantage with his fellow-citizens. It resolves itself once more into the power of the ballot, and until farmers are educated up to the level of their own power and importance there will be no political justice done them. The point we have raised here, although referring to postal delivery specially, has a general application, and it is high time that our friends, our customers,

the people for whom we cater, in whose welfare our prosperity is largely bound up should listen to our repeatedly given counsel and take steps to assert themselves for the bettering of their home comforts and their mode of life generally. They appreciate our efforts in the mechanical line, as those of no firm in Canada have never been appreciated before; let them now appreciate well-reasoned, well thought-out advice, given on behalf of their material prosperity.

SINCE Sir John Thompson, in his Board of Trade speech, announced that the Government were prepared to adjust the tariff by lopping the mouldering branches away, there has been a growing cry for tariff reform which the government promises to meet as far as may be consistent with the necessities of the case, after due enquiry. There is no doubt the farmer, who has been suffering for some time past from a variety of causes, should receive attention, so the duty on binder twine has been reduced, also that on coal oil which the farmers consume in large quantities. What the future would bring forth would be difficult to speculate upon to any profit. Suffice to say that the government seems to be alive to the importance of dealing carefully and cautiously with the subject. Freer trade with Great Britain is the panacea of a number of men of prominence in the country, notably of Mr. D'Alton McCarthy, and no doubt changes may beneficially take place in that direction, but what we may draw attention to, and emphasize, is the consistency of a reasonable tariff, with the industrial, agricultural and commercial prosperity of the country. It is an error to suppose that free trade and low prices are necessary concomitants to each other. A tariff may secure markets without combines for excessive prices and where it does it is absolutely beneficial. Where it is used for forcing prices, for defying sound business principles the axe may come in to lop off the "mouldering branch," but not infrequently the price is kept at a reasonable figure just because of the privilege and in return for the privilege of obtaining an exclusive market. Take as an instance the matter of agricultural implements. In Canada, to-day, the price for implements and machinery used on the farm is certainly lower than in the United States, or any other country in the world, for that matter. This has been repeatedly proven. The report of the Toronto *Globe's* representatives, sent to visit farmers in New York State within the last few months to obtain information on this and other points, fully confirms our statement in this connection. The farmer in the Eastern States pays from \$125.00 to \$145.00 cash for his self-binder, and in most instances pays the freight besides, while prices in the west are proportionately higher. He pays \$50.00 to \$60.00 cash for a mowing machine. Compare these prices with the prices at which the Canadian farmer is able to buy MASSEY-HARRIS Binders and Mowers, and the fact of the farmers of the Dominion having a decided advantage in obtaining implements at *very low prices* is made plainly evident. But not only so, but Canadian farmers are supplied with the best farm machinery yet produced by man. Some one says, "That is an extravagant statement; you cannot prove it." No, it is not an extravagant statement, but true to fact and capable of undeniable proof. When Canadian implements meet on equal footing in open competition with the leading makers of the world, they have been found to excel, and have obtained the highest awards at the great international field trials of the world. In the face of long-established competition, they command a higher price than any others in foreign trade; and not only so, but they have climbed to the top in volume of sales in Europe, Australasia, and other distant lands. Highest awards—highest prices—largest sales in the face of world-wide competition in foreign lands, settles beyond dispute the superior merits of MASSEY-HARRIS machines.

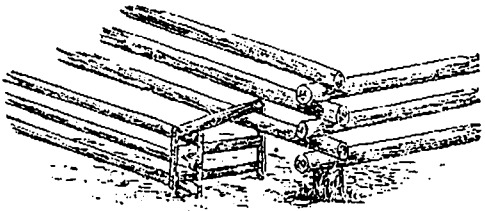


- 1st—Senator Desjardines elected Mayor of Montreal. . . . West York S. S. Convention held at Toronto Junction. . . . Mr. Goschen, ex-Chancellor of the Exchequer, elected a member of the Carlton Club.
- 2nd—Manitoba Legislature opened. . . . James Fgan, the liberated Irish dynamiter given a reception at Limerick. . . . Conservative caucus at Ottawa agreed to support Government in a moderate reduction of tariff.
- 3rd—Mr. Mercier took his seat in Quebec Legislature. . . . Dr. McFadden elected opposition whip in the Manitoba Legislature. . . . Hawaiian Commission arrived in Washington.
- 4th—Sir W. C. J. Baron Northbourne died. . . . English Conservatives captured Huddersfield from the Gladstonians. . . . Lord Salisbury declared that a tariff on corn was outside the dreams of any politician.
- 6th—Duke of York, the Prince of Wales' son, made his first public speech. . . . Dr. Gentles, Shoal Lake, found dead in his room, having shot himself in the head. . . . British Government undertaking a plan for reorganization of army.
- 7th—City Council of Kingston petitioned Dominion Government for the removal of duties on coal oil, sugar, seed corn, wire fence and binding twine. . . . Brisbane, Queensland, inundated by floods.
- 8th—British imports from Canada declined 27 per cent. during last month. . . . Duke of Orleans recalled from Africa. . . . Michael Davitt elected in Cork for House of Commons.
- 9th—Sir Wm. Dawson, Principal of McGill University, restored to health. . . . Announcement by Dominion Government that Voters' Lists will be revised this year. . . . American Protectorate over the Hawaiian Islands announced.
- 10th—James Moore, Montreal, donated \$30,000 for the erection of a Convalescent Home in that city. . . . United States Bonding Agents withdrawn from Canada.
- 11th—The overdue steamer *Tauric* arrived safely in Liverpool. . . . Queen's speech approved of in the British House of Commons. . . . Three men killed at West Rutland, Vt. by the fall of an immense block of stone.
- 13th—Mr. Gladstone introduced his Home Rule Bill. . . . The Dominion Government was official y informed that Quarantine of 90 days would apply to cattle for the World's Fair.
- 14th—Israel Tarte, member for Lislet, took his seat in the House of Commons, Ottawa. . . . Order in Council issued abolishing the alleged discrimination in canal tolls against the United States.
- 15th—The United States Government receded from their position of enforcing quarantine against Canadian stock for the World's Fair. . . . A special bulletin issued by Agricultural Department on road making.
- 16th—Wallace Bruce, of Poughkeepsie, U.S. Consul at Edinburgh, elected to succeed John Greenleaf Whittier, of the Scottish Society of Literature and Art. . . . David Uemill, a fireman on G.T.R., killed instantly on train at Peterborough.
- 17th—Wm. Whyte, of Parry Sound, shot himself fatally in a Toronto hotel. . . . Edward Blake spoke in favor of Home Rule, in House of Commons.
- 18th—Hexham captured by the Gladstonians. . . . Robert Fallon, a farmer near London, Ont., over-exerted himself in pursuit of a runaway team and fell down dead.
- 20th—Hon. Charles Tupper left London for Paris to the conference on the Behring Sea dispute. . . . Department of Interior issued order that all immigrants for Canada must land at Quebec instead of at Montreal.
- 21st—Dr. Ryerson, Conservative, Dr. Ogden, Liberal, and Phillips Thompson, Progressivist, nominated for Toronto in Local House. . . . Eleventh Annual Convention of Royal Templars opened at Galt, Ont.
- 22nd—Judge Paxter died at Thorold, Ont. . . . M. Jules Ferry elected President of the French Senate. . . . Important postal changes took place in Canada. . . . St. Mary's Falls Canal thrown free to Canadian shipping.
- 23rd—Rufus Hatch, the well-known broker, died. . . . Mr. Vermilyea elected Reform candidate for East Hastings. . . . Senator Vidal made an attack on the Prohibition Commission in the Chamber at Ottawa.
- 24th—John W. Mackay, the millionaire, shot and seriously wounded in a San Francisco hotel. . . . Cirencester captured by the Gladstonians. . . . The new McDonald Engineering and Physics building in connection with McGill University, Montreal, opened. . . . Mr. Newcombe, Q.C., of Halifax, appointed Deputy Minister of Justice.
- 25th—Rev. Hugh Johnston, D.D., entertained by his Toronto friends on acceptance of appointment to pastorate of Metropolitan Church, Washington. . . . Dr. Al. an submitts his defence to the Toronto Aldermen.
- 27th—Senator Bouton enquired whether the Ottawa Government protested against annexation of Hawaii by the United States. . . . Patrons of Industry open Conference in Toronto. . . . John Charlton, M.P., addressed a large meeting on "Sunday Observance," in Toronto.
- 28th—Dr. Ryerson elected to Local Legislature for the vacancy in Toronto. . . . Annual meeting of Boys' Home, Toronto, held. . . . Provincial Land Surveyors meet in Toronto. . . . Grangers hold an important meeting in Toronto.



Stack Yard and Manger.

