

◆ Massey's Illustrated ◆

(PUBLISHED MONTHLY.)

December Number

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Toronto, December, 1894.



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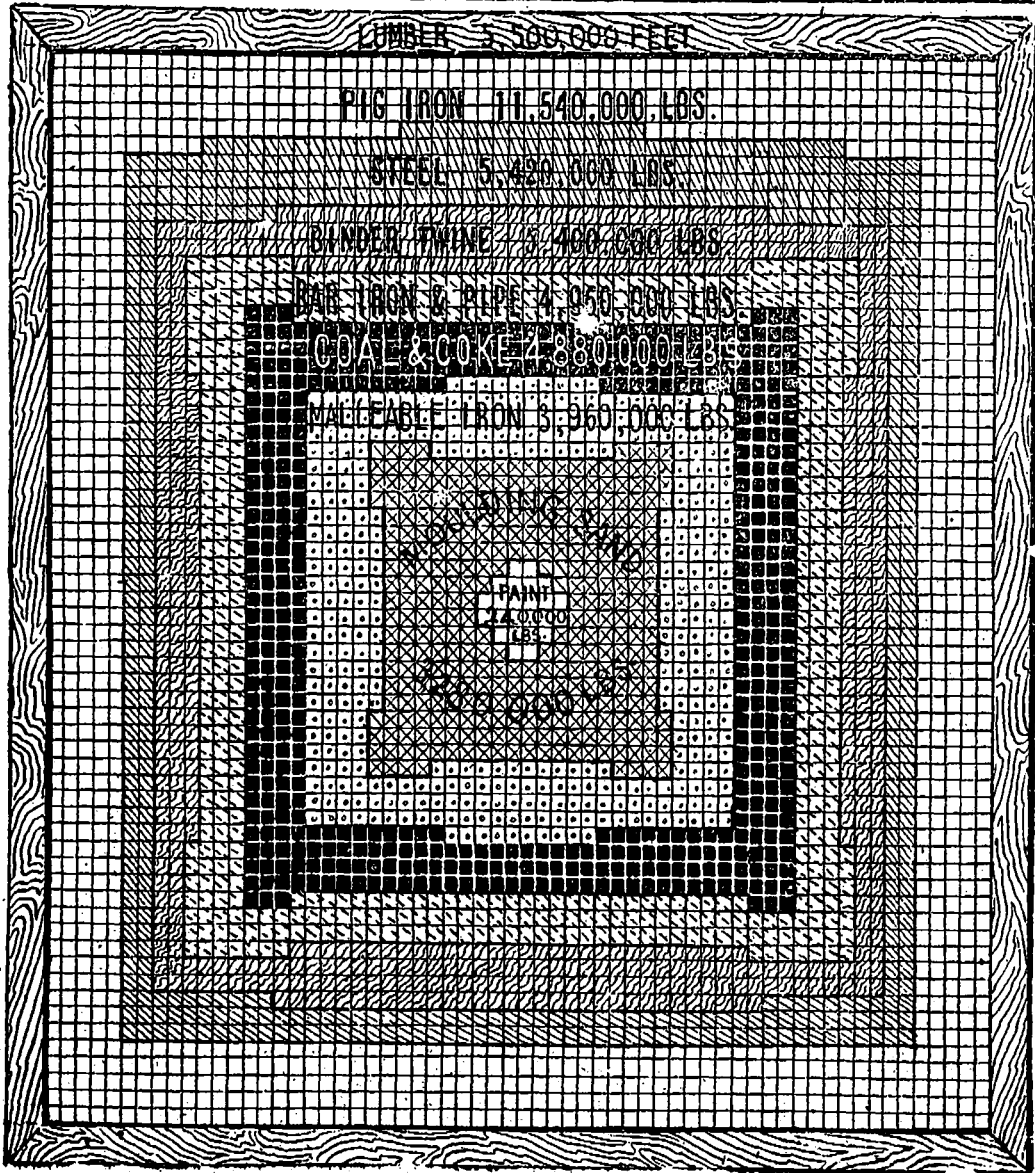


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• Massey's Illustrated •

(PUBLISHED MONTHLY.)

A Journal of News and Literature for Royal Homes

NEW SERIES.]

TORONTO, CANADA, DECEMBER, 1894.

[Vol. 6, No. 12.

En Route to South Africa.

MADEIRA.

BY J. D. PATTERSON.

WE left London early on Saturday, Sept. 22nd, and soon were pushing away on the "Castle Express" through the pleasant South England fields to the seaboard. How glorious the country seemed in the abundant fulfilment of all that spring promised of foliage and fruit and harvest. On that mellow autumn day before the frosts had fringed a leaf no one could not help wondering if when in her gayest spring moods England could be more charming.

Arriving at Southampton, we were without delay transferred to the tender waiting to take us to our steamer at anchor in "Southampton Water," some miles below.

The "Dunottar Castle" is the twenty-first ship built by the Castle Company, and is the largest and in all respects the most perfect of all the vessels engaged in the African Royal Mail Service. Her gross tonnage is nearly 5,500 tons, and she measures 435 feet long by 50 feet wide, and is propelled by triple expansion engines capable of developing between 6,000 and 7,000 horse power. Her every appointment

from the comfortable cabins to the magnificent saloon and sumptuous music room is most perfect.

Some hours were spent in shipping mails and baggage, but at last all was aboard and at five o'clock p.m. exactly we weighed anchor and were off on our long journey to the South. Until darkness came on we had the pleasant English shores in sight, and then until this morning, Sept. 26th, we enjoyed the luxury of absolute rest, no where more possible than aboard a roomy and comfortable ocean steamship.

The swell on the Bay of Biscay was more than usually heavy, but as we had evidently come into the tail of one storm we felt all but sure we should not come into the teeth of another, and so it proved, for the weather all along was delightful. At sunrise this morning we passed the beautiful serrated ridges of the Island of Porto Santo and the desolate square topped rocks known as Desertas before entering the anchorage of the Bay of Funchal, enclosed in its vast amphitheatre of hills. Rising on the brow of the enclosing hills we could see terrace upon terrace of the beautiful white Quintas, the dwelling places of the English residents and of the richer portion of the inhabitants, while at their feet in the foreground are the dwelling places of the humbler inhabitants. Without waiting for breakfast we hurried into the small boats that were waiting to take those of us who wished to go ashore. The temptation to stop to make purchases of fruit and small wares from the bumboat men swarming around the ship was very great, but we remembered that we were promised but five hours ashore and hurried on, unwilling to waste our valuable moments.

The morning was perfect, the limpid atmosphere, the marble whiteness of the dwellings, and the sunny character of the whole scene made one feel how easy it must be to live in such a climate. The struggle for existence seemed almost to have ceased, for all was cheerful, airy and light.

The main thoroughfare leading from the sea shore to the large open square of the town is an avenue of oriental palm trees, whose giant leaves throw a grateful shade upon the houses and pedestrians.

The slow and almost noiseless movements of the bullock sledge con-



A MADEIRA "CARRO."

veying merchandise from the quay to all parts of the town harmonise well with the restful surroundings. The inhabitants show their appreciation of the climate by wearing the minimum of clothing.

All the vegetations of sub-tropical regions and many tropical plants are found here. Bananas grow in the open air, ripe dates fall from the palm trees, Eucalyptus scents the air, and the Magnolia and other shrubs decorate with their glorious blossoms the surrounding gardens. The atmosphere of Madeira is moist. This is every where evident by the luxuriousness of vegetation.

The town on a crescent hill creeps up the side of the mountain, the streets very narrow and well paved with small kidney stones, and there is scarcely a wheel in the city. Sleds, large and small, are practically the only conveniences. Of course, there are small horses, but even small parcels are delivered on small sleds. After seeing the markets and partaking freely of most luscious grapes we chartered a bullock sled with four good bullocks and four attendants and started up the narrow, crooked, clean and pretty streets to the church on the mountain, three miles away. It was a tedious climb, but every foot of the ground had something to show us. The low, quaint houses, the people in their clean linen, beautiful gardens, roses everywhere, rare flowers and glorious creepers lolling over the walls in such beautiful profusion. We did not regret the hour we spent in making the journey. Once there, we stood for a while looking over the city—25,000 or 30,000 people—along the hills out over the beautiful bay. Then how did we come down. We were off with a rush in wicker baskets that would just hold two. These baskets were mounted on small sleds and you cannot imagine how we went; a toboggan would hardly have taken us faster. A man running on each side holding the guide ropes when he could run, hopping on behind and steering with a kick here and a jerk there, when the pace be-



BANANA CULTIVATION, MADEIRA.

came to hot for them, and remember the sleigh was running on smooth bare stones without making a creak. The leaves and straws on the road as we ran over them would smoke with friction. We had breakfast at a good hotel and a comfortable lounge in its beautiful garden filled with roses and so many other beautiful flowers, and groaning under the burden of figs, grapes, bananas, &c., &c.

In these islands the greatest heat is experienced in the months of August and September, but we did not find the heat excessive. Maderia is said to enjoy one of the most equable climates in the world. In the morning there is sunshine in plenty. Clouds usually gather in the afternoon, while in the evening, I learned, the sky is usually clear. The town is fairly clean, nowhere is there a particle of dust, and but for one or two narrow streets in the poorer quarter no bad odors were conspicuous.

Nature has indeed been beautiful to Maderia. The pretty mansions embowered in roses and encircled by orange groves, musical with the songs of birds must make life here all but ideal—all the surroundings present an aspect of leisure and restfulness. Even the soldiers on guard at the Governor's house have a look of leisure, while the vendors of native merchandise will sit for hours in front of the hotels in the hope of tempting a chance customer.

The chief industry of the Island is wine making, of which the annual export is valued at about \$700,000, gold. A good deal of sugar is produced for export, and besides this the cane and basket work and embroidery of the natives yield a considerable revenue.

Funchal possesses many institutions of in-

terest and has a population of about 25,000 people.

The cathedral with its wonderful cedar roof picked out in red and gold in old Moorish style and rich with faint silver ornaments is very interesting.

The tomb of Zargo, the discoverer of Madeira, is in the Church of Santa Clara.

We visited as well the Governor's Palace, a large yellow building rather striking in its architecture. At this spot a magnificent spring of pure drinking water, enough to supply the entire town, breaks out of the hill-side.

The fish and fruit markets well repaid us for the short visit we gave them, and then, perhaps, we had the best chance to see the natives, a cleanly, courteous, and white-clothed people.

The loud steamer's whistle warned us that we must hurry aboard, which we did most reluctantly. We had again to run the gauntlet of bumboats, whose dogs, monkeys, birds and parrots could now be bought for one-half the prices we were asked upon leaving the ship.

What swarms of tiny boats there were plying their trade in fruit, flowers and wicker chairs, monkeys, birds, embroideries, &c., &c. These were nothing to the diving boys. How the youngsters would dive for a penny, under or off the very top of the ship for a sixpence; they seemed never to miss it. It was great sport. Some of them must have made twenty-five or thirty shillings, and all of them a good day's pay. They get a penny in the water as easily as I would from a pavement.

Our recollections of Maderia cannot fail to be always most pleasant.

Our next stop will be Capetown, South Africa.

In the "Voyage of the Sunbeam," Mrs. Brassey thus describes a ride up to the Gran Corral, one of the attractions of Madeira:

"There was a little delay in mounting our horses, under the shade of the fig-trees; but when we were once off, a party of eleven, the cavalcade became quite formidable. The views on our way, as we sometimes climbed a steep ascent or descended a deep ravine, were very varied, but always beautiful. About half way up we stopped to rest under a delightful trellis of vines, by the side of a rushing stream, bordered with ferns; then, leaving the vineyards and gardens behind us, we passed through forests of shady Spanish Chestnut trees, beneath which stretched the luxurious green-sward. At ten o'clock we quitted this grateful shade, and arrived at the neck of the pass, facing the Gran Corral, where we had to make our choice of ascending a conical hill on our left, or the Torrinas Peak, on our right. The latter was chosen, as promising the better view, although it was rather farther off, so we were accordingly seized upon by some of the crowd of peasants who surrounded us, and who proceeded at

once to push and pull us up a steep slippery grass slope, interspersed with large boulders. The view from the top, looking down a sheer precipice of some 1,500 feet in depth into the valley below, was lovely. Quite at the bottom, amid the numerous ravines and small spurs of rocks by which the valley is intersected, we could distinguish some small patches of cultivated ground. Above our heads towered the jagged crests of the highest peaks, Pico Ruivo and others, which we had already seen from the yacht, when we first sighted the island.

A pleasant walk over some grassy slopes, and two more hard scrambles, took us to the summit of the Torrinas Peak; but the charming and extensive view towards Camara de Lobos, and the bay and town of Funchal, was an ample reward for all our trouble. It did not take us long to get back to the welcome shade of the chestnut trees, for we were all ravenously hungry, it being now eleven o'clock. But, alas! breakfast had not arrived: so we had no resource but to mount our horses again and ride down to meet it. Mr. Miles, of the hotel, had not kept his word; he had promised that our provisions should be sent up to us by nine o'clock, and it was midday before we met the men carrying the hampers on their heads. There was now nothing for it but to organise a picnic on the terrace of Mr. Veitch's deserted villa, beneath the shade of camellia, fuchsia, myrtle, magnolia, and pepper-trees, from whence we could also enjoy the fine view of the fertile valley beneath us and the blue sea sparkling beyond."

ARE you a farmer? If so, is doing chores irksome to you? It hadn't ought to be, but still I have heard farmers complain in that line. They were ones who were not making any money. Perhaps their semi-poverty was due to too little or too much gold and silver in the national treasury. I don't know about that, but anyway they liked to discuss this political subject better than the topic of how best to do chores in winter about the barn.

The Wise Men from the East.

Who are these that ride so fast o'er the desert's sandy road,
That have tracked the Red Sea shore, and have swum the
torrents broad;
Whose camels' bells are tinkling through the long and
starry night—
For they ride like men pursued, like the vanquished of a
fight?

Who are these that ride so fast? They are eastern monarchs
three,
Who have laid aside their crowns, and renounced their
high degree;
The eyes they love, the hearts they prize, the well-known
voices kind.
Their people's tents, their native plains, they've left them
all behind.

