

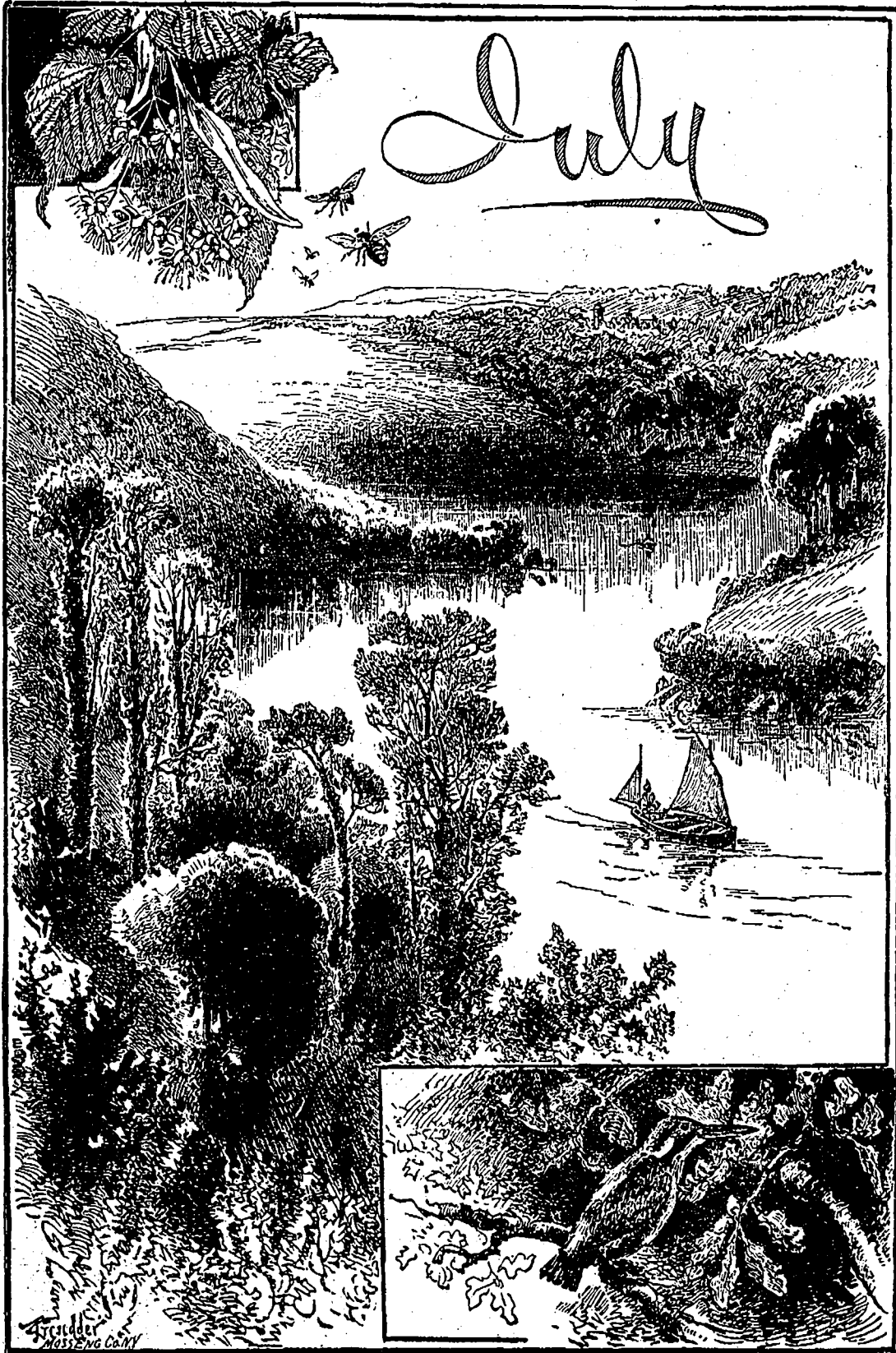
# • Massey's Illustrated •

(PUBLISHED MONTHLY.)

## Mid-Summer Number

New Series, Vol. 4, No. 7.]