ALL kinds of waste should be guarded against, and no kind more than waste in feeding. A contrivance to accomplish this useful end is given here, which for simplicity and utility cannot easily be surpassed. It is especially design-



ed for the full utilization of straw, a feed that is regarded more and more as of great value, being considered on a par with over-ripe clover or timothy hay, and worth fully half as much as any good hay. Hence, instead of wasting the straw by building flat topped stacks and allowing the cattle and other stock to have free access to them, a yard is built around the stacks, and the straw fed out as regularly as hay or grain. To make all secure, a log pen is built, like the one in the illustration from a sketch by L. D. Snook. The logs rest upon a foundation of stone or wood, the lower log being one foot from the ground, and three logs on each side, the extreme height of fence being not less than four and a half feet. On the leeward side of the stack pen a permanent and durable manger can easily be made from small poles. This may extend the entire length of the pen, and be built upon one or more sides. The straw is thrown into it directly from the stack, and, if a ration of hay or straw be fed at noon, it will prove equally as valuable, the only objection being that it is located out of doors. However it is more convenient and economical than to throw the food upon the ground or in the nearest fence corner.

Few owners of that most useful article, a cross-cut saw, have a proper clamp to hold the saw firmly while it is being filed. Of the many forms of clamps to be seen those represented in the two following illustrations seem to be well-fitted for their purpose. They are from the sketch book of Mr. L. D. Snook. The sides of the clamp should be as long as the saw, if patent handles are used, or just the length between the handles if the old style be used. The side boards should be about one inch thick and ten inches wide. Two common bolts, four inches long are used, and provided with winged or handle nuts (Fig. 1), the bolts being located



Fig. 1.

at a point so that the back of the saw resting on them will allow the teeth and half an inch or more of the body of the saw to project above the clamp. Nail a strap, one-quarter of an inch



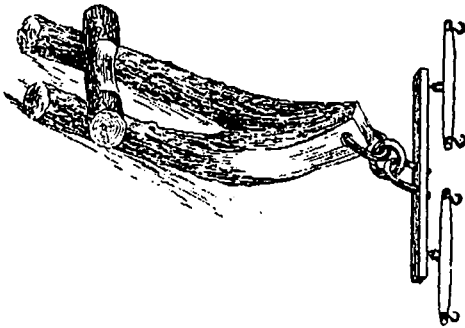
Fig. 2.

thick, on the lower inside bottom of one of the clamps, thus making the upper edge fit firmly against the saw. This clamp can be put in a

common bench vice, or, by having two irons bent at right angles (Fig. 2), and attached to the back of the clamp, and then bolted to the bench or table before a window. The saw will thus be held securely for filing. It takes but little to make these clamps, and they will last many years.

A Log Sled.

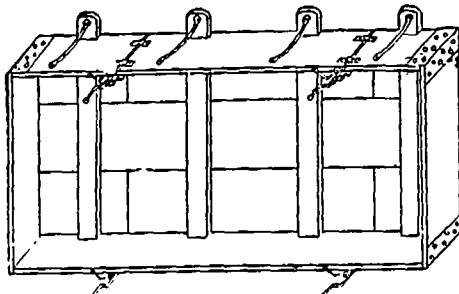
THIS illustration will recall the form of an old-fashioned, old time, log sled, but as serviceable an article as any farmer having many logs to haul, can have on his farm. It consists



simply of the crotch of a tree eight to ten inches in diameter, with two branches, as shown in the sketch, leaving the branches four feet in length. The bark is peeled off. Trim down the trunk end for the attaching of clevis or chains, fitting on a wooden saddle for the end of the logs to rest upon, and the equipment is complete. Attach the saddle with tough wooden pins, which will be found more serviceable than iron ones.

A Roadmaker's Wagon.

MUCH attention is being given, in these progressive days, to road-making. Here is an illustration of a wagon for handling gravel, which may be studied to advantage in connec-



tion with better roads. It is a design by S. Hollister, the well-known writer on the subject. A wagon box that will discharge its load without shoveling, and spread it as far as desired, can be made very easily, and at little expense. Two planks eight inches wide and as long as the box desired, are placed on edge, and end pieces of the same material fitted to them and held in place by corners of heavy sheet iron drilled and bolted on. The middle cross pieces that suspend the bottom, are mortised up into the lower edge of the body and the bottom is put on below them. If a very long body be wanted, though seldom a necessity with stone or gravel, the reach must be lengthened. The ends of this box must not project far beyond the bolster at either end. Between the forward and rear bolsters the bottom consists of three planks, the middle one over the reach being stationary. The bottom pieces on either side of it are sawed so as to drop, and the middle lengths are bolted to strong hinges that in turn are also bolted to this centre plank. They are short enough to drop and swing between the bolsters, and are free of the reach. After the load is on, one or both of the hinged bottom planks can be freed suddenly or by degrees, spreading the gravel a long distance in the wheel ruts. If the gravel is needed in one ridge upon the centre of the road, the

hinges must be bolted to the sides of the body. The moveable bottom planks are raised and held up by a small chain attached to each end, and to a plain, small, iron crank turning in staples on the sides. The top of the sides must be bound with strap iron, at least as far as the chains bear upon it. A hook rivetted to this top iron, slips into a hole in the shaft of the crank, acting as a brake in preventing the unwinding of the chain and spilling of the load in transit. This wagon box can be transferred to a set of sled bobs for winter hauling of gravel, and will work as well there as on wheels. To keep the grit out of the wheel thimbles, a broad collar of leather should be attached to each axle and reach almost to the spokes over the hub.

"BEES, chickens, and small fruits make a winning combination."

THERE need be no guess work in arriving at a decision as to whether milk or butter selling pays the farmer best. The question can be easily determined at home.

THE principal variety of cauliflower grown in the great cauliflower district of Long Island is what is known as the Early Dwarf Erfurt. They grow what pays best there.

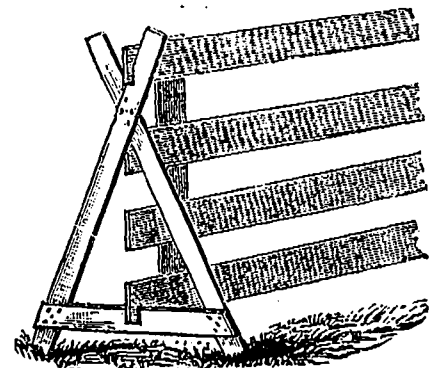
THE results of extensive experiments show that the number of eyes per piece of seed potato is of little consequence, but the weight of the piece is a very important factor.

THE following advantages can be rightfully claimed for carting farm manure from the farms in winter and dumping it on the fields where it is to be used in spring:—"The barn is kept free from odors, and the health of the stock improved; the labor is done at a convenient season; crops can be set earlier than otherwise, and the fields are not cut up so badly by the wheels as if the carting were done in spring. These are points well worth considering.

Live Stock.

Portable Sheep Fence.

A HANDY contrivance in the way of a portable sheep fence is that here given:—



This fence has been proved to be very useful in making folds for sheep on small areas of fields requiring extra manuring. They can be used also for many other purposes and altogether have been of great convenience about the farm.

LIVE stock cannot well be held for high prices.

THE better feeder will as a rule prove the most profitable animal.

NEGLECT is the most expensive product of the farm.

CLEANLINESS in the barn is profitable to horses and cattle alike.

If not allowed to get too sour, slop can be almost always fed to pigs to advantage, whether growing or fattening.

THE actual cost of raising a really good horse outside of the service fee is very little, if any, more than that of a good steer.

It is said that a weak tea made by boiling tobacco, or tobacco stems, will kill vermin on hogs. Rub it over the hog and along the back. The better way, however, is to keep the bed of the hogs clean and never allow the vermin to infest them.

WHEN fed with cut hay, a good horse feed is equal parts of corn meal, wheat, bran, and one quarter as much of either of oil meal. It should be mixed with the cut hay, slightly wet with water, so horses will not bolt the food. The cut hay will cause them to masticate the whole ration, and eat moderately.

A BROOD sow should be long, of great depth, broad in forehead, and not too closely coupled over the loin. Select her after the pigs are weaned, so she will have taken on national form. She should be retained as a brood sow until four or five years of age, if she proves good. The constitution of many animals has been ruined by breeding from young or immature parents.

THE nutritive value of milk is indicated by the amount of cream that rises to the surface, cream being lighter than skimmed milk. Water is also lighter in weight than milk, therefore watered milk is lighter than pure milk. When the cream is taken from the milk and the latter is still light, the indication is, there is more than the normal quantity of water present. The weight of a gallon of milk by the scales is a slight fraction less than eight pounds; purity of milk, in a general way will be determined by its weight, and may form a guide for those who buy their milk from dealers.

AFTER cattle have well pastured during the summer and fall many find it a good plan to finish for market by feeding on grain. In nearly all cases when this is properly done a better price can be realized per pound, so much so that a better profit from the cattle can be realized. It will nearly always pay when this is done. However, to feed a sufficient length of time to enable them to be graded when placed upon the market as grain-fat rather than grass-fat cattle. A good plan of management is to commence feeding corn in the fall while the cattle are still in pasture, gradually increasing as the supply of feed in the pasture fails. When necessary to rely upon dry feed entirely they should be given all of the grain that they will eat clean. At the same time in nearly all cases it will be best to give some roughness, either good fodder hay should be fed in addition. Better results can be received in this way than if grain alone is depended upon. It helps to make up a variety and supplies bulk, both important items in securing the best results. Of course, there is not a great amount of fattening food in hay or fodder. Corn is much better than anything of this kind, but they supply elements that the one lacks, and for this reason can be used to good advantage. The grain should be given liberally, in fact they should have all that they will eat up clean, and then in addition give them what roughness they will eat.