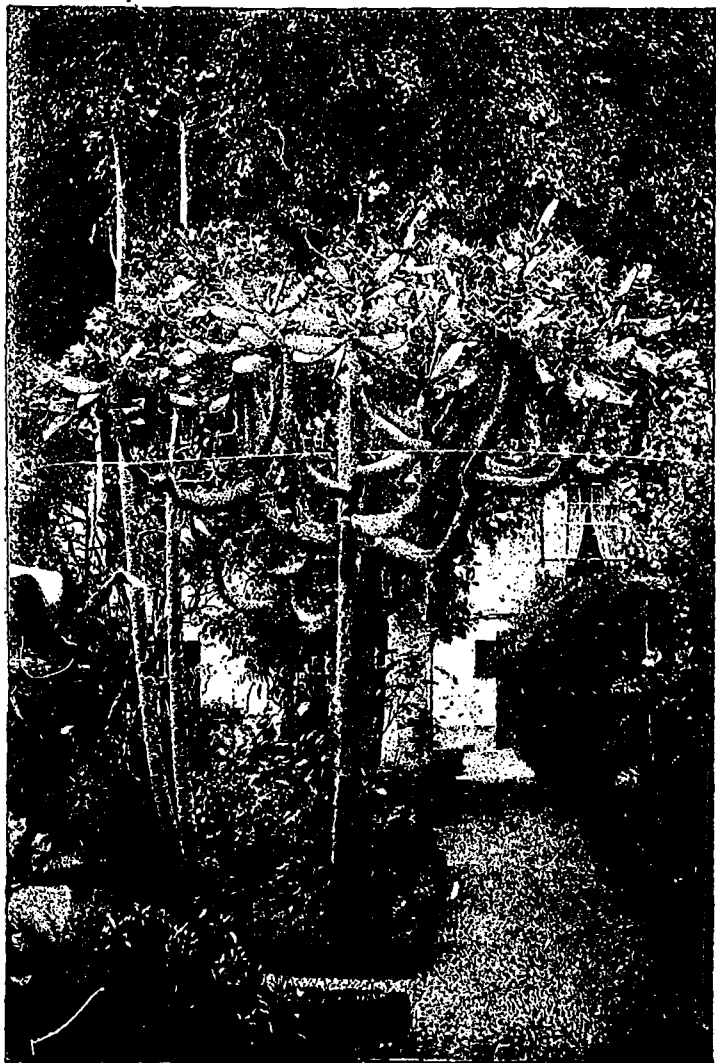
The very heart of faith's dim rays beamed on them from
afar,
And that same hour they rose from off their thrones to
track the star;
They cared not for the cruel scorn of those who called them
mad;
Messiah's star was shining, and their royal hearts were
glad.

And they have knelt at Bethlehem! The Everlasting
Child
They saw upon His mother's lap, earth's Monarch meek
and mild;
His little feet, with Mary's leave, they pressed with loving
kisses,
Oh, what are thrones! Oh, what are crowns, to such a
joy as this!

Ah me! what broad daylight of faith our thankless souls
receive,
How much we know of Jesus, and how easy to believe;
'Tis the noonday of his sunshine, of his sun that setteth
never;
Faith gives crowns, and makes us kings, and our kingdom
is forever.

Oh glory be to God on high, for these Arabian kings,—
These miracles of royal faith with eastern offerings;
For Gaspar and for Melchior and Balthazzar, who from
far
Found Mary out and Jesus, by the shining of a star.
—Heber.

Now is the time to subscribe for your papers and magazines for the New Year. See our Clubbing List for low prices.



THE CARMO GARDEN AT FUNCHAL, MADEIRA.

Hurrah for Canada!

ONE morning last August, there was great bustle and stir in one of the great Midland Railway freight yards, in Liverpool, England. An unusual occurrence had attracted a crowd of passers-by, while the railway employees and warehousemen had left their work to take in the novel sight. At last when all was ready the engine whistle blew and amidst the hearty cheers of onlookers, a solid train load of twenty-six car loads of Canadian self-binding harvesters, all decorated and placarded with the name MASSEY-HARRIS Co., started on their journey to the leading agricultural counties of Old England—the first time in Britain's history that any concern, foreign or domestic, had ever manifested such enterprise. John Bull's newspapers and trade circles were greatly interested in the event, and no wonder. Canadians should all be proud of this achievement. The rapidity with which the goods were handled by the Company's European Branch is also worthy of comment. Within twelve hours from the receipt of the packing cases from the ocean steamship, the parts were all put together, and the machines erected complete ready for loading. As will be seen by the illustration, the English methods of shipping are entirely different to those of Canadian railroads. There the machines are erected complete, placed on a binder truck (every purchaser of a binder in Great Britain also buys a binder transport) and then hoisted truck and all by a steam crane and placed in an open freight car ("goods wagon"). The binders are then covered over with huge tarpaulins to protect them from the weather while in transit. These same methods of shipping are in vogue in the Australian colonies. An English "goods" or freight train loaded with self-binders in this manner presents a novel appearance as may be imagined; and the despatch of the first complete train load of MASSEY-HARRIS Wide Open Binders in July

last was the occasion of wide comment. A second similar train load was sent out in August last.

MASSEY-HARRIS machines now have the largest sale of any make, both in Great Britain and European countries. Not only so, but they command a higher price than any other machines on the market, because of their superior merits and uniform excellence. Here in Canada, it is sometimes insinuated that MASSEY-HARRIS binders and mowers are sold cheaper in Europe than at home. This is not true. The British, Australian and foreign farmers after years of experience with all the different makes of machines are quite satisfied to pay a higher price for MASSEY-HARRIS goods since they recognize they get better value in so doing.

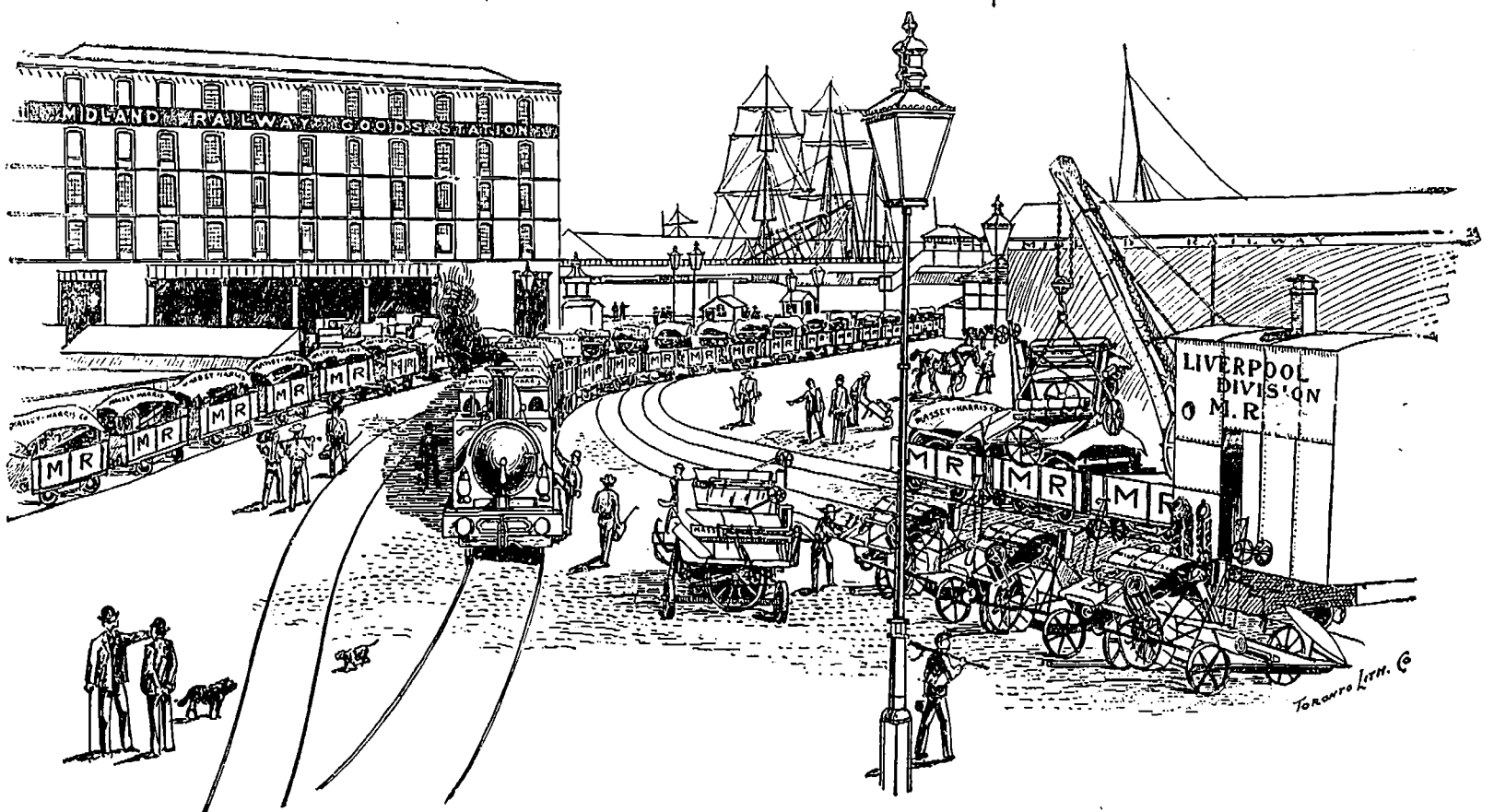
For Farmers to Read and Take Note.

It is well known that in no country in the world has agriculture taken higher rank than in France. We think that a principal reason for this may be found in the existence of the French National Agricultural Society. This was founded in 1761, and now has the largest membership of any agricultural society in the world, as well as the highest class of membership. The 13,000 names on its list embrace the leading scientists and capitalists, as well as agriculturists, in the country. It has steadily given the greatest encouragement to advanced agriculture, and now practically controls the legislation of France in everything that is bearing on this industry. The society is divided into 12 sections, each having charge of some particular branch of agriculture, as horse-breeding, horticulture, live stock, etc. It offers liberal premiums at all shows, encourages agricultural education, helps to organize farmers' clubs, and in every possible way stimulates the farmers to exert themselves to do better work and to better their conditions. A similar organization and similar movement in this country might be productive of equally good results.

THE labor of cultivation which is expended on land too poor to produce a crop, and feed

given to a non-productive animal, is money thrown away. These items constitute two big leaks in many farms. The only labor put upon the poor land should be such as would tend to restore its fertility, and enable it to produce a crop of value; the only feed that should be given to a non-productive animal should be such as would most speedily make it saleable. Wintering over stock that will produce nothing, and be of no more value in the spring than in the autumn, is bad business policy. It will pay to winter a mare that will produce a good colt every year, while it would not be profitable to carry a gelding that will eat up more feed when there is no work to do than his services will pay for next summer. The mare will raise the colt and do the work too, for the same expense. So a cow that will give a good supply of milk and butter through the winter, and a calf in the spring, will pay her way. But to winter a dry cow that has not been bred is a dead loss; and even if bred, if the calf is the only thing to look to for payment of the winter board bill, it must needs be a very good calf indeed to square the account. This only emphasizes the need of good stock, for that will pay its way when common stock would fail entirely. These questions of economical management are especially worthy of consideration, as we are about entering upon the season of little income and much outgo.

AGAINST the general fact that dairy butter does not usually sell at a satisfactory price, it may be said that there are many private butter dairies where the owners are wholly contented with their business, because they make a good article and obtain a good price for it. They employ the requisite skill in making and marketing their butter, and this always brings a fitting reward. The majority of farmers do not attain to this desirable point—not because there are any secrets in the business, but because the men themselves are totally unfitted for such an occupation. Such will always do best by sending their milk to the creamery, and thus placing the manufacturing in competent hands. It costs just as much to make bad butter as good, so it may readily be seen how one dairyman can lose money while his neighbor is making it.



SPECIAL TRAIN LOAD OF MASSEY-HARRIS WIDE-OPEN BINDERS ERECTED AND SHIPPED IN TWELVE HOURS.

Liverpool, England, Aug. 20, 1884. From a Photograph.



A Christmas Carol.

Where are you going, my little children,
Soft-eyed Zillah and brown-faced Seth,
Little David with cheek so ruddy,
Dark-haired, slender Elizabeth?

What are the burdens you carry with you,
Poised on the head and swung in the hand?
What is the song from your red lips ringing,
What is your errand, you little band?

"Sirs, as you know, we are Hebrew children,
I am Zillah and this is Seth;
Here is David, our little brother,
And this our sister, Elizabeth.

"Our father's sheep are on yonder hill-side,
He cares for us and he watches them;
We left our home in the early morning,
And go our way into Bethlehem.

"Surely you know that the blessed baby,
Greeted by angels with songs of joy,
Is lying there with his gentle mother,
And we are going to see the boy.

"Here in our baskets are gifts we bring him,
All to lay at his little feet;
Amber honey our bees have gathered,
Milk from our goats so white and sweet,

"Cakes of our figs, and grapes that are purple,
Olives plucked from our own old trees;
Savory herbs, and fragrant spices,
All we bring him on bended knees.

"See, this is wool so soft and so fleecy,
Purple dyes that a king might wear;
Skins of the goat, and the ram, and the badger,
All for the baby that's sleeping there.

"Here are shells from the Red Sea brought us,
Here are feathers all bright and gay;
Tell us, good sirs, had ever a baby
Fairer gifts than we bring to-day?

"Seth gives his dove, though he loves it dearly;
David his shells for the holy boy;
Elizabeth wove him this pretty basket,
But I have only this little toy,—

"Two sticks of olive wood, carved by my father,
One standing up and one crossing it—so;
We have little to offer, we poor little children,
But we give all we can, and we sing as we go."

Singing they went with their simple treasures,
Sweet rang their voices o'er valley and hill;
"Glory, oh, glory to God in the highest,
Peace on earth, and to men good-will."

Still they went singing, these Hebrew children,
Soft-eyed Zillah and brown-faced Seth,
Little David with cheek so ruddy,
Dark-haired, slender Elizabeth.

One Christmas Day.

THE battle of Cedar Creek had been fought, and Early, routed and broken, had been driven to the fastnesses of Fisher's Hill. Most of Sheridan's army had fallen back to take winter quarters, but a body of cavalry had been left to scout and observe and hold possession of the ground gained at the cost of so many lives. The month of December was drawing to its middle. There had been cold rains and sleet and bitter winds, and the cavalry outposts had already felt the first touch of winter. It was December, 1864—the last year of the war. Christmas was close at hand. The day would be observed all over the north—in all the hospitals, in all the winter camps.