[Toronto, July, 1892



**SUBSCRIPTION PRICE** 50c PER ANNUM.  
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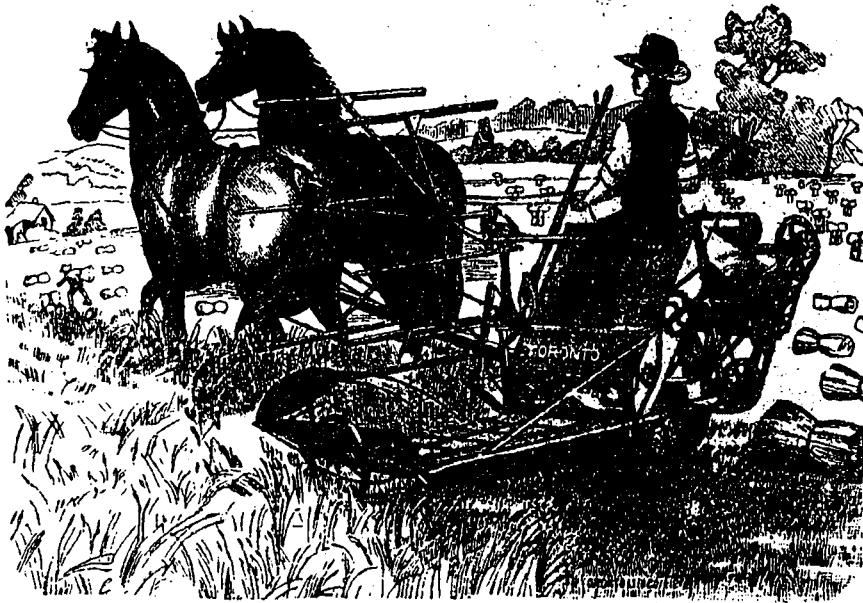
**The No. 6 Series** is fitted with a chain drive, and is made to raise and lower on the master wheel. The Binder Attachment on these machines is also differently constructed, being geared at the front.

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this machine. The constantly and rapidly increasing sales of this machine in foreign lands is a source of comment by British and American trade journals.



**THE TORONTO LIGHT BINDER**

In Down and Tangled Grass.

# • Massey's Illustrated •

(PUBLISHED MONTHLY.)

## A Journal of News and Literature for Royal Homes

New Series.]

TORONTO, CANADA, JULY, 1892.

[Vol. 4, No. 7.

### BOHEMIA.

BOHEMIA, lying on the North-West frontier, is one of the most prosperous of the provinces of Austria. It is surrounded on all sides by mountains, which, throwing out lateral spurs, break up the surface of the country into high plateaus and fertile valleys. The Bohmerwald, in the west, is covered by the famous "Black Forest." The temperate climate and rich lands of the valleys raise large crops of cereals, though in agriculture it is somewhat backward, labor-saving machinery being but little used. Bohemian hops are noted as the best in the world. Its manufacturing industries are many and varied. Its glassware is known everywhere. Its hills are rich in minerals—in gold and silver and precious stones. Iron and tin are abundant. Its coal fields are large and extensively worked. It possesses the finest beds of porcelain clay in Europe.

Like other countries on the continent of Europe, the large standing army of Austria takes so many men from their homes, that it is customary for

women to work in the fields. Our illustration depicts a group of such workers.

Education is more largely advanced than in any part of the Empire.

Prague, the capital, is a beautiful and picturesque city. Its lofty towers, noble palaces, the ancient fortified citadel of the old dukes who reigned in the historic past, its monasteries and cathedrals, its public walks, gardens, and royal parks, and its museum of zoology and anatomy, make it one of the most enticing spots in Europe to the traveller. Its university, founded in 1348, is world-renowned.

Of this city, the sweet singer of New England says:—

I HAVE read, in some old marvellous tale,  
Some legend strange and vague,  
That a midnight host of spectres pale  
Besieged the walls of Prague.

Beside the Moldau's rushing stream,  
With the wan moon overhead,  
There stood, as in an awful dream,  
The army of the dead.

White as a sea-fog, landward bound,  
The spectral camp was seen,  
And with a sorrowful, deep sound,  
The river flowed between.

No other voice nor sound was there,  
No drum, nor sentry's pace;  
The mist-like banners clasped the air,  
As clouds with clouds embrace.

But, when the old cathedral bell  
Proclaimed the morning prayer,  
The white pavilions rose and fell  
On the alarmed air.

Down the broad valley fast and far  
The troubled army fled;  
Up rose the glorious morning star,  
The ghastly host was dead.

The name of Bohemia brings pleasant memories of the past to one. It was the birth place of the Moravian Church, the pioneer missionaries of the world, who are revered alike in the snow-bound regions of Greenland and Labrador, and on the burning plains of India and Africa—whose faithful followers have waited for years on the borders of far-off Thibet, seeking to gain an entrance to the one country yet unopened to the Cross. It was the birth place of John Huss, the John Baptist of the Reformation, hero and martyr, whose death pile kindled a light in the Church that has never been extinguished.



TOILERS OF BOHEMIA. (Photographed from a Painting.)