THE cow and the sow both benefit by experience in rearing young; the older they grow up to a certain limit, the better their progeny.

Sows reared for breeding should not be fattened. The process of fattening sows spoils them as milk givers and makes them poor breeders in every way.

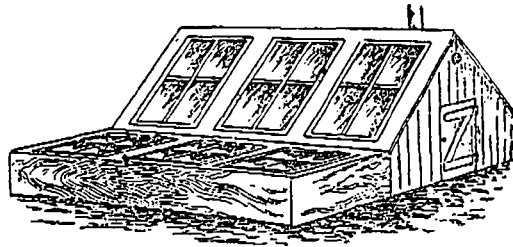
GENERAL rules for feeding stock can be given, but they must be varied to meet individual cases, hence the necessity for close observation of effects produced in each case.

WE fed with excellent results last winter, says Prof. H. H. Wing, and are doing the same again this season, a ration composed of 10 pounds of clover hay, 45 pounds of corn ensilage, and 8 pounds of a grain mixture consisting of 3 parts of wheat bran and 2 parts of cottonseed meal for a 1,000-pound cow. Theoretically, clover hay and corn ensilage with plenty of ears will make a very fair ration for a milch cow, except that it is rather too bulky for the best results. We prefer to feed a light grain ration of a rather nitrogenous character in connection with the ensilage and hay.

The Poultry Yard.

Early Spring Broods.

THE necessity for a warm, snug coop, or building for hens with young broods in early spring, is an important matter. The lack of buildings warm enough to keep the fowls and

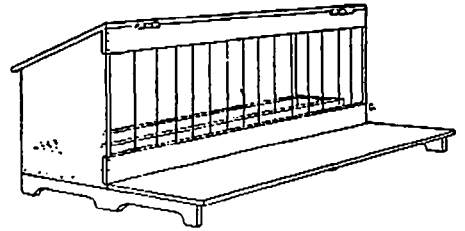


chicks comfortable, has been the reason that many delay hatching until April. With a good house young broods could be hatched out in February and March. The building shown in the above illustration serves the purpose of proper shelter, and affords an outdoor glass-covered run, where the little downy chicks can scratch and exercise without the possibility of getting chilled. More early-hatched chicks die from a sudden chill than from disease. Warm, dry, brooding compartments are arranged inside, covered within with fresh, clean straw or hay, where the hen is penned up and the little chicks are permitted to run in and out at pleasure. Partitions between each separate the broods, keeping them from mixing. Each hen and brood are let out alternately on mild days, to give them the use of the glass-covered run. An oil stove will supply a mild heat, to take the chill off at night. The interior ground plan is not shown, as any intelligent person can easily arrange this to suit his or her own convenience, and the number and varieties of fowls.

Feeding Poultry.

THE feeding of poultry, like that of all farm live stock is a question of scientific treatment. An authority on the subject gives the following pointers in the *American Agriculturist*, supplying his remarks with a sketch of a trough which we have pleasure in reproducing for the benefit of our many readers:—"When I first began feeding soft food in the mornings I used troughs, but the hens would persist in jumping into them and soiling the food. I put covers

on them, raised so the hens could get their heads under, but they would grab a few mouthfuls, jerk their heads out and spill a third of it on the floor. After experimenting some time I devised the trough shown in the sketch, and it proved to be just the thing. The box is twelve inches high in front, nine inches at the back, seven inches wide, and as long as desired. The top is hinged so that it can be raised. In the front, wires are fastened two and one-half inches apart, as shown in the sketch. The trough for the feed is four inches wide and is placed

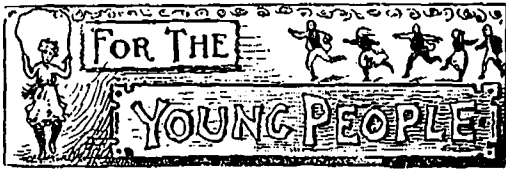


along the farther side of the box. In front is a platform eight inches wide. The hens get their heads between the wires, and stand there eating. All that drops from their bills falls on the clean floor of the box and is picked up afterward. There is less food wasted about this trough than any I have ever seen, while both box and trough are easily kept perfectly clean. For making a poultry house warm and comfortable I know of nothing equal to newspapers, two or three thicknesses, pasted all over the inside walls. Add a little glue and a few drops of carbolic acid to the paste, and lay the papers smoothly. Batten the cracks outside to keep out rain and snow, and the house will be as comfortable as a dwelling. A house with no drafts in it is the best preventive of roup and kindred diseases.

THOSE farmers and breeders who can afford it ought to have a glass covered walk or house with a southern aspect for the fowls to exercise themselves when the snow is too deep and the winds too cold for them to venture out. Clean dry earth sprinkled on the floor once a week and artificial heat if necessary, and the money so expended would return doubled, new laid eggs guaranteed, bring 40 cents a dozen during the cold winter months, and all fowls having good food and warmth would lay without ceasing.

THE symptoms of chicken cholera are as follows: The fowl droops and mopes about, with the feathers staring; the comb and wattles turn dark or pale, usually the former; there is great weakness and manifest symptoms of distress; digestion is arrested, food refused, the crop filled with sour and fermenting food; diarrhoea of a mild type at first, increasing in severity to the end; droppings at first of a greenish-yellow color, becoming more frothy and sulphurous as the disease progresses; pulse rapid and feeble; high fever and great thirst; sleepiness is a characteristic symptom. The disease is produced by a microscopic organism.

PROMPTLY the first of every month the "Poultry Monthly," of Albany, N. Y., reaches us, and is always a welcome guest. It is never stale or musty, its matter is original and pertinent as to season and object, and from the pens of the best writers on the subject of poultry raising as a practical business both for fancier and farmer. It is a magazine that every one who wishes to secure the best results from his flock of hens should take and read carefully. It is very handsomely gotten up, profusely illustrated, and carries a large line of advertising, which speaks well for its popularity. Subscription is only \$1.25 a year, in advance, from the publishers, Ferris Publishing Co., Albany, N. Y. We will, however, take subscriptions for it, including the ILLUSTRATED, at this price.



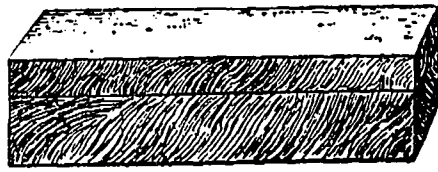
Working in Wood.

THERE is a great fascination to any one "handy" with tools in working various handsome woods into dainty and useful articles for one's own home. I say one's own home, because I think it a trifle unwise to put a friend under the special obligation of using something which might not be at all to that friend's taste. Gifts of household articles are always open to this objection, but a greater objection than usual seems to go with an article that one has put personal work into, and that must be in sight every day if used at all. It frequently happens, however, when one has made a handsome article for himself, that friends express a desire for something just like it, which then makes a gift an easy matter. One of the greatest causes of discouragement in attempting to work in wood at home is the lack of suitable tools, and the lack of a suitable condition of sharpness in these tools. To do good work, it is necessary to have keen-edged planes, saws and chisels, and in this connection it should be remembered that a few good tools are far better than a big collection that are of such inferior steel as not to be able to "hold an edge" with more than a half hour's work. The best is certainly cheapest in this case. To one who is about to make a selection of a few good tools, a bit of advice from practical experience may be helpful. Two planes are needed—a large "fore-plane" for large surfaces and a small "finishing" plane for finishing surfaces and for fine work. Two saws are needed, one midway between coarse and fine, and a very fine saw with a strengthened back to use in a mitre box. A "splitting" saw is almost a necessity, unless one takes care to always buy his boards of the right width, sometimes very difficult to do. A chisel an inch and a half wide and one three-eighths of an inch will answer almost every purpose. A measuring rule, a T-square and a bit stock with at least three sizes of bits, a "rimmer" for cutting out depressions into which to sink the heads of screws, and a screw driver to fit in the bit-stock, will be essential. A "spokeshave" will be found handy, but is not absolutely needed. In fact, there are almost numberless tools that would be found very convenient, but the person with limited money to spend can readily do good work and still get along without them, or can add to his supply from time to time as he is able. A good hammer is of course a necessity, and a supply of assorted sizes of screws, brads and nails with a small hand screw driver. With such a collection the home wood worker ought to get along very well. In the work-shop of a polytechnic school that I sometimes visit, the earliest instruction that is given the student on entering is in making well fitting corner joints.



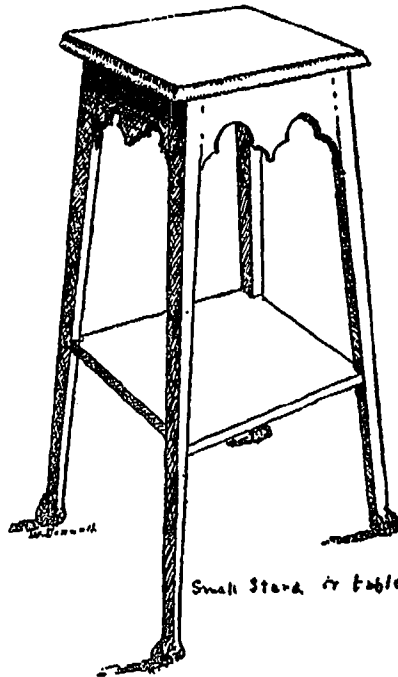
Wherever the amateur wood-worker begins he will find the skill and carefulness necessary to make a well fitted box highly desirable on other kinds of work. A few boxes are suggested in the illustrations, that are highly useful in themselves if properly made, and that afford good practice in wood-working. Let the boxes be made of thin pieces of the finest woods, and if

the colonial style of hinges and clasps can be found, so much the better.