One of the outposts was in the woods just to the left of the turnpike on the crest of a hill. A quarter of a mile below was a poor old farmhouse—half log and half frame, and between us and it the charred and blackened fragments of a barn which had been burned under Sheridan's order. We knew that this farmhouse sheltered three people—an old gray-haired man, a woman of 40, and a little girl of 7 or 8 years. The old

man was father and grandfather, while the husband of the woman was away in the confederate army. We got water at the spring which gushed out of the rocks at the back of the house, and it is seldom any one went there without seeing one of the three. We knew how they felt toward us, and in our hearts we pitied them. The scanty crops from the farm had been burned with the barn, and as autumn waned we knew that the woman was obliged to dole out the little she had saved, and that before midwinter the wolf of starvation would be at the door. No one dared go to her and offer to share our rations. We had plenty, and she had little, but we were enemies and invaders and had applied the torch while she stood by weeping and protesting, and while the aged father stood in the door and demanded if it was war to deprive women and children of food.

No, we dared not do as our hearts dictated, and yet, as I tell you, we pitied and sympathized. Sometimes, when we found the child in the yard we smiled and laughed and tried to force a gift upon her, but she ran away from us in fear and aversion. If the old man was at the window he turned away at the sight of the blue uniform, and if the woman had to pass us, which was sometimes the case, her eyes were cast on the ground and she ignored our presence. Two or three times we left pork and crackers and coffee at the spring, hoping the people would realize how we felt towards them and accept the gift, but the things were never touched.

A quarter of a mile below this house was another. It was within our lines, and our videttes were far beyond it, but we knew little of the people. We knew that there was an aged woman, who was seldom or never seen at the doors, and one of middle age who was a cripple and dragged herself about. Somehow, also, we came to know or surmise that there was relationship between the two families, and that both looked upon us in the same way. There were few soldiers who did not pity the women and children and the old and helpless of war, and who were not cheerfully ready to shield them as far as possible against the hardships and dangers and privations. At such a time as I write of, when the campaign had closed—when we could see the beginning of the end—when there was no force of the enemy near to call up the passions of war, a feeling of pity for the helpless was paramount in every breast. So I tell you again that you may do the soldier justice in these after years, that never a man of us on that lonely outpost but would have felt it a privilege to share his rations with these two families or others, and who wasn't ready to offer his services to gather fuel against the coming of winter's cold.

A day or two before Christmas, as the videttes were being relieved, we saw the crippled woman out in the edge of the forest gathering limbs, and we also caught sight of the face of the other at a window. Then we said to each other:

"Can there be a Christmas for these suffering and distressed people? Will they remember the day and feel more bitterly towards us because of remembering it?"

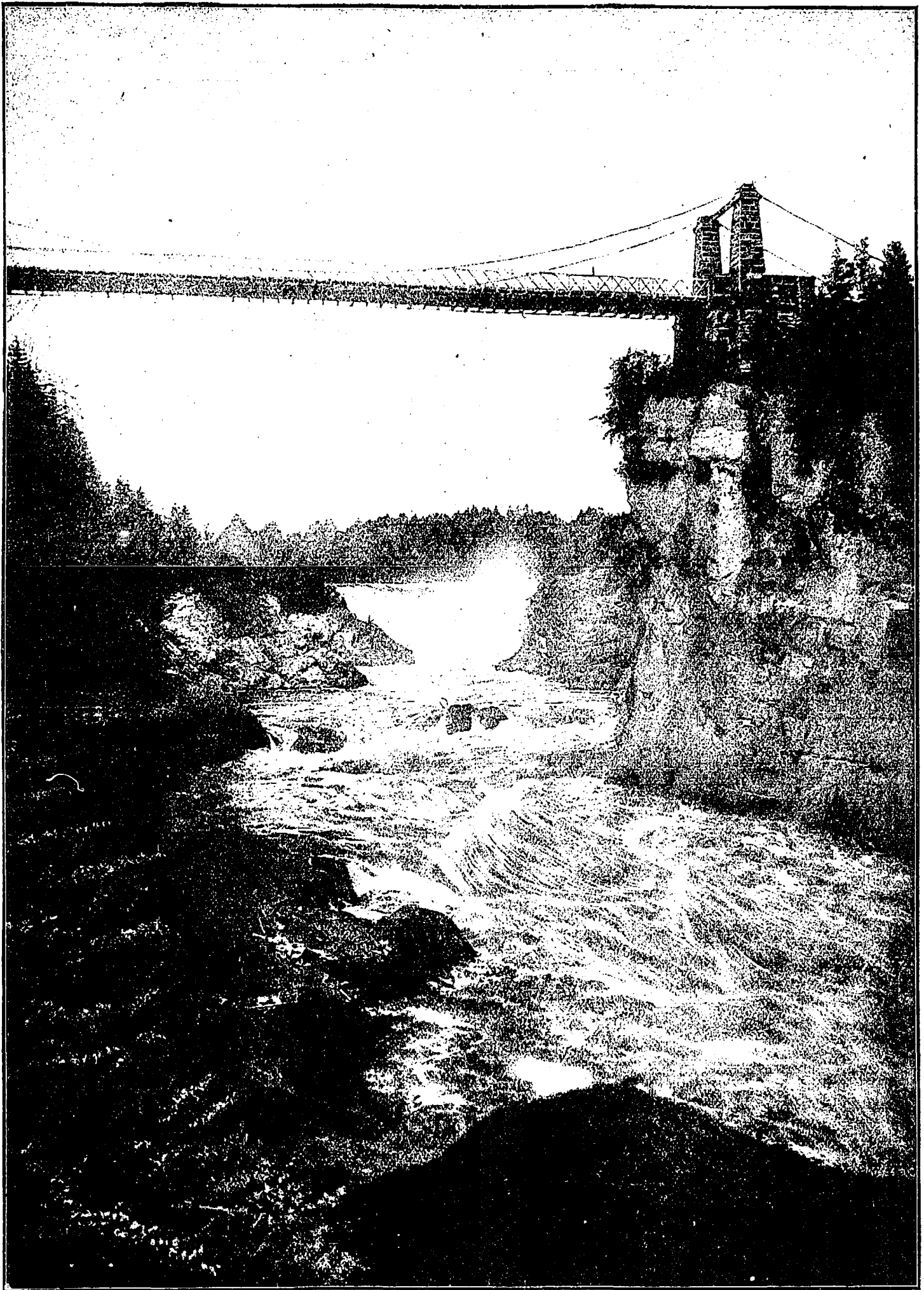
That night, around the campfire, we tried to plan some way to show what was in our hearts without wounding them, but we could think of

none. We had nothing to forgive—we could not hope that they would forgive us, even though they reasoned we did but obey orders and felt to pity them.

Christmas Day—the day of peace and good-will on earth—dawned cold and clear, and we shivered at the outpost fires as we prepared breakfast. At 9 o'clock 200 cavalry came up from the valley to join us and push out on the road beyond the videttes on a reconnaissance. There were rumors that Early meant to have another try at us before winter came down in earnest. At 10 o'clock the bugler had just raised his instrument to his lips to sound the call of "forward!" when one of the videttes dashed into camp with the information that a large body of the enemy's cavalry, also out on a reconnaissance, was close behind. Up the pike we went at a trot, but even in the sudden excitement some of us remembered the old man, the poor woman and the helpless child and hoped that no harm might come to them. We looked for a figure in the yard or a face at the window as we passed the first house, but none was to be seen. We glanced ahead, and the sight we saw brought the column to a halt at once. Half-way between the two houses, on the narrow highway, were the grandfather, the mother and the child, and while the old man hobbled painfully along over the frozen ground the mother and child carried a basket between them. Christmas had come. They were going down to the other house, carrying such food as they had, to eat the Christmas dinner and spend a few hours with the lone women. No man needed to be told that.

Beyond the three figures, which had halted ere we got sight of them, was the enemy's cavalry—a full 200 men. A distance of not more than thirty rods separated the two bodies, and midway between, hemmed in by the roadside ditches and banks, were the three helpless people. War means fighting—wounds—death. A meeting of two bodies of cavalry out on a reconnaissance means a charge—a volley from the carbines—bloody work with the saber. There is sharp fighting for a few minutes, and then disorder and retreat. It would have been so in this case, but for those who stood between.

We sat on our horses and looked down upon the old man, the woman and child as they huddled together and trembled and were terrified at their danger. It was so with the enemy. Any forward movement meant death to the helpless. It seemed a long five minutes. Here and there an impatient horse pawed the earth and tossed his head; now and then a saber jingled in a way to grate on the overstrung nerves. Suddenly, as if by mutual consent, there was a backward movement of both columns. The bugles did not sound retreat, but those in advance slowly turned about, and in two minutes every man and horse faced the other way. The officers passed from rear to front, the columns moved away at a walk, and in ten minutes later nothing was in sight on the highway but a bent and white-haired old man dragging himself along; a white-faced, weeping woman who wondered if it were all a dream; a little girl who looked up the road and down the road with wide-open eyes and was dumb with amazement. It seemed a miracle. It does not sound likely. We can only attribute it to the influence of the Divine child who came down to earth nearly nineteen hundred years ago to command men to love one another—the old and the young, the weak and the strong.



GRAND FALLS, ST. JOHN RIVER.

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Christmas Bells.

When Christmas bells begin to ring,
The winds repeat the music rare;
The snowflakes tremble in the air
And golden stars are watching where
In frosty towers the great bells swing:—
When Christmas chimes begin to ring.

When Christmas bells begin to ring
Throughout the white and frozen street,
With silver voices falling sweet,
And children laugh; and comrades greet;
And sleigh bells shake their merry string:—
When Christmas chimes begin to ring.



See our Clubbing Lists on page 14 and second page of Cover. If any of the Publications you may require are not on the list, write to us for prices.

ONCE more the revolving wheel of time has marked a period bringing us to the joyful season, the season of peace and good will—of Christmas greetings.

May your yule log burn brightly; your Christmas be merry.

This wish we cordially send to every reader who has gone hand-in-hand with us, as it were, through the paths and by-paths of these columns during the past twelve months, picking up here a flower, there a twig, and maybe a lowly herb of useful knowledge. Who, than the jolly farmer, ought the better to welcome Christmas cheer? His fields have yielded their produce, his barns are full, his fall work is over, and his winter duties, not the least pleasant of the year, have been begun. To him the seasons come with their peculiar charm; spring, with its awakening promise—summer, with its kindly sunshine of virility—harvest with its bountiful fulfilment—and winter with its recuperative quiet. Let him then rejoice in season, for the shortest day has come and lengthening shadows have turned.

Why not Canadian Butter too?

A FEW days since our office was favored with a visit from Mr. James M. Sinclair of Melbourne, Victoria, Australia, who has been appointed by the Victorian Government as Agricultural Commissioner to investigate the methods and cost of wheat raising, threshing and handling grain in the United States, Canada and the Argentine Republic. The progressive colony of Victoria seeks thus, through its Commissioner's report, to improve or amend its agricultural processes so as better to compete with the rest of the world in European grain markets. A few years ago they sent out a Dairy Commissioner on a similar errand, and as a result Victoria has developed a phenomenal butter trade. Mr. Sinclair says Canadians are way behind in their butter processes. One thing is sure, if Mr. Sinclair's statements be correct, and we have good reasons to believe they are, Victoria has taken advantage of improved methods and developed a big butter trade in a remarkably short time. Five years ago the efforts to sell butter in Europe were vigorously begun, and last season \$3,500,000 worth of butter was sent to England from the Colony of Victoria alone and the indications are that the trade will exceed five millions of dollars this year. The Victorian Commissioner appointed to look into dairy methods found the science of butter making at its best in Denmark, and the Australians have copied their processes. Their government now employs a butter inspector who carefully inspects all exports and places the government mark on every parcel up to standard, which at once gives it a standing in the British market, while consignments not of the general excellence are not so marked, and have to take chances on sale as of an inferior grade. This butter is shipped to England, in steamships fitted with freezing chambers, and the carriage costs about 1½ cents per pound—a very low freight. We pointed out to Mr. Sinclair that while they boasted of butter making, the Canadians beat the world in cheese. While admitting that to be the fact, he says at the same time, there is more profit in butter.

We submit the above information for the consideration of our dairy farmers. This butter trade should be more thoroughly investigated by Canadians, and government aid procured to further it.

WHILE Canada is doing admirably in the cheese trade, the shipments of sheep to Great Britain, which in 1893 amounted to almost nothing, reached in 1894 the respectable figure of over half a million dollars. The prices obtained were, on the whole, very fair, and a good return came to our farmers from the transaction. This is another instance of the wisdom of raising prime live stock for British consumers.

Two important literary events marked the closing days of last month. To the student of contemporary Canadian history, the Life of Sir John A. Macdonald, written by Mr. Joseph Pope, for ten years Private Secretary to the late premier, will be an absolute necessity. It is a great work, and records with signal ability the career of a great Canadian statesman. To the professional man, the journalist, and the public man, the Century Dictionary of Proper Names will prove indispensable. It is the first venture of the kind in the field of literature, and the success of the compiler is amply shown on every page.

THE province of Quebec is forging ahead as a cheese producer, and close to her the tight little fertile province of Prince Edward Island is looming up. The latter province shows an advance upon last year of sixty per cent, the output being valued at \$80,000. So reliable an

authority as Prof. Robertson estimates that ere ten years shall have passed the cheese industry of Prince Edward Island will show a value of \$500,000. And it is gratifying to add that the quality of the product thus speculated upon is of a high grade while means are being taken to improve upon it by the use of the best and latest methods. Cheese is a product in which Canada should be easily first in foreign markets, and the stress of hard times is evidently turning the attention of all the provinces to the uses of the dairy.

WHEN there is an abundant supply it is interesting to observe how outlets will be found for a demand. The restrictions at the British ports has had the effect of diminishing the trade to Britain, but an opening has occurred in the hitherto unlooked-for market of Belgium. There is no quarantine against Canadian cattle at the Belgian ports and no obstacle presented itself to the enterprising shipper to place stock on the Belgian market. The statement that four car loads of cattle purchased in the county of Perth proved a successful investment in the new market will be received with satisfaction. Wherever an opening appears our goods ought to be vigorously pushed and new markets ought to be especially cultivated. In this connection it is interesting to note that extensive agencies are being formed throughout the Dominion for the purpose of furthering trade between Canada and the Australian colonies with every prospect of success.