### New Every Morning.

Every day is a fresh beginning,  
Every morn is the world made new;  
Ye who are weary of sorrow and suffering,  
Here is a beautiful hope for you;  
A hope for me and a hope for you.

All the past things are past and over,  
The tasks are done and the tears are shed  
Yesterday's errors let yesterday cover;  
Yesterday's wounds which smarted and bled  
Are healed with the healing which night has shed.

Yesterday now is a part of forever,  
Bound up in a sheaf which God holds tight,  
With glad days, and sad days, and bad days, which never  
Shall visit us more with their bloom and their blight,  
Their fullness of sunshine or sorrowful night.

Let them go, since we cannot re-live them,  
Cannot undo, and cannot atone;  
God, in his mercy, receive, forgive them  
Only the new days are our own,  
To-day is ours, and to-day alone.

Here are the skies, all burnished brightly,  
Here is the spent earth, all re-born;  
Here are the tired limbs, springing lightly  
To face the sun and to share with the morn  
In the chrism of dew and the cool of dawn.

Every day is a fresh beginning;  
Listen, my soul, to the glad refrain,  
And spite of old sorrow and older sinning,  
And puzzles forecasted and possible pain,  
Take heart with the day and begin again.  
—Susan Coolidge.

## Nugget's Church.



AND they were coming down the mountain from the sluice-head—little Nugget and her father, Thane Meadows—the one a frail child hindered by a withered foot, and bearing upon her thin neck a head seemingly too large, but as golden as a little buttercup; the other a tall, heavy-framed, broad-breasted miner, with blue eyes, tangled yellow hair, and a beard that covered his chest like a russet mat.

The miner smiled down into the eyes of the child with a fond and listening look. Her thin little fingers were clasped about one of his big grimy ones, as she half swung and half ran beside him.

"Oh, papa Thane," she cried, stopping and pointing toward the west, "ain't the sunset nice to-night?"

Back of them, and on the right and left, the mountains of the California Coast Range rose against a pink-gray sky. The whole gorgeous landscape, soft and sea-like with redwood forests dropped downward in long, sinking waves, until, sixty miles away, it smoothed out into dim, glimmering wastes of ocean. Faintly there they could descry the town of Eureka, and beyond that the vague curve of Humboldt Bay.

"Yes, Nugget," said the man, with a deep breath, "God don't often hang out pictures like that for men to look at."

"He hangs that on the outside of Heaven so we can see what it is like on the inside, don't he, papa Thane?"

The man's lips twitched slightly in his beard, but he said nothing.

"If men were better, papa Thane, would He hang more of them out, and nicer ones?" she asked.

"I reckon not, Nugget," he said; "but if men was better I have an idee they'd see 'em oftener."

They went on a little further in silence, then the child's voice came again: "Why ain't men better, papa Thane?"



"Oh, I guess it's because almost everything's wrong, Nugget."

"But you are good anyway, ain't you, papa Thane?"

"Not so very, Nugget," he said, unsteadily, "if it wasn't for you I'm afraid I'd be purty bad."

The child searched his face a moment with wondering eyes. "How do I help you, papa Thane?" The man reached down, swung her upon his big arm, and held her against his breast.

"It's 'cause you're good, and I like you so, Nugget," he said, huskily. "You're all I've got, and I like you so!"

They came to a point where the trail dropped sharply off into a vast gulch, out through which Mad River pours noisily from the inner Range, and in a few moments reached a little cabin near the bottom. It was rude enough—a sort of human swallow's nest, plastered in against the mountain—but with a clean, inviting air. At one side a small spring leaped out of the bank, and slipping down upon the floor of the valley, buried its bright waters in a tiny garden.

Over the entrance to the little structure, whose whole front was a flaming tangle of California creeper, the prongs of a red deer's horns protruded, and just inside the doorway lay a decrepit old mastiff, who, at the approach of footsteps, thumped the floor with his tail in hearty welcome.

"Well, we're back, Buck," said Meadows. "I see you took good care of things." He swung the child down lightly upon the step, and she embraced the old dog affectionately.

The man turned about and looked up the gulch. The wild beauty of the picture did not attract him. He was looking above it all, where, away along the heights, a ring of pines stood around a cup-like dent in the mountain-side. He could see, in fancy, the spring-fed lake which lay so brown and

quiet there, and hear its waters hissing down through the iron mains to a huge red gap in the cañon's side below, and his brow drew itself into an angry knot.

"It's mine if the law did give it to him," he thought. "If I had that water, with what I have now, into my claim—well, Nugget and I and Buck wouldn't be many years longer in these diggin's. One thing he won't forget soon, though, I reckon, an' that's the blow I give him last summer up there by the pond.