Glove Box

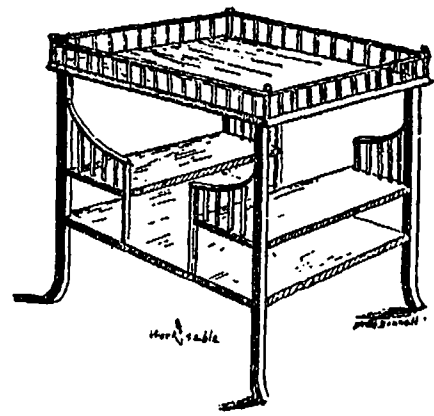
Among the most useful as well as easily-made articles are small tables and work-stands, which are suggested in the engravings. Half-inch material is thick enough for the tops of these, and an excellent material is white wood, which is



Small Stand or Table

pretty when finished in its natural condition, or when stained with cocobola or cherry, preferably the former. If one can afford to add a turning lathe to his wood-working outfit, he can add very much to the appearance of his work by

turning the legs of the tables into effect patterns, and by forming with more exact



the small spindles and cross-pieces that are required

My Bird.

A bird in my willow tree
Sits and swings, sits and swings;
Perched on a bending twig,
't arols and sings.

Turns his head in a sweet knowing way,
And lists as I kneel in my window to pray;
Then raises a peal to open my day,
As he sits and swings.

At noon in my willow tree
Sits and swings, sits and swings
My bird of the golden wing.

Hear how he sings:
"Dear heart, be loving this God-given day,
Speak not a word you will wish to unsay.
Keep sweet and keep doing. Our life is not play,
Thus he sits and swings,

At eve in my willow tree
Sits and sings, sits and sings
My bird of the happy heart,
Weary his wings.

"The day is done, take thy well-earned rest,
Thou hast earnestly tried to give of thy best,
God knows thy motive. Leave him all the rest."
Thus he rests and sings.

The bird in my willow tree
Sits and swings, sits and swings,
Oh, how he cheereth me
By words he sings!

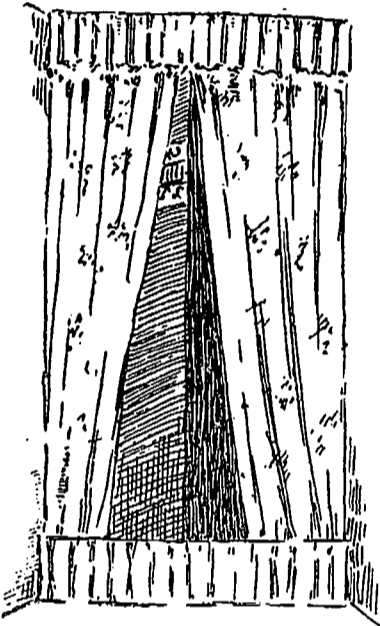
Singing the help he delights to impart,
Lifting the burdens that lie on my heart,
Helping me hourly to act well my part,
As he sits and sings. E. H. CHA





Corner Clothespress.

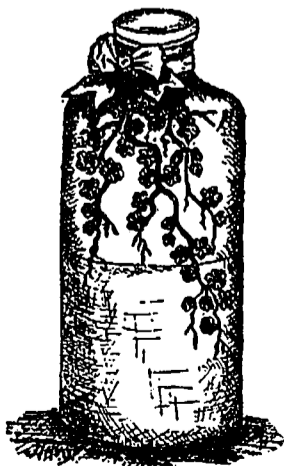
I HAVE been much interested in the description and illustrations of home-made furniture given in the *Council*, and will send one of a corner closet, or clothespress, we have found it necessary to put into a room which had no closet. Two boards, four feet long and about one foot wide, were placed across the corner of the room, one resting on the floor, the other nailed up near the ceiling. A corner shelf, resting on cleats or braces nailed to the wall, was



fastened at a height to be easily reached, under this was placed a row of hooks, and hooks might also be placed on the edge of the shelf. The drapery of cretonne (canton flannel could be used) is fastened on the inner edge of the top board, and falls to the floor inside of the lower board. Both the boards are covered with a box-plaiting of the material used for the drapery. The curtains, although parted in the illustration to show the interior of the press, should be full enough to fall together and close the opening.

A Decorated Jar.

A DAINY and pretty ornament may be made from an ordinary fruit jar by following the directions given below: First, select your jar and wash it thoroughly, so that it is entirely free from dust. Then mark a line midway be-

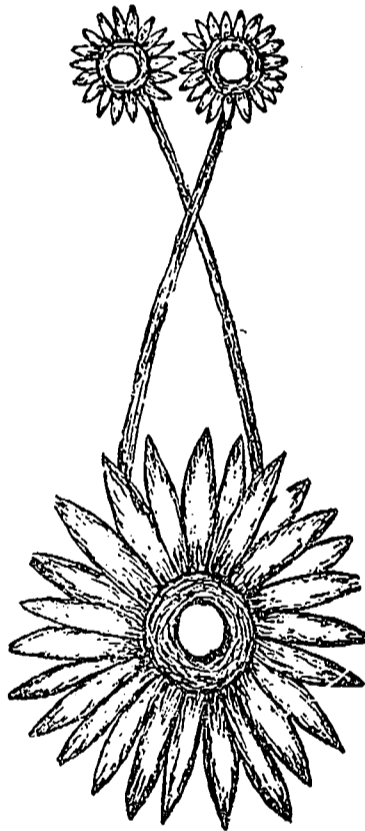


ween top and bottom. With oil colors paint below the line a soft delicate blue. (Robin's

egg blue would be pretty.) With gold, paint the upper part of the jar, the top included. Then from the upper left-hand side make a trailing design of pink and white blossoms, running down over the gold and on into the blue. Tie a blue ribbon around the neck, making a dainty bow just above where the stems of the vine begin. The branches are of brown; the blossoms pink and white; no leaves are necessary. Vandyke brown and burnt sienna are used to paint the twigs, while crimson lake and white are needed for the blossoms. These colors come in little tubes and can be bought for from seven to ten cents a tube, except the crimsons, which are a little more expensive. A camel's hair brush will be required to paint with.

A Photograph Frame.

Brown and yellow felt are the materials necessary for a pretty photograph frame. Cut a giant daisy out of cardboard. This is not so hard as you may suppose, as the irregularities will make it "only more life-like." Cut the petals out of yellow felt, and paste these neatly over the cardboard. Make the centre of brown felt, and paste this in proper position, to represent the centre of the natural yellow daisy.



But a round opening should be left in the middle of the heart of the daisy, through which the photograph is seen. A piece of stiff paper should be pasted over the back of the frame to hold the photograph in place. Leave an opening at one side, through which the photograph may be slipped in place.

The photograph frame is now complete, but may be elaborated as follows: Cut some stars out of cardboard, and cover these with green felt. These are to be used to hang the daisy up by. Make two small daisies, just as the large daisy is made, and fasten these to the stems—"hangers," as shown in the illustration. Cut a small round opening in the heart of each small daisy, so that a small picture may be framed in each of these daisies. The entire affair makes quite a unique framing.

Recipes Arranged for use in the Boston School Kitchen.

PLAIN SUET PUDDING.—1 cupful (scant) flour, $\frac{1}{2}$ teaspoonful baking-powder, speck salt, 1 tablespoonful finely chopped beef suet. Cold water or milk to make a soft dough. Sift flour,

baking-powder, and salt, add suet and mix well. Add enough cold water gradually to form a soft dough. Well grease a cup or small mould, fill it with the mixture to within $\frac{1}{2}$ inch of top; cover with a greased paper. Put the mould in a steamer or in a pan of boiling water; do not let the water come more than half-way up the mould. Steam from 1 to 2 hours. Serve with a hot gravy or sweet sauce or syrup.

MACARONI SOUP.—1 cupful soup stock, $\frac{1}{2}$ stick macaroni, $\frac{1}{4}$ teaspoonful salt, speck pepper. Cook the macaroni in boiling salted water till tender (about 25 minutes). Drain and cut it into little rings; put them into a hot soup-tureen with the salt and pepper. Take the fat off the cold soup stock, heat the stock to boiling-point, and pour it over the macaroni.

MIXED VEGETABLE SOUP.—1 cupful stock, 1 tablespoonful carrot cut into $\frac{1}{2}$ inch dice, 1 tablespoonful turnip, cut also into dice. Wash and scrape the carrot, pare the turnip, and cook in boiling water $\frac{1}{2}$ hour, or till tender. Drain, add $\frac{1}{2}$ teaspoonful salt, and speck pepper in the tureen, and pour over it the boiling stock.

TOMATO SOUP.—1 pint water, 1 cupful strained tomato, 1 small onion, 1 tablespoonful flour, $\frac{1}{2}$ tablespoonful beef-drippings, $\frac{1}{2}$ teaspoonful salt, speck pepper. Make the same as the tomato sauce. Just before serving pour into the soup-tureen 2 tablespoonfuls of cream or milk, pour the soup into it, and serve with croutons.