THE reduction in the potato tariff is said to be acting beneficially on the Canadian trade with the United States. The Maritime provinces are great potato producers, and even in the face of high customs duty the quality of the tuber bore it successfully into the markets of Boston and New York. Now with a substantial reduction of duty the profit on the shipments ought to be greater and the shipments themselves to increase. What the revision of the tariff has produced in this trade may be understood when it is found that the American Consul at Dundee, Scotland, reports to the State Department that 81,745 tons of potatoes, valued at \$534,268, were shipped from Dundee to the United States from October of last year until June of this year. The reports from Scotland show that the potato crop there is not as abundant this year as last, and the inference is, that the competition from that quarter will not in the least interfere with the trade from Canada.

A CONTEMPORARY has the following pertinent remark as to farming as a business:—"We do not consider farming sufficiently in the light of a business, but rather as an occupation that one may follow without much capital or special knowledge. In England, a man without experience, and without capital proportioned to the acres, would have difficulty in securing a farm, as owners will not rent or lease unless they know a man is competent to handle the land." This is to the point in a matter of importance which is too often overlooked in Canada. True our population is such that in some parts of our wide dominion skilled farmers are not to be expected in the new settler. And sometimes the "green" hand turns out to be the most expert and successful farmers. But the aim of the settler and of the settled farmer ought to be to keep abreast of the times; to know his farm as a fitter knows his chisel or file, to know the soils, the crops, the live stock and the implements and their use, with a full and scientific knowledge of his calling. Then there would be more profit in farming and fewer failures in the noble vocation of agriculture. And a good deal of this knowledge is within the reach of all who till the soil. Observation, instruction and experience are all at hand, and a gradual application of them would produce happy results.

It was a disastrous misfortune of no usual character which befel Mrs. P. Maguire, of Janeville, near Ottawa, when eleven of the finest horses in Canada were burnt to a cinder in their stables last month. The horses were thoroughbreds and it is believed that two of the mares were worth more than \$10,000, no animal in the eleven was worth less than \$500. The animals were to have been offered for sale by auction a few days after the burning took place, and as there was no insurance the loss fell heavily on the owner, and prospective purchasers who had looked forward to a good opportunity for improving their studs were disappointed. Mr. Maguire, husband of the owner, was in his day well-known in New York, where he made his money. He had fitted up his stables at Cyrville in capital style and bought the best stock that could be purchased. After his death, Mrs. Maguire decided to sell out the stable, and as has been stated, the sale was to have taken place a few days after the fire occurred.

MIXED farming is growing gradually but surely in Ontario. The wisdom of adopting this course is admitted and little doubt exists in the minds of the farming community that a variety of lines must be worked in order to make agriculture pay. How this idea is evolving from theory to practice may be gathered from the statistics issued in compact, handy form by the Ontario Bureau of Statistics. It states that the area devoted to spring wheat was less by 295,000 acres in '93 than in '92 and there was a reduction of 53,000 acres in the fall wheat crop and 32,000 in that of barley. During the same time the area devoted to hay was increased by 251,000 acres, 75,000 was added to the oat crop, 40,000 to corn, 15,000 to beans, 8,000 to buckwheat, 7,000 to turnips, and 5,000 to orchard and garden. To some the progress indicated by these figures may seem slow, but it is from that very fact that the permanence of the change may be argued. The farmers are evidently effecting the changes as their means will reasonably allow, and they will not therefore be retarded by the assumption of burdens heavier than they can conveniently bear.

A GLANCE at the emigration returns for October shows that there has been a decrease of 160, as compared with September, the total number embarking being 1,208. For the 10 expired months ending with October the total number of emigrants to Canada was 16,621, a decrease as compared with the same period of the preceding year of 7,316. The number of foreigners who shipped at English ports for Canada was 5,748, against 24,836 in 1893. Here is revealed a serious decline. We trust there will be no real abatement on the part of the Dominion Government to induce good settlers to come to our fine prairies in the west. The over-crowded cities of Britain and the European continent offer a field for such efforts which ought not, in the interest of the greater Canada, to be neglected. While times may not be as good as we could wish all along the line, yet we must remember that no betterment need be expected while the country is at a standstill in the matter of increasing population from abroad. The few thousand dollars thus spent would be money which would give a good return and no class is more interested than the farmer in a great wave of European emigration.

THERE is a battle royal among the British politicians over the question of the scheduled cattle. Notwithstanding the many times we have hammered away in these columns at this much-written subject, we are tempted to congratulate Sir Charles Tupper on the new phase it has assumed. To go back a few months in the history of the controversy, it is found that no portion of Britain raised so loud a din over President Gardner's action restricting the import of Canadian cattle at British ports, as did the yeomen of the grazing plains of north and east Scotland. In this area lies Forfarshire, a

grazing county, and its farmers who get store cattle from Canada to feed for the London fat market, were among those who protested against the restrictions. As has been stated again and again the protests went unheeded, for the government had a majority of over 800 in the constituency and they had no fear of a reverse, notwithstanding that Sir John Leng, M.P. for Dundee, a neighboring constituency, took active measures on behalf of the protestees. Matters remained thus until a vacancy occurred in Forfarshire quite recently. Then the government was made to feel the force of public opinion by a reverse undreamed of, the majority of 800 melting into a very considerable minority. To those who have followed closely the course of the campaign as recorded in the local press, there can be no doubt that the real question before the electors was not that of Home Rule or the integrity of the Empire, but the very local one of free Canadian cattle. The elements in the contest assumed unmistakable proportions at an early stage, and taking advantage of the situation Sir Chas. Tupper received a deputation of Forfarshire and Fifeshire farmers. He made a speech which rang out through the vacant constituency like peals of thunder. There was no mistaking its force and effect. The people were given to understand clearly that Canadian herds were free from contagious disease, and that the restrictions were vexatious political expedients to soothe the minds of the protectionist southern farmer. The cry took like lightning, and the denials, explanations and lurid frenzy of the government partisans could not overtake it in time to counteract its influence. Since the election, which has had the effect of reducing the precarious majority of the government in vital part, Mr. Gardner has been driven from his shelter of stolid silence into the open. He has had to defend himself in the press and has done so by a not too successful attack on Sir Charles Tupper.

WE give the following from the last bulletin issued by the Ontario Bureau of Industries. It speaks for itself: "The quality of the grain crops harvested in 1894 may be briefly stated thus: Fall wheat is in general reported as being of good quality, some being extra heavy; spring wheat, light in weight and shrunken in many districts; barley, of good color but inclined to be under weight; oats, variable, on the whole under the average in quality; rye, very good but very little reported; peas, very "buggy" all through the western counties—some say "more bugs than peas," quality therefore not so good as was expected. In addition to the pea bug, grasshoppers were most destructive in the western half of Ontario. The drouth was the principal cause in the falling off in crops.

"The corn suffered very severely from the drouth, and growth during the summer was very slow, but after September 1st the recovery was rapid and most marked. As a result of the peculiar weather the crop has varied greatly in different sections, in some places very good, in some short in stalks and small in ears, in others a failure.

The *Youth's Companion* is soon to enter upon its sixty-ninth year of publication, and as one says who has been a constant reader of its columns for more than thirty years, "It has steadily improved year by year." Its articles today cover the whole field of life and experience, furnishing a vast amount of valuable and entertaining reading of a character not found elsewhere, and of so great a variety that *The Companion* interests alike each member of the family. The prospectus for the volume of 1895 announces an unusual array of attractions; fourteen serial stories, a wealth of short stories, anecdotes, humorous sketches, adventures, science and home articles, timely editorials on all important questions, and more than two hundred original poems of the highest class. Full prospectus and specimen copies sent free on application. New subscribers who send \$1.75 now will receive the paper free to January 1, 1895, and one year from that date. It comes every week. Finely illustrated. *The Youth's Companion*, Boston, Mass.

North American Review for November has an article on "Possibilities of an Anglo-American Re-union," discussed by Capt. A. T. Mahan, U.S.N., and Capt. Lord Charles Beresford, R.N., and another on "The Business Revival," by the presidents of the Chambers of Commerce at Boston, Cincinnati, and New Orleans, and the Merchants' Exchange at St. Louis.



1st.—Czar Alexander of Russia died... Fifteenth Annual Meeting of the Toronto City Mission held... The Toronto Photographic Association of Canada held its annual meeting at Toronto.

2nd.—Ex-Premier Mercier's funeral took place... W. C. T. U. of Ontario agreed to meet at Hamilton next year... Municipal elections held in Britain.

3rd.—Mr. John Walter, chief proprietor of the *Times*, died... Capt. Velling, who has made a trip of 6,500 miles in a twelve-ton steamer, arrived at the Ladronez... Joseph Jones, the aged coroner of Montreal, died... Mr. D. L. Moody began his labors in Massey Hall, Toronto.

5th.—The Hovas refused the French demands and agreed to fight... Departmental Commission appointed by the Dominion Government to enquire into the question of freight rates on the Canadian Pacific railway... China intimates a willingness to treat for peace.

6th.—Norwegian Parliament declared in favor of prohibiting the registration of British and other foreign vessels... Annual ploughing match of the Reach, Port Perry, Seugog and North Ontario Plowing Association held at Seugog... Republican gains in the United States elections.

7th.—M. Kleczkowski, the new Consul-General of France, banquetted at Montreal... Australia produced \$5,000,000 more gold than any other country last year.

8th.—Winnipeg was visited by a heavy snowstorm... The petition against the return of Mr. G. F. Marter, M.P.P. for North Toronto, withdrawn... Wm. Lemon, Warden of Grey, died... Mr. W. L. Gordon chosen Patron candidate for Centre Wellington for the House of Commons.

9th.—Lord Mayor's banquet held in London, England... Curran Bridge prosecution opened at Montreal.

10th.—Thos. Strachan, a Toronto real estate agent, accidentally drowned in the Don river... By-elections took place in Newfoundland, resulting in victory for the White-waives... Lord Ripon, Colonial Secretary, advocated a Colonial Conference, to be held in London.

12th.—Heavy floods caused damage to many places in Great Britain... Coroner's jury in the Frank Westwood (Toronto) case brought a verdict of wilful murder against some person or persons unknown... Minister of Finance Foster returned from London, where he had placed the new Canadian loan.

13th.—Diphtheria reported epidemic at Anderson, Ind... Annual Convocation of Trinity University, Toronto, held to-day... First part of the Toronto civic investigation closed by Judge MacDougall.

14th.—Reported massacre of three thousand Armenians by Bashi-Bazouks... Serious floods sweep the southern counties of England... The Cushing Mission ended in Toronto.

15th.—Navigation season at the port of Montreal closed... Mr. James Limes selected candidate for the Commons by the South Wellington Reformers... Two German and one French officer arrested for spies at Paris... Presbyterian Synod of Manitoba and North-West in session at Winnipeg.

16th.—Dr. James McCosh, ex-President of Princeton University, died... Duchess of Montrose, the famous "Mr. Manton," died... The twenty-first Annual Convention of the W. C. T. U. of the World was begun at Cleveland, O.

17th.—City of Morocco open to trade... Application made to city council of Quebec for leave to erect a monument to General Montgomery by American subscriptions... Bread riot in Chicago.

19th.—Investigation of Lexon Committee postponed until December 1st... Mr. J. S. Fullerton, Q.C., was appointed city solicitor of Toronto... Curran Bridge suit begun at Montreal.

20th.—Quebec Legislature opened to-day... Clara Ford was arrested on the charge of having caused the death of Frank Westwood, Toronto... Mr. Hobbs elected by London to the Ontario Legislature.

21st.—Five schooners wrecked in a gale at Esquimaux Bay, Que... Kent County Medical Association organized at Chatham.

22nd.—General Booth tendered a reception by the Chicago Press Club... Thanksgiving Day observed throughout the Dominion... Sham fight between the permanent corps of the Toronto garrison and regiments of militia took place near Toronto.

23rd.—Provincial ploughing match held at Petrolea, Ont... Marriage contract of Czar Nicholas and Princess signed.

24th.—Ponc's Life of Sir John A. Macdonald published... Port Arthur captured by the Japanese.

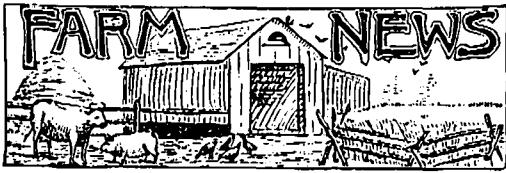
26th.—Francis Kossuth took the oath of allegiance to the Austrian Emperor... Marriage of the Czar took place... Diphtheria epidemic in Detroit.

27th.—Princess Bismarck died... Mr. David Christie Murray lectured in Toronto... Public executions abolished in Spain... George Barker, the famous Niagara Falls photographer, died.

28th.—Clara Ford committed for trial on the charge of having murdered Frank Westwood, Toronto... George Moncrief unanimously selected as Conservative candidate for the Commons for East Lambton... Thermometer 22 degrees below zero at Winnipeg.

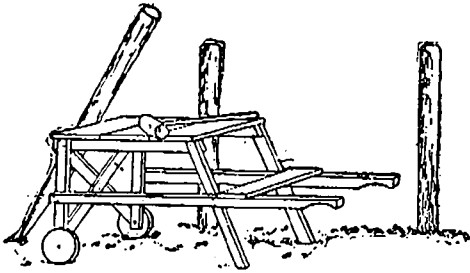
29th.—The Manitoba Government decided to give evidence before the Freight Rates Commission... The Crown obtained leave to introduce expert evidence in the Curran Bridge case, Montreal.

30th.—His Excellency the Governor-General of Canada attended St. Andrew's Day celebration in New York.



Wheeled Platform for Driving Posts.

In driving fence posts a platform of some kind is required for the operator to stand upon when manipulating the sledge. This is usually a cumbersome box that is rolled and tumbled from one post to another as the work progresses and if the ground be uneven the support is very unsteady and the work unnecessarily tiresome for the operator. It takes but little time to construct a wheeled platform like the one here

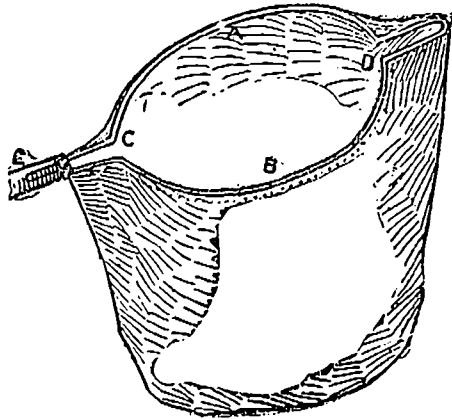


MOVEABLE FARM PLATFORM.

shown. The top or platform is three feet in length and two and a half feet wide and twenty-eight inches from the ground. The wheels should be six or eight inches in diameter and may be of wood or iron, the handles are four and a half feet long with a step nailed on top of them as shown in the sketch. This arrangement will prove handy in gathering apples from the lower branches of the trees, and for many other purposes about the farm. It can be made from bits of boards and is easily moved about.