"But I hadn't ought to let him go as I did," he thought. "He took the law, and—well, if I had him there again with my fingers round his lyin' throat, I'd—why Nugget!" he burst out suddenly, looking at the little girl.

"Don't, papa Thane! don't!" she said. "You're thinking of Dack Burton again. Your face looked just hard, like a rough bowlder. Don't, papa Thane!"

The man took the child upon his knees and clasped her to him, while she took his big tawny head upon her little chest and smoothed and kissed it. The soft and loving touch of the child's hands upon his head eased him of his dark humor like magic.

That night, when Nugget slept, or he thought she slept, he came out with his pipe and sat down on the threshold. Noises from the big plank saloon among the trees across the river came faintly to him, and he could see, in fancy, the groups of rugged miners about the tables, gambling for one another's "dust," or drinking at the bar.

"We are all a pack of fools and thieves," he muttered, and sat a long time, with the fire fallen dead in his pipe, thinking of his plans and defeats, the wrongs others had done him, his attempts at retaliation, and his gradual merging from a careful, scrupulous youth into a manhood hard and embittered with strife, and believing in the sheer necessity of violent deed.

"Papa Thane!" came a little voice from within. The man laid down his pipe and entered the cabin. Buck thumped the floor with his tail where he lay by Nugget's bed in her tiny room, and the child's eyes were wide open. The man sat down on the bed and took her hand.

"What is it, little darter?" he asked. "When we was coming down the mountain, you said I helped you to be good, and that other men would be happier if they was better; why can't I help them, too, papa Thane?"





"You do," said the father, fondly. "You help us all, Nugget, just as the sight of something good and purty helps the worst of men. Maybe you don't help others so much as you do me, but little darter, there's scarcely a man in the gulch nor on these mountain sides, but what'd let his right hand be cut off afore he'd see a hair of your head harmed; 'cept, maybe, Dack Burton."

A light rose in the child's face as he began speaking, but it died away with his closing words. "He'll like me, too, sometime, won't he, papa Thane? He'll like us both if we're good?" she queried.

The man tapped the floor with his heavy foot, and looked gloomily at the wall. The child stroked his hand a moment in silence.

"Papa Thane," she broke out presently, "if I had a gold mine I'd build a church, like the one that used to be down at Nelson's Bar, where mother and I lived before she died."

The father stared at her in amused astonishment. "I'd not have it as big as that one was," she went on, "but big enough so we could have Sunday-school, and read in the Testament, and sing, and then maybe the men wouldn't be so bad."

"But who would do the preachin', little darter?"

"Couldn't you, papa Thane, if you tried?"

The man broke into hoarse laughter. The picture which rose in his mind convulsed him; and the rough, violent, sometimes intemperate and profane Thane Meadows preaching in a church!

When his merry derision had slackened a little, he saw a look of pain and wonder in the child's face that struck him into instant silence.

"Papa Thane couldn't preach, little blossom," he said; "he's not good enough. But if he could, he'd make a little church for her. Maybe he can some day."

The child's eyes overflowed with sparkles, and she lay a little, looking at the bright vision her fancy painted; then, turning her cheek against his hand, she fell asleep.

The man rose carefully, touched his bearded lips against her cheek, and passed softly out to the threshold.

After a time he suddenly got up again and entered the cabin. The reflection of a good and pleasing purpose lighted his face. Pulling out a wooden pin, which stopped an auger-hole in the log wall, he drew a sack of gold-dust from the hole, and lighting a lantern, whispered loudly, "Buck! Buck!"

Followed by the old dog, the man passed out and down along the side of the gulch a little way and stopped.

"Here's a good place," whispered the man; "it's soft, so she can dig it out easy, ain't it, Buck?"

He tore the soft soil apart with his strong fingers, sowed a few dollars' worth of the "dust" about in the rents, and covered it up with many a whispered exclamation of delight.

The next morning, starting for the claim, which lay a few hundred yards up the river, he stopped near the point where he had secreted the gold and called the child from the cabin.

"Little darter," he said, as she came limping forward, with her blue eyes peering out inquiringly from under her curls, "you see that place in the bank, nigh the spring, where somethin' has been scratchin' up the ground? Well, I saw signs of pay-dirt there as I came by. You and Buck get some of the loosest dirt into the rocker, there by the spring, and wash it by the time I come home at noon. Maybe you'll find a mine, an' then, you know, the church, Nugget?"

The child started toward the spot with a happy cry, and the father went onward, smiling, to his work.