GINGER SUET PUDDING.—Add to the plain suet pudding 2 tablespoonfuls molasses and 1 level teaspoonful ground ginger. Serve with lemon sauce.

FRUIT SUET PUDDING.—Make the same as for plain suet pudding, adding to the dry ingredients 2 tablespoonfuls currants, 1 tablespoonful raisins (stoned), 1 square inch citron (sliced), 2 tablespoonfuls of sugar or syrup, speck nutmeg. This will fill 2 tin cups.

GRAHAM MUFFINS.—1 cupful graham flour, 1 cupful white flour, 2 teaspoonfuls sugar, $\frac{1}{2}$ teaspoonful salt, 2 teaspoonfuls baking-powder, 1 egg, 1 cupful of milk. Mix the dry ingredients together, beat the egg, add to it the milk, stir it into the dry mixture, beat it; bake in hot greased gem pans 25 minutes, in a hot oven.

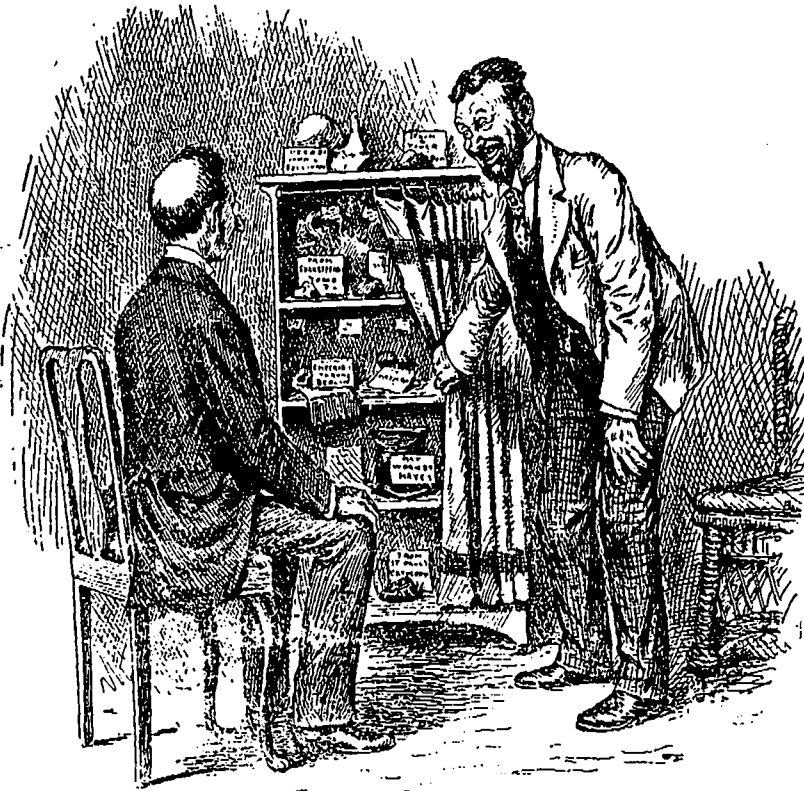
POPOVERS.— $\frac{2}{3}$ cupful flour, $\frac{1}{4}$ teaspoonful salt, 1 cupful milk, 1 egg. Sift flour and salt, then mix in by degrees the egg (well beaten) and the milk. When quite free from lumps, beat till it bubbles. Pour at once into a very hot well-greased gem pan. Bake in a hot oven 20 minutes.

CORNMEAL GRIDDLE-CAKES.—Use half white flour and half cornmeal, and make same as above, or use graham flour in the place of the cornmeal.

SNOW PANCAKES.— $\frac{1}{2}$ cupful flour, $\frac{1}{4}$ teaspoonful salt, $\frac{1}{2}$ cupful milk, 1 heaped tablespoonful snow (or $\frac{1}{2}$ teaspoonful baking-powder). Mix same as for griddle-cakes, then fold in the snow (which must be freshly fallen). Cook them like large, very thin griddle-cakes. When done, spread them with sugar or jam and roll them.

CORNSTARCH MOULD.—1 pint milk, 2 tablespoonfuls cornstarch, 2 tablespoonfuls sugar, $\frac{1}{2}$ teaspoonful flavoring, speck salt. Mix same as for the pudding, boil 10 minutes, add flavoring and pour at once into a cold, wet mould. When cold, turn it out and eat with stewed fruit or milk or soft custard.

GRIDDLE CAKES.—1 cupful flour, 1 teaspoonful salt, 1 teaspoonful baking-powder, $\frac{3}{4}$ cupful sweet milk, 1 teaspoonful melted butter. (If sour milk is used, omit the baking-powder and use $\frac{1}{2}$ teaspoonful soda.) Sift dry ingredients together, add a little milk, and mix thoroughly to press out all the lumps. When quite free from lumps and all the milk is used, stir in the butter, then beat it well. It should be like very thick cream. Pour it by spoonfuls on to a well-greased griddle smoking hot; when light brown on one side, turn it over. Serve very hot.



FRIEND.--Did you enjoy your sojourn in Europe?
RELIC HUNTER.--Enjoy it?--I shou'd say so! I cut some go'd fringe from the Emperor's throne in Ber in, hooked a door knob from the Vatican, broke an ear off an old statue in Ita'y, and chipped off a piece of Shaspeare's tomb. I wou'dn't take one thousand dollars for 'em!

Beware of the man who always dips his tongue in oil before he speaks.

When a fly lights on a sheet of sticky paper he realizes that he is better off.

The carriage making industry has turned out lots of good fellows in its time.

If any boat can shoot the rapids successfully, we should think it would be the gun-boat.

One of the extremes of misery is a small boy with a pair of new boots and no mud puddle.

"I hear bandits are holding your boy Peter for ransom." "No," returned the banker. "They threaten to send him back if I don't pay. I shall pay."

"Johnny, here you are at breakfast with your face unwashed." "I know it mamma; I saw the little things that live in water through papa's microscope."

"Have you finished that address of mine on 'Modern Progress?'" asked the great man of his private secretary. "Yes, sir," replied the brainy hireling. "Have you put in everything you could think of relating to the subject?" "Yes, sir; I have made it very exhausting; I don't think anything further could be said." "Very well; just say at the beginning that 'I regret that, owing to the brief time allotted to me, I will be unable to go as fully into the subject as I could wish, and let me have it.'"

Did you ever consider how fish scales are ever in the weigh?

"Some of Feun Dennis's verses are worthy of Thackeray." "Yes. Thackeray evidently thought so himself. He used to write practically the same things."

SLEEK STRANGER.--I am hunting for work, sir. Have you any scrubbing, washing, or cleaning of any kind you wish done? **MR. MORRISON ESSEX.**--You don't look like a man for that kind of work. **Sleek Stranger.**--I am not, sir. It is for my wife I am hunting work.

Little Edith's mother was explaining a map. "These," said she, "are mountains, this is a river, this is a lake, and these little dots are the towns and cities." "And there, mamma," said Edith, referring to the latitude and longitude, "these are the telephone and trolley wires."

First boy.--Did you get a pony this summer? Second Boy.--Yes. First Boy.--Have any fun with it.--No; but the pony had lots of fun with me.

Maudie's papa is night-editor on a newspaper--a fact which Maudie apparently hasn't learned; for when some one asked her a few days ago what her father did for a living, she replied: "I div it up. I dess he's a burglar, tause hes out all night"

A boy hates to have a crowd look at him, but a girl enjoys it.

The first mile toward hell always looks like a short cut to heaven.

The world needs more of the kind of religion that gets into the hands and feet.

The man who does not believe that two heads are better than one is the father of new twins.

Country Child (who sees no novelty in a park).--What's all this grass for? City Child.--That's to keep off of.

"What do you think of my new hat, John?" "Oh, I don't know. What did the thing cost?" "Nothing. I made it myself." "By jove! It's simply stunning, Manie."

"The man that made my toy horse fordot somepin, mama," said Tommy.

"Wh' t was that, dear?" "He fordot to put some go in his legs."

Dear friends, be not unhappy. If you can't get what you want in this world, be assured that there is a plentitude of things that you don't want waiting for you. There is always enough in the world, but most of it is a misfit.

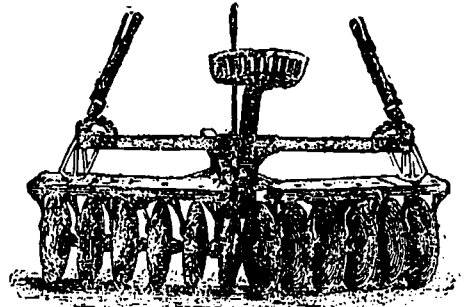
If the girls were sent away to school, and spent the time in playing match games of croquet, what a howl there would be from parents! But lots of poor people are paying out money to give their boys a chance to kick a ball over the country.

A teacher was hearing her class in natural history recite, and asked a bright-looking little girl: "What is a ruminating animal?" "One that chews her cubs," was the innocent reply.

"Mama," said Georgie, who is just beginning to wrestle with figures: "how do you write thirty three? Now I can make the three, but how do you make the thirt."