Hand Apple Picker.

In connection with the winter apple picking the picker shown in the illustration will be found of great service in reaching the fruit on extended limbs. One man can stand under a



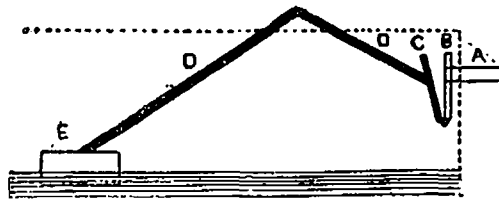
FOR PICKING FRUIT WITHOUT BRUISING.

tree and pick nearly all the fruit from the tree including the hardest to get at—that on the ends of the branches. The frame is made of heavy wire, or light round iron and a sack of heavy cloth sown to the frame, leaving the slots at each end so that an apple will be free to enter the sack. Then all you have to do is to push or pull and the apple drops into the sack.

Valve for Water Trough.

To keep a full supply of water in the cattle or poultry trough without being annoyed by surplus water overflow, and without giving the stock a chance to contaminate the main supply, let the pipe from the spring run into a cask and arrange the overflow at the top of the cask. From the bottom of the cask run a small pipe to the trough and make a rubber valve which will work automatically as follows: A hole is bored in a block the exact size of the little pipe

(A) and slipped on the pipe while dry. When it is wet it will swell and hold fast. A common wrought iron hinge of small size is next screwed on the block (B) and a square of rubber boot

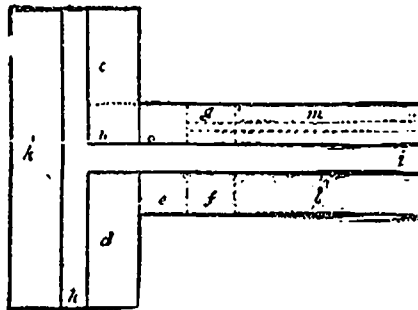


REGULATOR FOR WATER FLOW.

leg (C) wired to it in such a way that it be forced up against the end of the pipe cutting off the flow of water. This part of the hinge is in turn screwed to a forked stick with a small block (E) on its upper end. The block floats on the surface of the water and as the trough gets full enough it raises the stick, forces the rubber against the end of the pipe and stops the flow until the water is lowered by stock in the yard, allowing the float to let more water escape through the pipe. It works as well as a more expensive valve and on the same principle.

Inexpensive Greenhouse.

The accompanying illustration shows the plan for a greenhouse which is cheap and gives a different temperature in various parts of the house, yet is heated with only one fire. The front part is ten feet wide and twenty-two feet long, and the rear part eight feet wide and twenty-two feet long. To build the house, dig in the ground two and a half feet, then set in oak posts eight feet long, sinking them three feet in the ground. This left the walls five feet high, except the south wall, which is only four feet high. This wall being low lets in plenty of sunshine. The framework is oak scantling two by three inches, and the walls are made of oak boards one inch thick. Then earth is banked up to the top of the wall, and sodded. The rafters on the south side are seven feet long; all the other rafters are four and a half feet long.



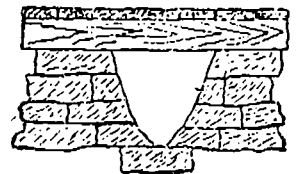
GROUND PLAN OF GREENHOUSE.

The letter *a* indicates the position of the stove, which is an old-fashioned wood heating stove. The legs are left off and it is set on bricks so as to place it low down, and over it is built the cutting bench, the bottom of the bench being two feet from the top of the stove. A large pot of water is kept on the stove to maintain due moisture in the air. A large piece of sheet iron is placed between the stove and the wall; another piece is arranged so as to be easily moved in and out between the top of the stove and the bottom of the cutting bench. The dotted lines show where the flue passes from the stove. The flue is made of six-inch tile except one joint of stovepipe next the stove. This tile is supported by strong galvanized wire fastened to the wall at one end, and to the rail on the flower bench at the other end. The joints of tile are luted together with wet clay, which makes it easy to take them down for cleaning out the soot, which must be done about once a month in winter. The bench indicated by *b* and *c* is built high enough to allow two and one-half feet space under it, which gives room to get under to put wood in the stove; *b* is a bed of heliotrope which is always in bloom, and *c* is where the carnations are grown for winter blooming. The fire is allowed to burn its full

force only in zero weather, when it must be looked after every four hours. In moderately cold weather it may be left all night. There is always a difference of ten to twelve degrees between the middle and the ends of the greenhouse. At *d* is the rose bench, where roses are grown for cut flowers, a Marechal Neil being in the end nearest the fire. The bench is two feet high; *e* is the place for begonias and young palms; *f*, smilax, the bench low down; *g*, coleus, begonias, etc.; *h*, a large palm; *i*, a tall plant. All the benches, *k*, *l* and *m*, are used for plants for sale. The walks are two feet wide. The door is in the west end, and a storm door is built outside. I did all the work myself and the greenhouse cost me fifty dollars. With a few cold frames in addition it will, if well managed, turn out \$200 to \$300 worth of plants and cut flowers per year. Still, if the purse will admit, build it on the level ground and do not dig. Use two thicknesses of boards and put tarred paper between them, as the building will then last much longer, will not be so damp in continued wet weather, and will then allow cold frames to be placed outside the east wall. A good drain is indispensable for a house built below the level of the ground.—F. H. FELTER, in *American Agriculturist*.

Improved Culvert.

A CORRESPONDENT of *Good Roads* sends to that journal the sketch which we reproduce. "The object of making a culvert in this shape," he says, "is to confine the water to a narrow space, that it may rise in the basin that is



usually found on the upper side of the road, thus causing depth, volume and force, to carry through the culvert any sediment that may have accumulated in it, and also to prevent the water freezing in winter. In use it proves to be a success.

It is a bad habit to get to thinking that you can buy this product or that, which you need for use in your own family, as cheaply as you can grow it. Produce everything possible that is needed for home use, and so save the middleman's profit on both that which you would have to sell and that which you would have to buy. For if you do buy, you must grow some other thing with which to pay the bill, and someone beside yourself makes the profit on both transactions.

I KNEW a farmer who would not trust the feeding of his cows, horses and pigs to everybody, no, not he. He took so keen an interest in all departments of his farm work, that no part of it was to him disagreeable. In farming we can do no better than to emulate the example of such men who are making agriculture successful by their own greatness of mind, applied to detail work. I regard the doing of winter chores about the barns, pig-stys, and poultry houses as nearly half of farming, since it lasts half of the year and involves the care and profit of all the live stock on the premises. What will swine amount to next summer if they don't have dry, warm quarters now, with substantial food? What will the wool clip on your farm amount to for 1895 if the sheep freeze to the ground nights, and pull out great patches from their fleeces, when they struggle to their feet winter mornings? And do you expect the heifer calf to make a No. 1 cow whose hair is kept turned toward her head, except when there comes a thaw?

Cibe Stock.

LET the cow frisk in the open air once in a while; continuous stabling is not good for her.

LET the youngsters step along on the snow path. The only way to teach a colt how to trot is to trot him.

NOTHING short of persistent care and scrupulous cleanliness will eradicate that wretched and insidious disease—thrush.

BEAUTY of color does not make the worth of the cow, but the amount of milk she yields and its quality measures her value.

IT is not so easy to make winter dairying pay, and you must depend more on brains than brawn to have it return a profit.

A WELL trained colt reflects credit upon his owner, but a vicious horse is a humiliation to those responsible for his early education.

THE training yard is to the colt what the nursery is to the child. What he learns there he will carry into his public performances.

THIRST is simply a sensation by which a lack of fluids in the system is made known, and in a state of health it is a generally faithful indication of the wants of the body.

THE animal system uses up a certain amount of food every day, and if only that amount be given your animal he will only retain his existence, and not improve any in condition.

AN excess of a good thing is no more desirable than an excess of a bad thing. Moderation should be adhered to. Feed with moderation. Exercise with moderation. Work with moderation.

THE man who has good judgment and breeds trotters as though he expected to race every one of them, will make money, but the time has gone by to raise horses to fool somebody else with.

THE ownership of a good horse is something which brings with it, to a man susceptible of attachment to the equine kind, a fund of delight and unalloyed pleasure which few other pastimes can equal.

INDIGESTION is one of the most serious disorders affecting all animals, and it gives rise to many diseased conditions that have no apparent cause to one who does not understand how a disturbed digestion affects every function of the system.

DOMESTIC animals will sometimes eat so much salt that they will injure themselves, but this will only happen when the attendant has been so careless of their wants that they have been for a long time deprived of it. Keep the salt where they can help themselves, and they will take only as much as is required to satisfy their actual needs.

To raise good horses and keep them looking well and in good life we must not work the life out of them, especially not load them too heavy. That is what makes old horses out of too many colts. Because they are willing and walk right

off we forget and put on a heavy load. If we would just stop and think our judgment would tell us it was wrong.

IT takes skill to make a cow pay in the summer, and more skill to make one pay in the winter. Throwing hay to one three times a day is not going to do it. When you keep the stable clean by dumping the manure out in the barnyard, you are losing half of the nitrogen in it. Spread it on the fields and save the life of the manure.

NEVER keep an old horse on the farm. When a horse gets to be eight or nine years old dispose of it. At that age a horse will always bring nearly as much as a young one, and sometimes more. It costs more to keep old horses, and they do not work as fast as young ones. It never pays to keep any sort of stock after it begins to go down hill.

THERE are few who do not care to controvert the statement that the Jersey is the typical butter cow and the very best for that particular service. The milk is exceptionally rich and and finely flavored. The breed is prolific and precocious, and these last are qualities of importance to one who is in the dairy business to stay, and who is wise enough to raise his own cows.

THE warmth of the body of an animal in the winter season is produced from the food. The more warmth created the more food necessary. The more the animal is protected from the cold the less warmth to be provided. To save food, therefore, the stock should be provided with good dry quarters, the most important point being to guard against draughts of air from cracks or crevices.

IT might be well to think of winter shelter for the hogs and plan to provide something that will help save heat and feed during the winter. Study out some cheap and handy method of sheltering the hogs. There is no need of an expensive house; in fact, "hog palaces" do not, as a rule, pay. Cheapness, comfort and convenience are three things which should be kept in mind in planning for hog shelter.

BAD food, feeding and watering at an improper time or in an improper manner, filth, want of ventilation, blows, and other kinds of harsh treatment, and in some instances mistaken kindness, fashion, vanity, and a variety of other causes, all of which are under the control of man, combine to ruin the health, destroy the usefulness, and even terminate the life of the most noble animal which has been placed at the service of man.

The Poultry Yard.

Wire Poultry Hook.

A USEFUL device for catching chickens is shown in the accompanying sketch. The hook is made of galvanized fence wire and is inserted in a light wooden handle, one-half the diameter of an ordinary broomstick being sufficiently



heavy. The handle should be about six feet in length. When a chicken is wanted, go into the poultry house or when feeding them, and instead of plunging about and scaring the whole flock, select the fowl wanted, quietly put the hook on its leg and gently draw it to you. There is no uproar, no trouble. It is surprising to see how easily poultry are handled by this hook.

OYSTER shell and ground bone should be kept in a box with slats on so the fowls cannot muss nor waste any.

WHEN grain only is fed there is great danger of overfeeding, hence the added value of feeding cut clover.

PUT pure water before the fowls twice a day in very cold weather. They will soon all drink and then take the vessel out.

The symmetry of the stock and the size and color of the eggs can be influenced largely by care in selection of eggs for hatching using only those which are large, dark, and from well formed fowls.

GIVE the hens intended for breeders sweet, nourishing food, and keep them in motion, but do not overfeed with corn in any form, for very fat fowls are very poor breeders and are more liable to lay soft shelled eggs.

MAKE feed troughs four feet long and have one side nailed fast and the other side hung with hinges; the bottom is six inches wide and the top sides come together so all can come to the feed and are kept out. This trough will be found to be convenient and practical.

A CLEAN, warm, poultry house saves feed, but many fail to provide it. Health and egg-production largely depend upon clean, warm, laying houses. The farmer who does so hatches early chicks, and seldom lacks eggs and poultry throughout the year.

If you have not a plenty of pine needles on hand, do not fail to lay in a stock this fall, for they make excellent nests all the year round, and are particularly good for the sitters in the spring. They are clean, cool, and being free from anything green, are no attraction for the hens to scratch in for food.

THE pullets of most of the heavy breeds, if if they were hatched at the right time, should begin to lay the last of this month. All should be so fed and cared for that the greatest number of eggs possible will be laid from now till the first of March next. It is during this time that they will return the best profit.

THE tools handiest for cleaning are a large sheet iron bucket of the capacity of two ordinary pails, a piece of clapboard about two feet long for cleaning off the roost board, and a garden rake for taking up the feathers and litter from the bottom of the house. With the use of these it is but little work to keep a house clean.

PERHAPS, my plan having proved a success I may as well give it. I have a "Necessity clover cutter." I cut a common pail of clover and steam it over night; to this I add as much wheat bran as will make it quite dry, say as much bran as clover or more. I add some salt and about a quart of "Bowker meal." This I give to forty fowls. In the morning and some corn at night.—VAN DAREN.

Do not be afraid of the feed if you want eggs. A poor feeder is never a good layer. Again, not what is eaten, but what is digested and assimilated is what tells in the egg basket, so that everything which tends to better digestion tends toward better returns in eggs, and indicates that plenty of shells and grit should be furnished, and if possible charcoal, which absorbs the gases, sweetens the crop, and many times prevents an attack of indigestion.



For Christmas.

THE hard times of the past year will make it even more necessary than ever before for some of us to furnish our friends with Christmas gifts that have been largely evoked from our own brains or from those of some one else. "Very hard cash" is very hard to get at, and a little of it must be made to go a long way.

There is always a baby (bless its little heart!) in every family, or if not in one's immediate family, in that of some friend, who ought to be remembered. Scrapbooks are a never-failing source of delight, if rightly made. One of the prettiest, because it does not fly over baby's head, is made from the pictures contained in advertisements. The circulars that come in every package of cereal, on the newspapers, in backs of magazines and even on cans of fruit and vegetables, if properly disposed, will please baby far more than the most charming landscape. Cut a number of leaves from muslin, white, pink and blue, and pink the edges; sew them together and cover stoutly with pasteboard. This cover in turn should be decorated either with colored pictures or covered with colored cotton crepon and tied shut with ribbon of a contrasting color. Fill the pages with pictures of spoons, spectacles, boots and shoes, bicycles, baby carriages, chairs, tables and other articles, disposing the pretty and highly colored trade marks over the pages sufficiently to brighten them. This is of course only for baby's first scrap book.

The older children are always fond of pretty pictures with which to adorn the walls of their room. There are pictures galore to be obtained for little or nothing, but unless these are framed they are too perishable to offer as a gift. To do this effectively and cheaply take a piece of heavy artist's paper, or even a sheet of neutral tinted blotting paper; paste the picture on it leaving a margin of greater or less width according to the size of the picture. Now back it with a stout piece of pasteboard from an old box, lay on a glass and bind all around with manilla paper firmly pasted on the edge, showing an inch or less in front, and extending for strength several inches on the back. This mar-

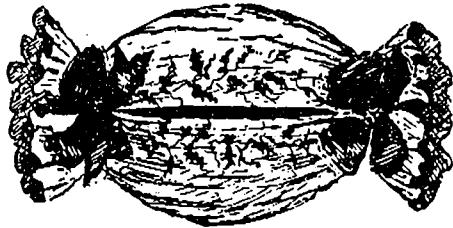


gin can be tinted if desired. To arrange for hanging up, fasten two small brass rings to the back of the pasteboard before it is applied to the picture by passing a narrow strip of strong tape through the ring and passing this through the pasteboard where it is first sewed and then strongly glued.

The always needed and too often lacking whisk broom can be kept in its place by a holder made of a butcher's cuff. It is to be ornamented with a bow of ribbon on the front with

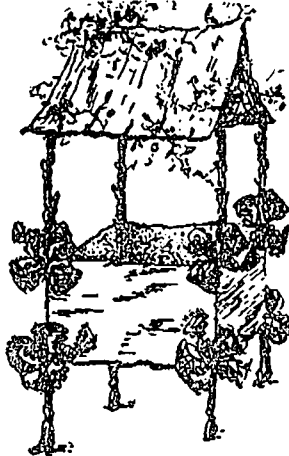
a frayed-out bit of manilla rope inserted. Hang up by rope sewed in loops with fringed ends at either side of the cuff and tied in a bow and ends at the top. These cuffs, by the way, can be made into hair receivers, knitting bags and flowerpot holders.

An entirely novel handkerchief case is the one here presented. It requires two pieces of India silk, each half a yard square, of contrasting colors, with an interlining of cotton flannel sprinkled with sachet powder. Turn in the



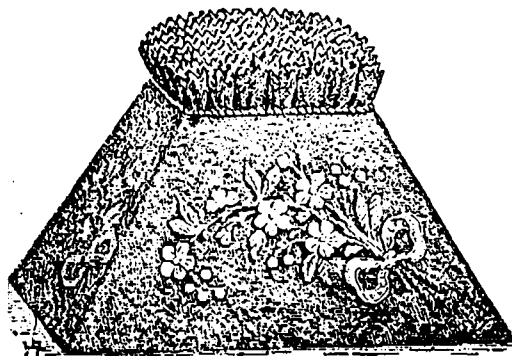
edges and blind stitch neatly. The two sides of the square may be embroidered with a running vine, or with the monogram and "Merrie Christmas," and are to be left for the opening. Three and a half inches from each end gather with a strong thread, and tie with a ribbon finished in a pretty bow. It is a very convenient case to carry in a trunk. A handsome one for a bride would be of white brocaded silk, lined with pale pink.

Bits of bark and moss and twigs, and the merest scrap of velvet or plush, with a yard of five cent ribbon, will make for some fair cousin a receptacle for her jewelry that will also be an ornament to her toilet table. Fashion a little



house of pasteboard, as shown in our illustration, the supports being rustic twigs; cover the pasteboard with pretty lichens and moss, using strong glue to fasten them on, and tie it together until dry, then remove the strings and tie on the ribbon bows. The little box must be lined with plush to make a soft bed for the rings and gewgaws which it is intended to hold. Small boxes, lined with plush and covered on the outside with lichens and moss, may be used for pin and hairpin trays. Very artistic wall pockets, scrap baskets and doll houses, can be made with well-dried moss glued on a pasteboard foundation.

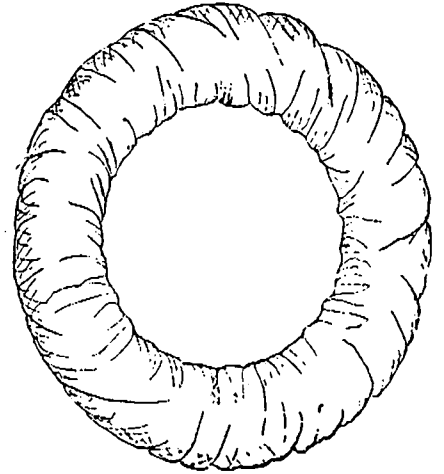
A penwiper and paper weight combined is a pretty and useful present. Make a box of



pasteboard, three and a half inches square at the base and one and a half at the top, and two inches in height, covering the bottom with any plain silk or bronze morocco, and the sides with

rich brocade, chamois, or plain satin, and either paint or embroider the pieces. Join the pieces together with neat overhand stitches; fill the inside with fine gravel or shot, and stuff the opening with rolls of fringed chamois or strips of silk or old kid pinked on the edges. Never make a penwiper with woollen stuff of any sort, as infinitesimal threads are sure to catch upon the pen.

A pretty gift for his mother is this dainty frame for baby's picture. Out of a piece of heavy pasteboard, or (better) millboard, such as is used for book covers, cut a circular piece



seven inches in diameter; in the centre of this round cut a circular opening four inches in diameter. The sizes given are for what are known as cabinet photographs. Cover this round of pasteboard with a layer of cotton-batting, put on loosely, and held in place with a few long stitches.

From a delicate shade of rose or blue silk, cut a strip three and a half inches wide and one yard long. It will puff more gracefully if cut on a true bias. Sew together and press all seams. Gather each edge with a strong thread. Sew one edge of this puff around the inside opening of the pasteboard circle about half an inch from the edge on the side not covered with the batting, making the gathers as even as possible. Draw the silk through the opening and over the outer edge of the circle, fasten in place with slip stitches—that is, stitches taken into, but not through the pasteboard. Do not draw the silk tightly, but let it puff softly over the cotton.

Cut a circle of heavy rose or blue paper to match the silk about six inches in diameter, and after putting the photograph in place, paste it over the back, using stiff flour paste, not forgetting to put a loop of ribbon exactly at the top to suspend the frame by.

REVIEWS.

"Where is Vineland?" is a very interesting paper on the Vineland Sagas, in the current number of the *Canadian Magazine*. As is also the article on "A Decade in the History of New France."

Scribner's Magazine for November has for its leading article one of especially timely interest on "Election Night in a Newspaper Office." A further article on English railroading appears, entitled, "English Railroad Methods." There is also an interesting wolf story, entitled, "The King of Currumpaw," by Ernest E. Thompson, a Canadian artist.

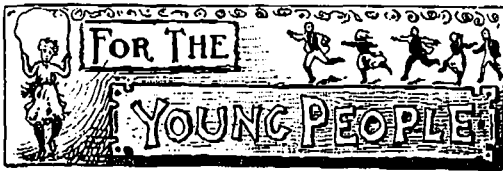
Outing for November should win many new friends for this popular magazine. It is an enlarged number, and contains a wealth of wholesome reading, embellished with many fine illustrations.

The November *Harper's* prints an interesting bit of colonial history under the title of "The Sea-Robbers of New York." A short story of New York tenement life, by Julian Ralph, is an excellent bit of "local color." Altogether the number is a charming one.

McClure's November number opens the promised Napoleon series with fifteen portraits of Napoleon in early manhood, and of other persons closely associated with him, with an interesting account of his career down to the time he assumed command of the army in Italy.

Chautauquan for November opens with "Development of Steamships in the Nineteenth Century"—a very good article. Other papers on "Social Life in England in the Eighteenth Century," "The Legislation of the German Empire," and "Modern Agriculture in France," are excellent reading.

All the above first-class magazines are on our Clubbing List. See List on another page.



The Beaver.

THE beaver (*Castor Fiber*), doubtless existed at one time throughout the United States and British America, as vestiges of its labors are found in the "beaver meadows" in all parts of the country, but it has slowly decreased in numbers, and now is found only in wild and uncultivated regions. A common length of the beaver's body is thirty inches; of its tail, ten, the width of which in the broadest part is six inches. The body resembles the muskrat, though much larger; it is thick and clumsy, gradually enlarging towards the hips and then rounding off somewhat abruptly to the root of the tail; nose, obtuse, divided; eyes, small; ears, rounded; neck, short; fore legs, short and small; toes, well separated and very flexible; the fore feet are used like hands for conveying food to the mouth; hind feet with hard, callous soles and long toes, connected by a web; palms and soles, naked; when walking, the whole heel touches the ground; the beaver is accustomed to rest itself on its hind feet and tail. The tail is broad and flat, tongue-shaped, oval and covered with scales; a musky, unctuous substance, called castoreum, is secreted in a pouch near the root of the tail.

The fur is of two kinds, one, long, coarse, smooth and glossy, and of a chestnut color on the upper surface; lighter below; the other, shorter, very fine, dense, soft and silky, of a smoky, or silvery-gray; there is an occasional variety, some being black, others nearly white.

The sagacity and instinct of the beaver have long been the subject of admiration and wonder; but by many naturalists it has been greatly overrated, as the fox far exceeds it in intelligence and cunning, and the muskrat nearly equals it in sagacity and architectural skill. Hearne, who studied the habits of this animal for twenty years, says:—"When beavers are numerous they construct their habitations upon the banks of lakes, ponds, rivers and small streams; but when they are at liberty to choose, they always select places where there is sufficient current to facilitate the transportation of wood and other necessaries to their dwellings, and where the water is so deep as not to be frozen to the bottom during winter. The beavers that build their houses in small rivers and creeks, in which water is liable to be drained off, when the back supplies are dried up by frost, provide against that evil by making a dam quite across the stream at a convenient distance from their houses. The dams differ in shape, according to the nature of the place in which they are built. If the water in the stream has but little motion, the dam is almost straight; but when the current is rapid it is always made with a considerable curve convex towards the stream. The materials made use of are drift wood, green willows, birch and poplars, if they can be got; also mud and stones, intermixed in such a manner, as must evidently contribute to the strength of the dam; but there is no order or method observed in the dams except that of the work being carried on with a regular sweep, and all the parts being made of equal strength. In places which have been long frequented by beavers undisturbed, their dams, by frequent reparings, become a solid bank, capable of resisting a great force both of water and ice; and as the willow, poplar and birch generally take root and shoot up, they by degrees form a kind of regular planted hedge, which I have seen in some places so tall that birds have built their nests among the branches."

The dams are sometimes eight feet high and twelve wide at the bottom, with sides inclining toward each other, and 800 yards long. Often

they extend beyond the stream in a circular form, so as to overflow the timber near the margin.

Their houses, proportioned to the number of inmates, are built of the same materials as the dams, but of much ruder structure, their chief aim being to have a dry place to live in. Some of them, containing several families, are divided by partition-like supports to the roof. Frequently, in such cases, the apartments have no communication with each other but by water. The whole, from the foundation, is a mass of mud and wood mixed with stones, if they can be procured. The mud is taken from the edge of the bank or the bottom of the creek or pond before the house, and, held close up under the chin by the fore paws, is carried to its destined place, while the wood is dragged by their teeth. Their work is done entirely at night, and with great rapidity. When undisturbed, they continue to live in the same houses year after year. When they are to erect a new habitation, they cut the timber for it in the spring, but do not begin to build till August, and never complete it till cold weather begins. The old and new houses are covered with a layer of mud, which, freezing, becomes as hard as stone. They frequently walk over their work, often giving it a slap with their tails, so that the outside at length is as smooth as if finished with a trowel. The interior of the larger lodges is often seven feet in diameter and three high, and the walls become of such thickness that the outside is eight feet high and sixty in circumference. Their sleeping places are separate beds around the interior wall of the lodge, made of grass or tender bark, the centre being unoccupied, and probably here is the principal opening into the water. The beavers cut a broad ditch around their lodges if the water be not deep enough otherwise, and into this are numerous small entrances, through which they pass with their food.