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Implement Works.
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MORRISBURG, - ONTARIO

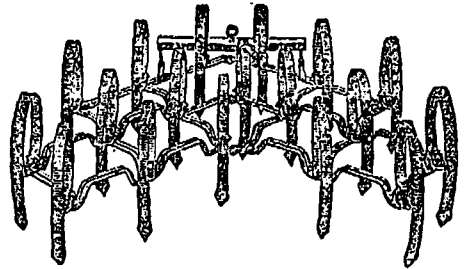


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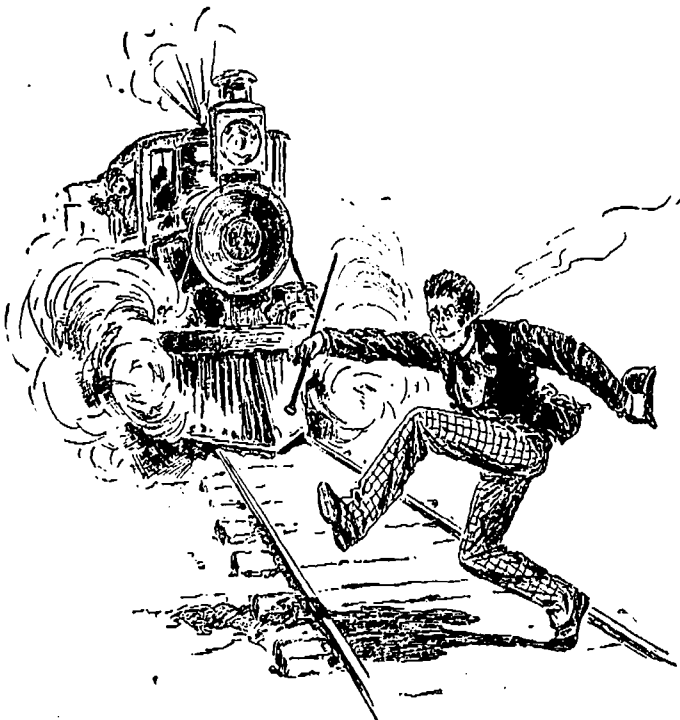
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--and will then turn around and calmly stand to watch the train go by?

Floor walker--We have been doing much business dress goods lately. Merchant--No. I guess we better advertise a sale soon. Floor walker--Merchant, dress goods? Merchant--In something that will be the women tear dresses buy new ones.

Little Rosa's family just moved to a town miles away from the home, and when night came and her father and mother were busy down stairs, began to feel sleepy. The bell of the church rang for it was prayer-meeting night, and Rosa counted strokes till she reached sixteen. "Sixteen o'clock," said Rosa. "Dear me, was never up so late before."

Sea-sick passenger--"What is that person doing on the deck above my cabin?"

Wife--"Heaving the S. S. P. (resignedly)--if lead comes up with people I should not come because the light things will not stay down."

Little Girl--"Why does it fly bits so to-day?" Mother--"Its going to Little Girl--"Well, might know 'taint my fault."

Rubber Belting!

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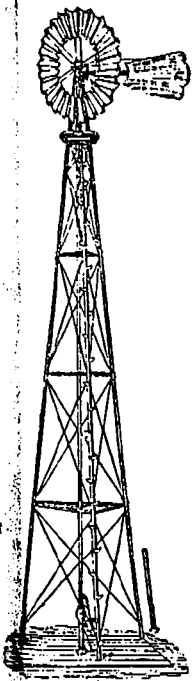
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away at the old pump when for a small sum you can get a

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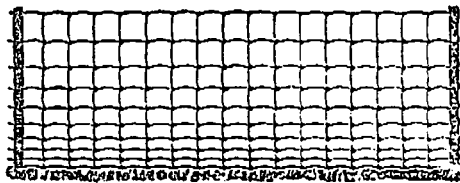
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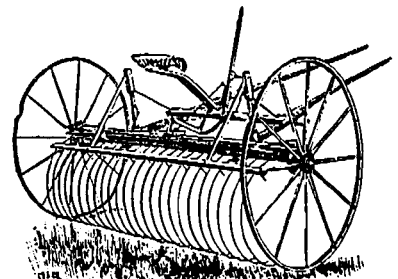
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N E ¼	2	8	20	W	Man.	Carrolton	J. Y. Bambridge, Souris, Man.
N W ¼	14	7	20	W	Man.	Carrolton	J. Y. Bambridge, Souris, Man.
S W ¼	6	13	17	W	Man.	Aikenside	John Sproat, Rapid City, Man., or John Cleghorn, Douglas, Man.
N E ¼	20	11	17	W	Man.	Douglas	John Sproat, Rapid City, Man., or John Cleghorn, Douglas, Man.
S E ¼	31	6	9	W	Man.	Beaconsfield	W. D. Staples, Treherne, Man.
S W ¼	35	2	5	W	Man.	Morden	W. C. Sheldon, Morden, Man.
E ½	16	1	15	W	Man.	Cartwright	Morris Watts, Cartwright, Man.
S W ¼ and W ½ S E ¼	23	12	5	E	Man.	Cook's Creek	T. J. McBride, Winnipeg, Man.
S E ¼ and S ½ N E ¼	14	4	5	E	Man.	St. Maio	T. J. McBride, Winnipeg, Man.
S W ¼ and S ½ N W ¼	17	9	5	W	Man.	Elm Creek	T. J. McBride, Winnipeg, Man.
S W ¼	4	1	15	W	Man.	Cartwright	Morris Watts, Cartwright, Man.
E ½	18	7	25	W	Man.	Belleview	Wm. Pineo, Pipestone, Man.
N E ¼	12	12	15	W	Man.	Petrel	A. F. Hay, Carberry, Man.
S W ¼	22	13	15	W	Man.	Osprey	J. A. McGill, Neepawa, Man.
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S W ¼	2	15	30	W	NWT	Moosomin	Colin McLean, Moosomin, N. W. T.
S E ¼	16	22	14	W 2nd	NWT	Fort Qu'Appelle	J. McNaughton, Qu'Appelle Station, N. W. T.
N W ¼	5	14	14	...	Man.	Osprey	J. A. McGill, Neepawa, Man.
N W ¼	20	5	14	...	Man.	Grund	Jas. Duncan, Glenboro', Man.
E ½	20	5	18	...	Man.	Langvale	Jas. S. Reekie, Boissevain, Man.

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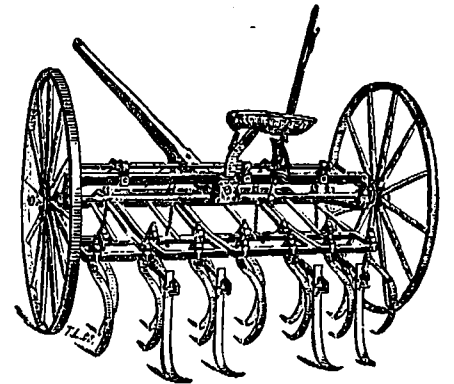
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Massey-Harris Cultivator, with Seed Box attached.