During the fall, the beavers cut down and drag into the water opposite their lodges birch, poplar and willow trees, seldom felling any over six inches in diameter, though logs twenty inches through are sometimes cut off and removed from the trenches. They always leave

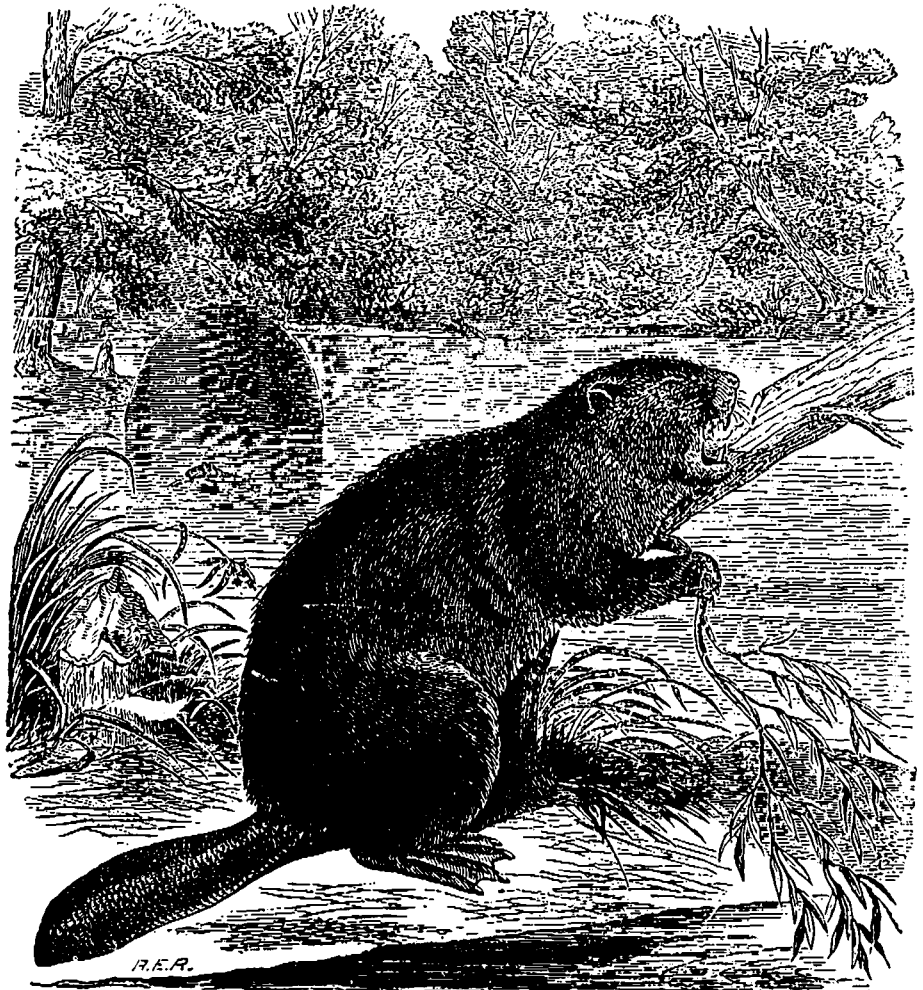
the top of the stump in the shape of a cone, and gnaw lengthwise of the grain of the wood. This store they heap together and fasten to the shore, under water. Besides feeding on the bark of these articles during winter, they dig up and eat the roots of the water lily and other water-plants. In summer they rove about and eat berries and leaves.

The young are produced in the lodges, from four to eight in a litter; their eyes are open when born; they remain with their mother for a year, at least; often two years. Audubon says:—"It is a curious fact that among the beavers there are some that are lazy and will not work at all, either to assist in building lodges or dams, or to cut down wood for their winter stock. The industrious ones beat these idle fellows, and drive them away, sometimes cutting off a part of their tail, and otherwise injuring them. They only dig a hole from the water, running obliquely toward the surface of the ground, twenty-five or thirty feet, from which they emerge when hungry, to obtain food, returning with the wood they procure to eat the bark. They never form dams, and sometimes five or seven live together. They are all males, and are more easily caught in traps than others." On the contrary, the working beavers, male, female and young, work and live together.

Beavers usually visit their dam every night to see if repairs are needed, and also to deposit their ordure there, or in the water some distance from their lodges.

During winter, beavers are caught by cutting a hole through the ice near the entrance to the lodge and setting a trap here baited with a green stick, and also at their feeding places they are caught in a like manner. Traps are sometimes placed near the shore and fastened firmly to it by a chain long enough to reach out to deep water; a good way is to make a breach in the dam and place the trap there.

When Christmas bells begin to ring,
Unheard, the lilies join the chime;
The poppy's scarlet bells keep time
The snowdrops tinkle of the spring:—
When Christmas chimes begin to ring.



THE BEAVER.

A SAD MISCALCULATION.



VILLAINOUS LOOKING PARTY.—No one home but der old woman. I'll show you how to fix dat dog.



Now, jess watch yer uncle!



What good is watch-dogs when men wid brains is around?



Well, what yer think of that? Now, I'll get somethin' to hold this down, while I go in and rob the house!



THE WATCH-DOG (as he recovers himself).—I wonder where dat cyclone came from. Phew! I smell fresh meat!



—! —! —! —! —!



HAD THE RHEUMATISM.

"I've got your account here—falls due to-day."
"Hain't got no money."
"How about cotton?"
"Hain't got none."
"Or corn?"
"No corn nuther."
"Well, we'll take hogs."
"Hain't got no hogs."
"What have you got?"
"Well, we've got the rheumatism, an' we're purty shore o' the measles, if you kin wait!"

BREAKING IT GENTLY.

"Mister," said the man who felt that he had been swindled on a purchase of stock, "I'm come ter get my money back."
"I'm sorry; but you'll have to take your chances with the rest of us. I hope you will try to be good natured about it."
"Good natured! Mister, I'm the good-naturedest man in the community. Jest ter show you how good natured I am, I've come el'ar ter your office ter tell ye a comical joke that jes' come inter my mind."
"Indeed?"
"Yep. Ye've heard as how death loves a shinin' mark?"
"Of course."
"Well (and he extracted a nine-pound revolver from his coat pocket), the joke what I've come ter tell ye is that he's equally partial to a minn' shark."

Van Quille.—"Do you know, I have a perfect passion for poetry!" Miss Bacon.—"Unrequited, isn't it?"
"Is there an authors' club in this town?" asked the young man. "There is," replied the editor. "Bill, hand me that oak sapling."

The Vagrant (soliciting alms).—"I've been out of employment, sir, for goin' on two years." Cholly.—"Nevah mind, old Chap. So have I."

"You country people make lots of funny mistakes when you come to town," said the city young man. "Yep," replied the gentle farmer, "but when we remember what a lot o' argvin' it takes ter convince some city folks that goose-berries don't necessarily come from egg plants, we sorter learn ter bear up."

Possible purchaser.—"Now, is this mule perfectly gentle?" Uncle Mose.—"Well, sah, I nebbeh knowed him to bite anybody yit."

"Do you really mean that you like Blinks' last book?"
"Yes; I enjoyed it more than any of the others." "How could you?" "I didn't read it."

Wilton.—"So Penner's latest novel failed to catch the public as he expected it would. Any particular reason?"
Walton.—"Er—it was a detective story."

Dora.—"Don't you think my gowns fit better than they used to?" Cora.—"Yes. Your dressmaker told me yesterday she was taking lessons in geometry."

"What's the matter with Jennings, Harlow?" "Oh, some mental trouble. He suffers from a complete loss of memory." "Suffers? Jove! he's in great luck, considering his past."

Col. Crash.—"You wouldn't think, Miss Gussie, that I have smelled powder on fifty terrible fields—"
Miss Gussie.—"No, indeed! It takes a long life to have seen fifty Fourth's of July."

Miss Bellefield.—"Mr. Spatters is a good sportsman"
Miss Bloomfield.—"Is he? He never shoots anything."
Miss Bellefield.—"That is why I call him good. I think it is real wicked to kill innocent animals and birds."

"Hallo, Yellowy! You are looking as bright as a dollar." "I'm feeling as bright as one, too." "You must have been taking a long vacation." "On the contrary, I haven't taken any; that's why I'm looking and feeling so well."

Mrs. Youngman.—"And so, my darling got the prize at the baby show? I knew he would. It couldn't have been otherwise." Old Bachelor (one of the judges).—"Yes, madam, we all agreed that your baby was the least objectionable of the lot."

"Do you think," (said the intellectual young woman), "that there is any truth in the theory that big creatures are better natured than small ones?" "Yes," answered the young man. "I do. Look at the difference between the Jersey mosquito and the Jersey cow."

Bjones (whose education has been neglected).—"I want an interesting book—something in the historical line." Bookseller's clerk.—"Yes sir. Here's 'The Last Days of Pompeii.' How would you like that?" Bjones (doubtfully).—"I dunno. What did he die of?" Bookseller's Clerk.—"An eruption. I believe, sir."

Teacher (to her class in language).—"What is the meaning of 'aqueduct'?" The Class.—"A conductor." Teacher.—"The meaning of 'effervesce'?" The Class.—"To work." Teacher.—"Jaed, you may compose a sentence introducing these two words." Jaed (promptly).—"My father is a horse-car aqueduct and has to effervesce very hard."

"Why do you cook your pastry in such unattractive shapes?" "The doctor said I must eat only platu food."

Peacemaker.—"Laura, haven't you and Irene kissed and made up yet?" Laura.—"O, yes. That is, we kissed. She was already made up."

Hicks.—"The paper says there was a fire started in our street early this morning." Mrs. Hicks.—"Well, nobody will suspect you of building it!"

"What a beautiful bouquet! Is it intended for me or for my sister?" Orderly.—"The lieutenant told me to hand it to the prettier of the two."

Miss Booker.—"Mr. Crawford Kipling tells me that his last novel went like wildfire." Mr. Hooker.—"Yes, the publishing house was burned to the ground."

"What! haven't you named the baby yet?" Mamma.—"No." "Can't find anything good enough?" Mamma.—"N—no; can't find out which uncle is the richest."

"The editor found a burglar in his room, and—"
"No killed by him?" "No; held the burglar up and got enough out of him to pay off a mortgage on the paper."

Chollie.—"Is there any drinking water in this room?" The hotel maid.—"Right in that pitcher at your elbow." "Aw—wing for the bell-boy to come up and pour me a glass."

Guest.—"Waiter, bring me some rice pudding." Waiter.—"Boss, I can't just recommend de rice pudding to-day." "What's the matter with it?" "Nuff' cept dar aen't none."

Patient.—"Can you tell me, doctor, the cause of baldness?" Physician.—"Nothing easter, sir. It is due to the falling out of the hair. Will you pay now, or shall I put it down to your account?"

Voice from doorway.—"Mary, what are you doing out there?" Mary.—"I'm looking at the moon." Voice from the doorway.—"Well, tell the moon to go home, and you come into the house. It's half-past 11."

Day.—"If I were in your place, I wouldn't paint that horse white; I'd paint it brown." Weeks.—"If you were in my place, you'd probably be so mad that you'd paint it red, just to spite the people who gave you advice about it."

In scheduling this great big world
No thing received a slight;
For every dog there is a day,
For every cat a night.

Affectionate mother (to her son).—"Why do you cry Johnny? What has hurt you?" Johnny (crying more lustily than before).—"Because I fell down and hurt myself yesterday!" Mother.—"Yesterday. Then why do you cry to-day?" Johnny (bawling at the top of his voice).—"Oh, 'cause you weren't home yesterday!"

Farm Implement. News

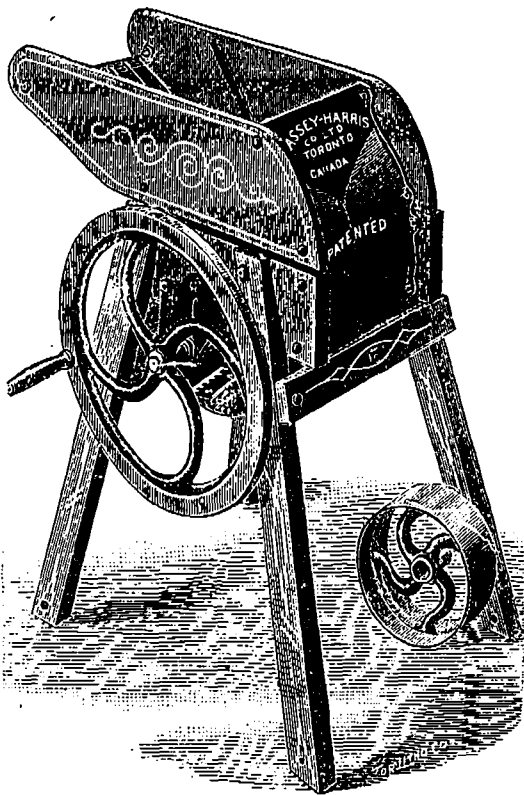
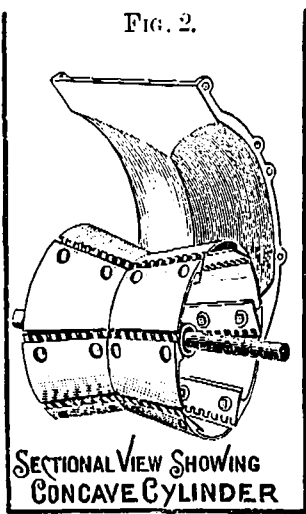


FIG. 1—MASSEY-HARRIS ROOT CUTTER AND PULPER.

A NEW MACHINE.

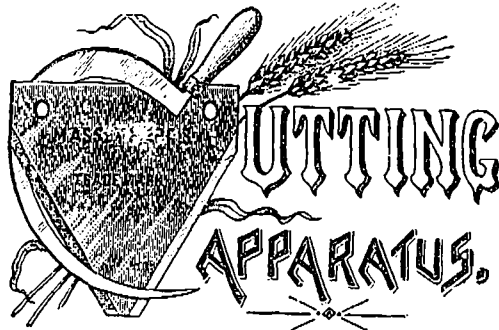
As time goes on, machinery is constantly being brought out to lessen man's labor, and to make possible the accomplishment of certain ends which otherwise could not be done. No kind of labor was formerly more arduous and more full of drudgery than the pursuit of farming and stock raising. This now is materially changed, for in no line has the inventor's skill been more successfully employed. The term "farm implements," once included little more than the sickle, the shovel, the hoe and the rake, and the farmer himself was in every sense a "laborer." To-day the farmer is an engineer; for a well-equipped farm is provided with a score or more machines and implements and a



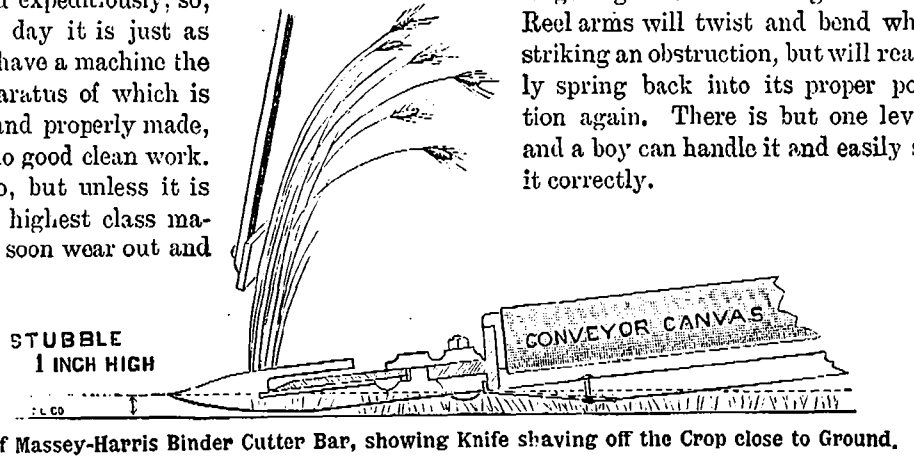
steam engine besides. The stock raiser grows and houses the feed for his cattle scientifically, with consequent better results. Once he dumped a basket of roots uncut into the feed trough. He knew that if cut up or pulped

they would go farther and produce better results. But to do this by hand regularly was out of the question. Genius went to work and a crude machine root-cutter was the result. It was welcomed and sold readily, imperfect as it was. Slight improvements followed, and now the latest machine of the kind which has been sold largely this fall, is attracting wide attention. To see it work is to want one. Though turned out at the rate of fifteen per day, still MASSEY-HARRIS COMPANY, LIMITED, has been unable to supply the demand. After carefully investigating the merits of all tools of the kind and studying the exact requirements, the Company's staff of inventors have designed this splendid root cutter and pulper. It has several entirely new points for which patents are being taken out or have been already granted. Fig. 1, shows a general view of the machine. It can be used for either hand or power, a pulley being supplied for use with horse power, engine, or windmill.

Fig. 2 shows a sectional view of the concave cylinder and convex deflector which causes the roots to feed regularly and smoothly without clogging and without scattering. It will not choke up and the rapidity and ease with which it performs its work is surprising. The knives as attached are for pulping. By reversing them the cylinder is transformed into a slicer. The machine is well and strongly built, and finished in good taste.



As in the days of old it was necessary to have a good sharp sickle to reap the crop successfully and expeditiously, so, too, in this day it is just as essential to have a machine the cutting apparatus of which is well fitted and properly made, in order to do good clean work. Not only so, but unless it is made of the highest class material it will soon wear out and



Section of Massey-Harris Binder Cutter Bar, showing Knife shaving off the Crop close to Ground.

become a source of constant delay and annoyance.

There are a lot of worthless goods of this class now placed on the market—foreign imitations of standard goods—made of poor steel.

The process by which MASSEY-HARRIS Co., Ltd., make their knives and sections are patented. The newly invented oil hardening and tempering furnaces produce work which cannot be equalled. The ledger plates or guard finger linings of Massey-Harris Machines are made like the sections, and are the very best. The knives and knife sections are made at the Toronto Steel Plant of the Company. Each section bears the trade mark name: "MASSEY-HARRIS," and customers should see that the sections they buy for repairs are so marked.

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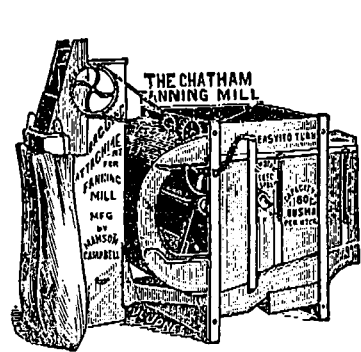
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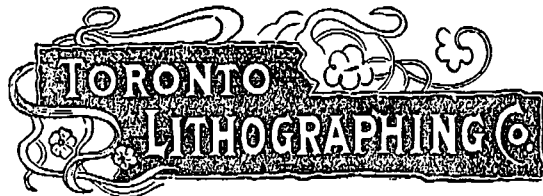
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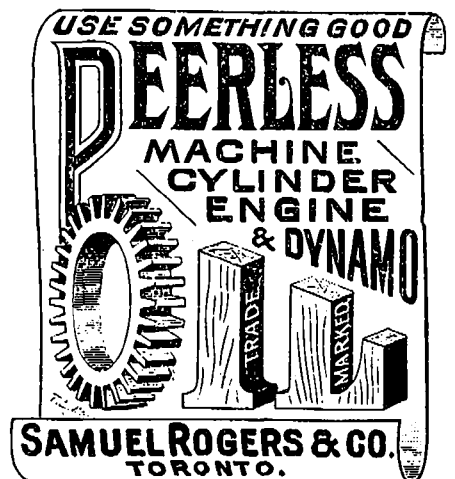
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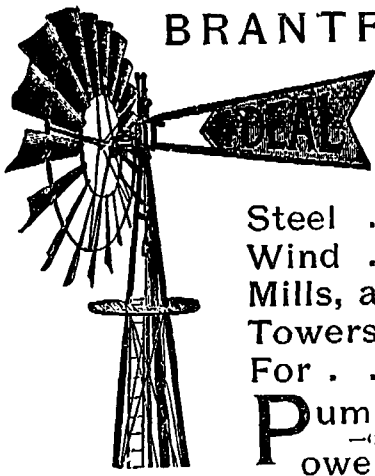
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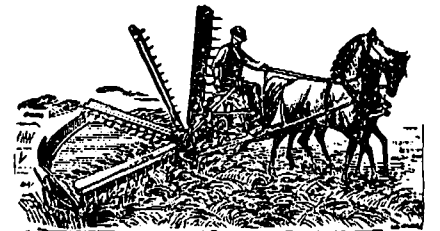
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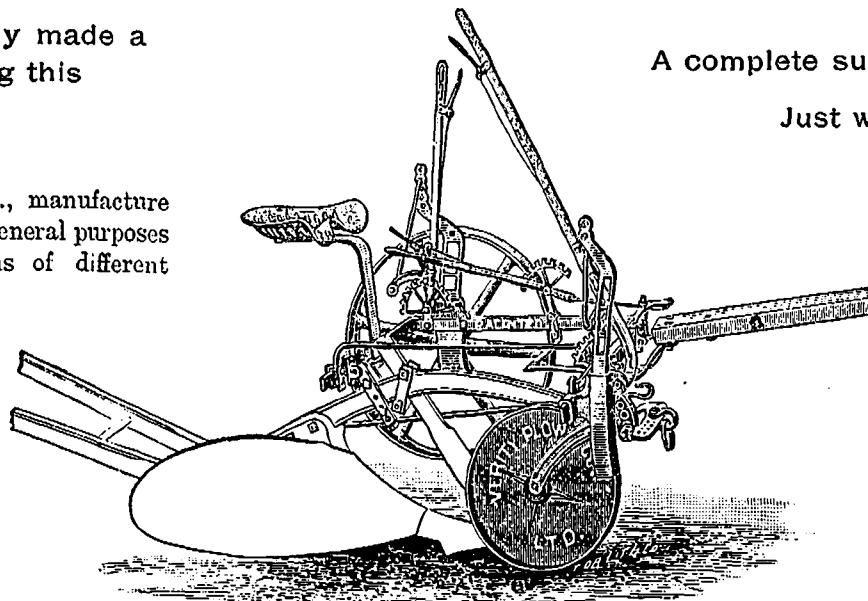
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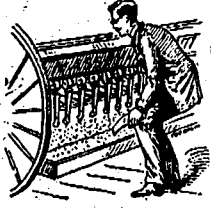
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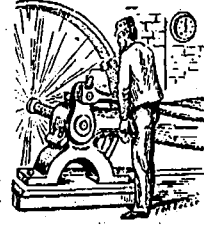
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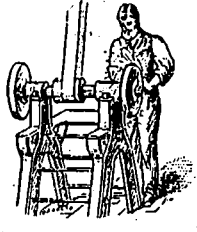
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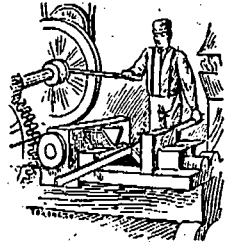
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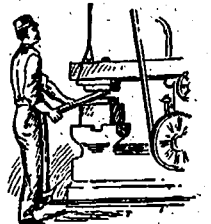
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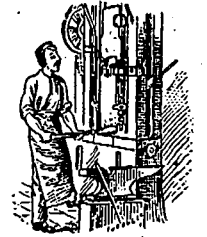
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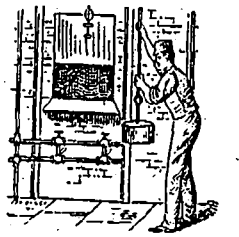
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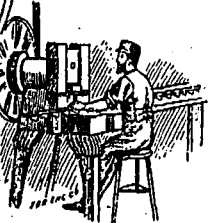
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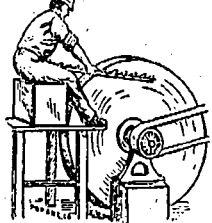
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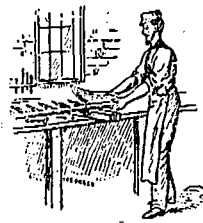
TEMPERING HAND.



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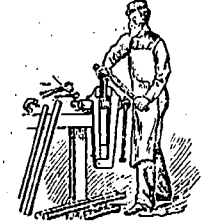
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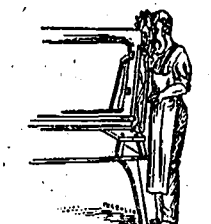
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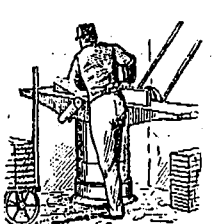
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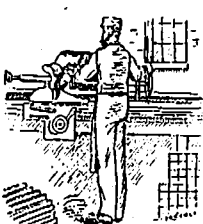
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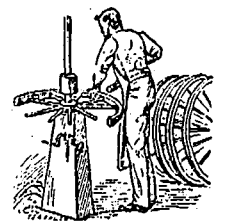
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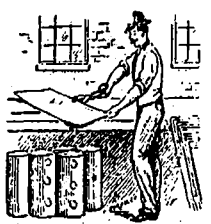
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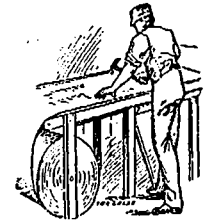
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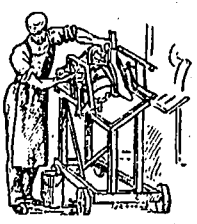
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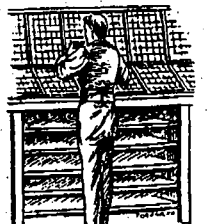
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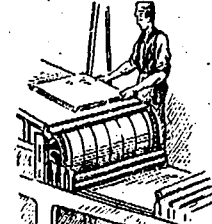
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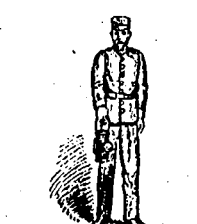
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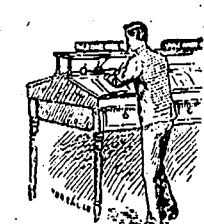
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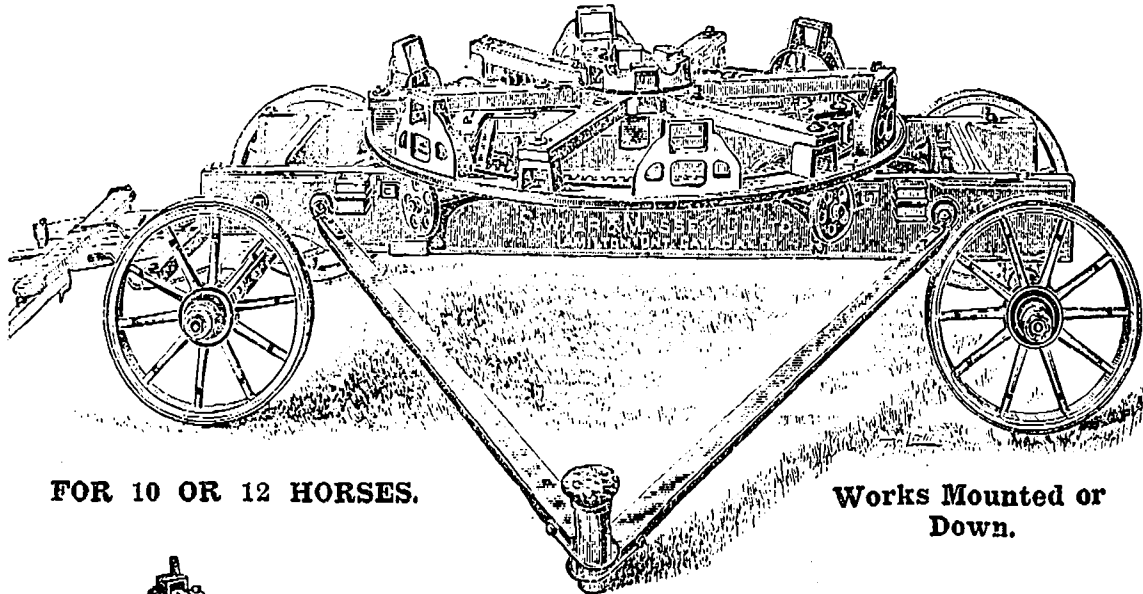
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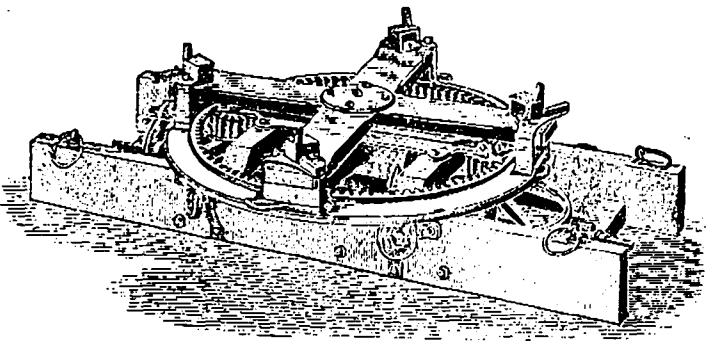
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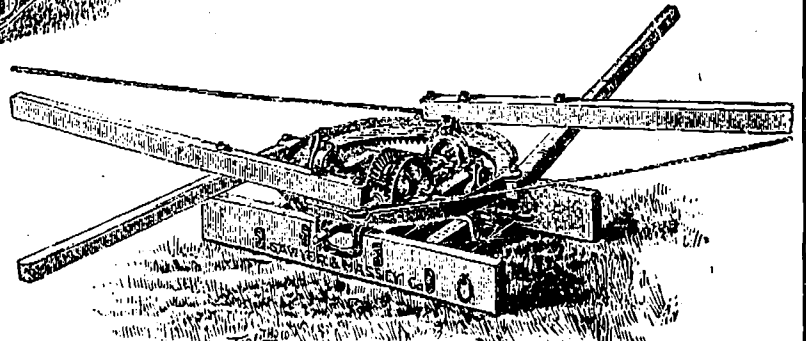


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