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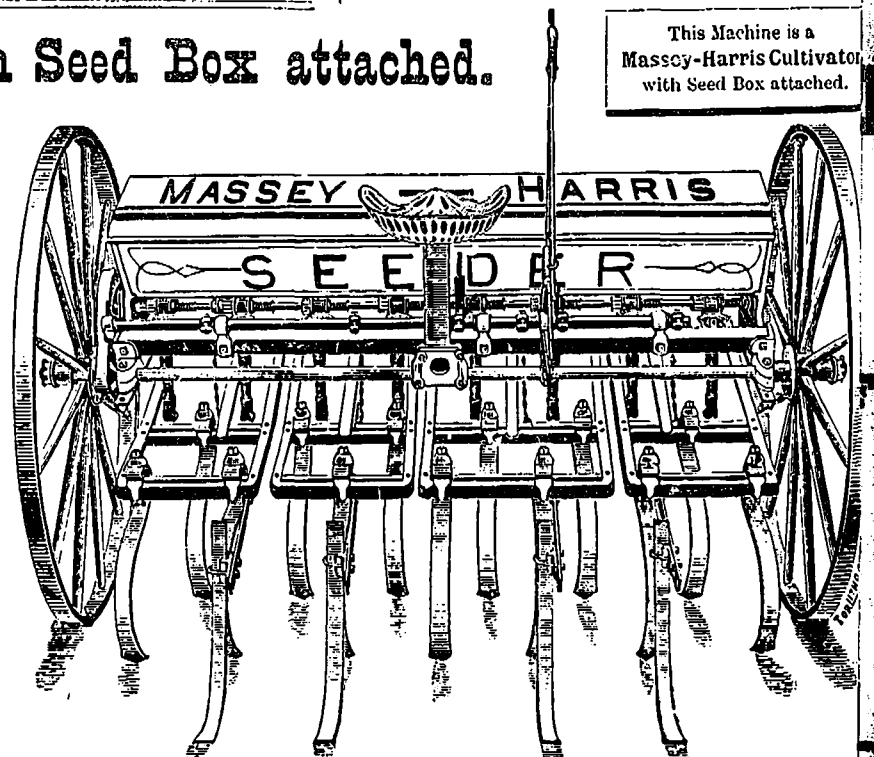
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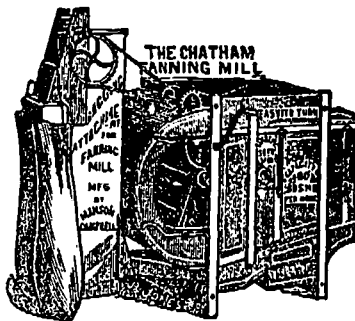
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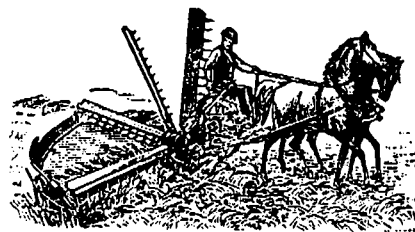
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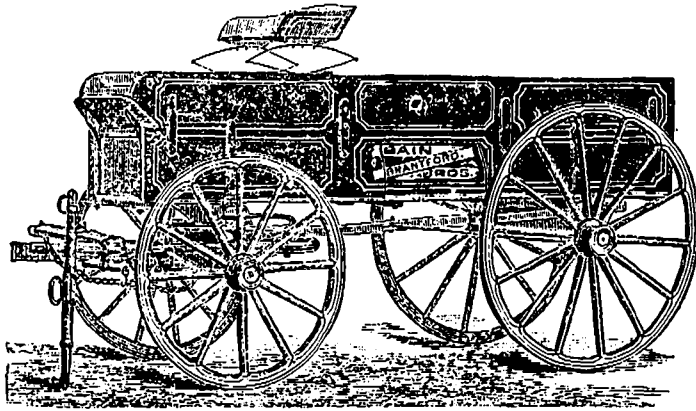
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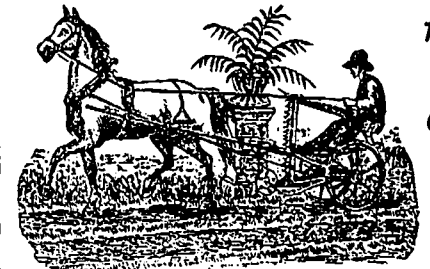
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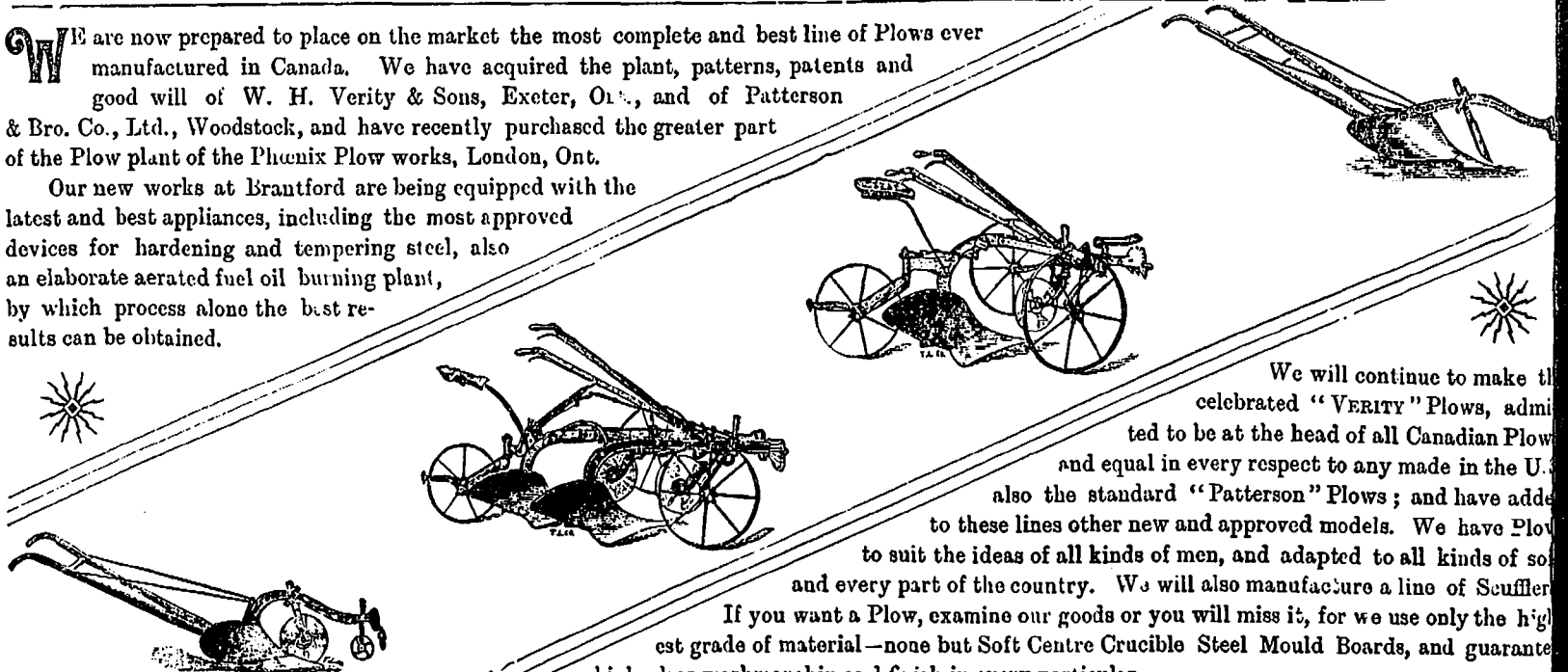
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and equal in every respect to any made in the U.S.
also the standard "Patterson" Plows; and have added
to these lines other new and approved models. We have Plows
to suit the ideas of all kinds of men, and adapted to all kinds of soil
and every part of the country. We will also manufacture a line of Scufflers

If you want a Plow, examine our goods or you will miss it, for we use only the high-
est grade of material—none but Soft Centre Crucible Steel Mould Boards, and guaranteed
high class workmanship and finish in every particular.

VERITY PLOW CO. LTD.

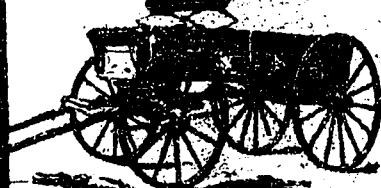
THE OLD RELIABLE CHATHAM WAGON



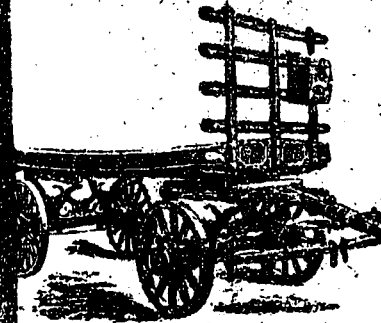
FOR USE IN ONTARIO, QUEBEC, ETC.



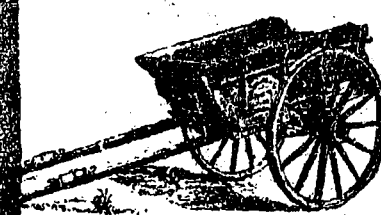
FOR USE IN BRITISH COLUMBIA.



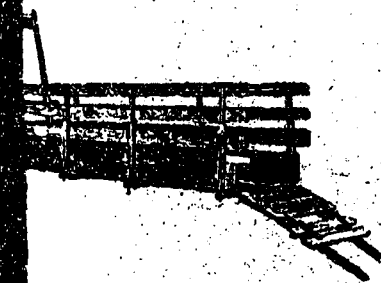
ONE-HORSE WAGON, WITH UPPER BOX.



CHATHAM TWO-HORSE SPRING LORRY.



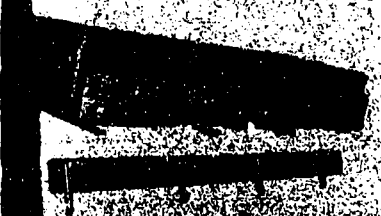
CART, WITH SPRING FASTENINGS.



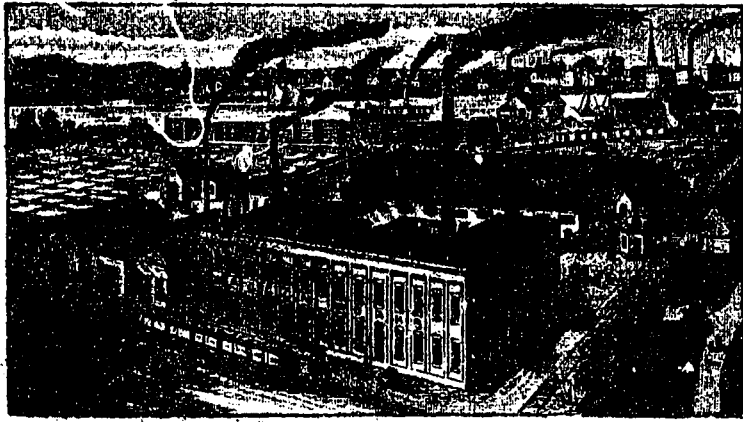
COMBINED WAGON BOX, HAY & STOCK RACK.



HERE YOU SEE IT AS A HAY RACK.



HERE YOU SEE IT AS A WAGON.



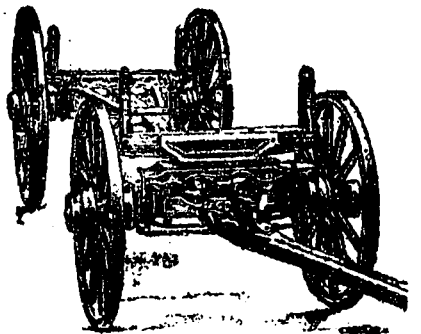
WAGON WORKS AND SAW MILLS.

TO THE TRADE:

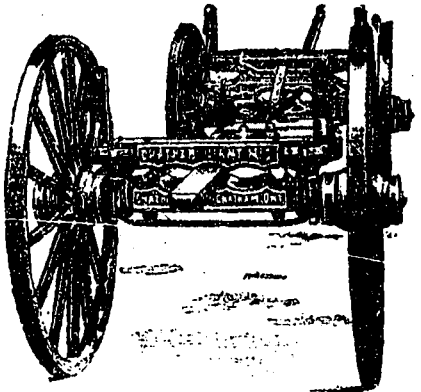
We make no claim to superiority in mechanical skill; any good mechanic can make as good a Farm Wagon as we can, IF—and that "IF" is the biggest word in the English language in this connection—so we say IF he has his own Saw Mills in a section of the country abounding in the very best woods for wagon purposes, as we have; IF he make his own Hubs and Spokes from the very best of white oak, as we do; IF he cast his own Arms in such a way, and of such iron, as to make them almost malleable, as we do; IF he have arrangements by which the best of iron is made specially for him, as we have; IF he keep in stock at all times, dry and under cover, every piece of wood used in a wagon for 3,000 wagons, as we do, and adopt our method of extracting atmospheric dampness from wood before using it in wagons; IF he have West's Cold Tire and Hub Band Setters, as we have, and so avoid charring the Felloes of his wheels, and give them just the right and uniform dish, and band his hubs so they can never loosen; IF he have that most important machine, an Arm Setter, as we have, which unerringly and accurately sets arms so as to give the wheels the proper pitch and gather; IF he have the right to use our Patents covering the method of making wooden axles with cast arms, without truss rods, unbreakable; Malleable Adjustable Stakes, our Climax Truss Rod, etc.; IF he use the best material the world furnishes for painting; and, finally, IF he have the best wagon mechanics to be found, he may make as good a wagon as we do, but without these we fearlessly assert he cannot do so. We do not claim that we make low priced wagons, but we do claim and aim to make **THE BEST**, which under all circumstances will prove the cheapest in the end. Referring the reader to the cuts on this page of some of the different vehicles, etc., we build, and soliciting correspondence,

We are, his obedient servants,

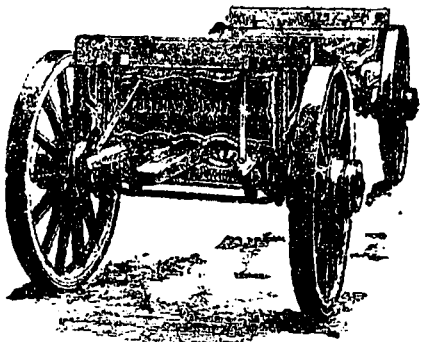
CHATHAM MANUFACTURING CO., LTD.
CHATHAM, ONT.



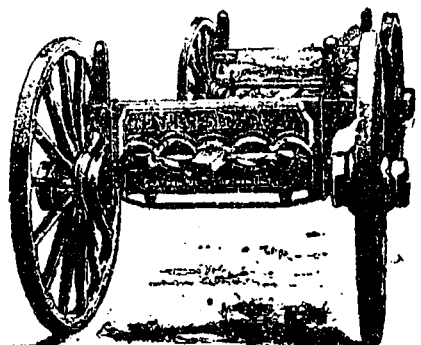
FRONT VIEW OF CHAUTAUQUA GIANT.



REAR VIEW OF CHAUTAUQUA GIANT.



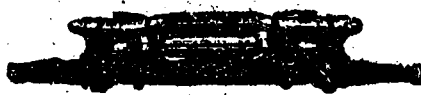
CHATHAM GIANT LOG TRUCK.



CHATHAM GIANT FARM TRUCK.



FRONT AXLE OF CHAUTAUQUA GIANT.



FRONT AXLE CHATHAM GIANT.



REAR AXLE AND BOLSTERS OF BOTH THE GIANTS.



REAR AXLE AND BOLSTERS OF BOTH THE GIANTS.

NOTE: THE CHAUTAUQUA GIANT IS THE LARGER OF THE TWO. THE CHATHAM GIANT IS THE SMALLER.

Rubber Belting

IF YOU WANT THE
FINEST THRESHING BELTS

MADE, ASK YOUR DEALER TO GET FOR YOU THE

'MONARCH' BRAND

It will cost more at first, but will be economy in the end.

MANUFACTURED SOLELY BY

THE GUTTA PERCHA & RUBBER MANUFACTURING CO

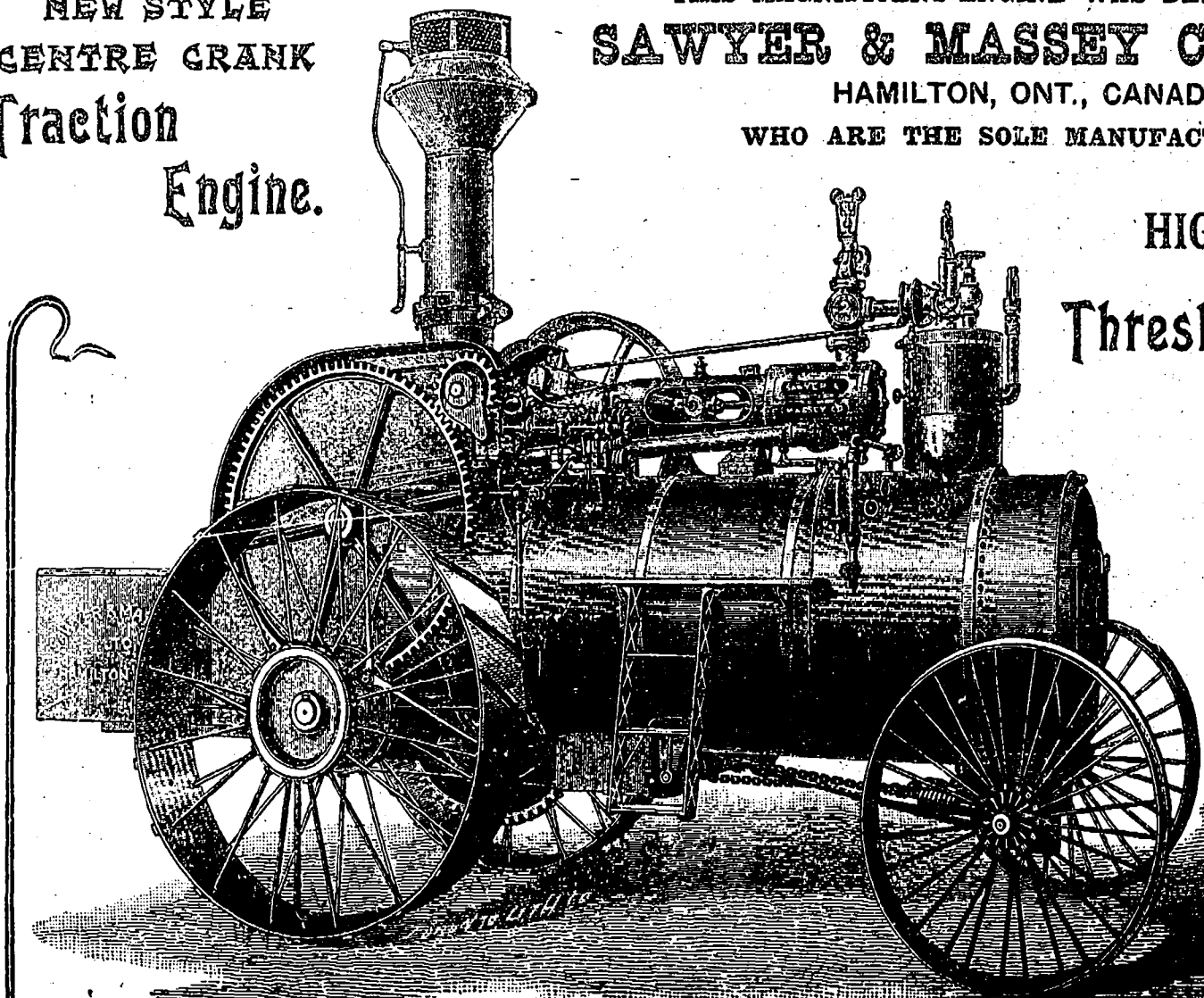
OF TORONTO (LIMITED).

61 & 63 Front St. West, TORONTO.

NEW STYLE
CENTRE CRANK
Traction
Engine.

THIS MAGNIFICENT ENGINE WAS DESIGNED BY
SAWYER & MASSEY CO., Limited
HAMILTON, ONT., CANADA.
WHO ARE THE SOLE MANUFACTURERS.

HIGH-CLASS
Threshing Outfit



* *
"L.D.S."
Engines
Peerless
Separators

The Engines
Separators made
SAWYER & MASSEY
Co., Ltd., are
recognized as
standard of
excellence by the
generally.