The trail, travelled only by men on foot and by pack mules, which came up out of the rugged redwood country, and wound away through the "diggings" into the mountains, passed just below the Meadows' cabin, and many a little gift, and cheery word were left with the gold-headed Nugget by the rough mule-drivers and miners who stopped at the spring to drink.

She was the only child in the gulch—there were no women—and her sweet face drew all that was decent and tender in the rough, homeless men toward her.

Not an hour had passed, after the burly Meadows had gone to his sluice-box, ere a miner came by with his pick on his shoulder, and a bunch of blossoms for the child. Though it was not yet March, there were violets along the streams.

She took the little nosegay from the miner's hand with a look that was pleasant to see.

The man's face was unweave of feature and leathery from exposure, but the light from the child's eyes made it for the time seem sunny and wholesome.

"I pulled 'em for ye as I came down the crick, little un, to pay fer my drink," he said, turning to the spring. "Hello, Nuggy, what's this 'ere you've got in your pap's rocker?"

"It's pay-dirt," said the child.

The man shook the rocker, scraped some of the silt from its bottom into the palm of his hand, and looked at it. Then he gave a long, low whistle.

"Where did this come from?" he said, in a gasping whisper.

"From the bank there," she pointed with her bunch of flowers.

The man looked at her a moment with open mouth, then walked over and began humming



a tune to himself as he examined the ground with his pick. The child and dog followed his movements with keenest interest.

"No gravel," he said to himself; "no bed rock!" then aloud, "Did yer pap tell ye to dig here, Nug?"

"Yes, sir."

"Then he salted it; he did it for luck," thought the man, and he stared mistily at the child. "It'll bring him luck, too," his thoughts went on, "it's nigh sartin to. If a man hides gold for a good purpose, for an innocent lame child like her, he's purty sure to find it somewhere's else, and a sight more of it."

He got up and went down to the rocker with Nugget and Buck at his heels.

"You've got gold in the rocker here anyhow, little gal," he said. "You'd best look for it in the bank agin to-morrow."

The child gave a scream of delight, and clapped her hands above her curly head, while Buck barked and whipped the air vigorously with his tail.

"I'm going to have a church built!" she said; "a little church, down there among the trees; and we'll have Sunday-school, and singing, and—oh, won't it be nice, Buck? You'll come, won't you, Mr.—Mr. Bill?"

The man broke into a roar of laughter, but his face fell straight the moment he saw the shocked expression that came into the child's eyes.

"Yes, I'll come, little un," he said, "and bring all the rest of the boys. You jist get her built and we'll be there. Don't forget to prospect the bank, little un! You'll strike it rich to-morrow!"

There was no need of his advice; the child's heart and mind were all upon her mine. When the father came home he entered into her joy like another child; it warmed him through and through to see her happiness.

When the dark hours had fallen again, he with Buck once more sowed the yellow gold-seed for Nugget's harvest. It was only a few dollars he had planted for her, but his hard bunk seemed to rest him like a couch of velvet after the act.

At midnight another sower, too, came up out of the gulch like a shadow, and dropped a few "pinches" of the precious seed in Nugget's mine. "For love and for luck!" he whispered, as he dropped the yellow grains.

Next day Mr. Bill, as Nugget had called him, flung his hat up out of the hole he was digging in the mountain-side, and sent a shout after it which echoed far up the heights.

"For luck!" he cried. "For luck! Hide gold for good, and ye'll find it!"

He had uncovered a "pocket" for which he had been searching for weeks.

The next night two shadows came up out of the gorge and sprinkled "dust" in Nugget's mine; and again and again, as the nights came and went, shadowy forms fitted in by the dark bank and out again, leaving gold for the innocent child to dig up on the morrow.

Thane Meadows was transfixed with wonder at the sums the child got back from the little he had buried in the bank. But at length it dawned upon him that the miners had learned his secret, and out of superstition and regard for Nugget, were "feeding" her mine.

One night he secreted himself by the spring, with a dark lantern, and watched. He saw a dark form come out of the gloom, advance, and deposit some dust in the little mine. As the form receded, Thane sprang out and flashed his lantern upon—Dack Burton.

The two men glared at each other in silence, their hands upon their revolvers, and then—for each had thought of the sleeping child close by—slowly drew back and parted. The golden kernel of the incident was lost, and the opportunity for peace was missed.

As for Nugget, she was in a transport of delight. "When shall we begin the little church, papa Thane?" she asked again and again. Even in her dreams she

babbled of it. But the father put her off by telling her that lumber was so difficult to obtain; which, indeed, was true, since all of it must come up out of the redwood country on the backs of mules.

One night the heavens were black far back over the Range, and the next morning the shores of Mad River were strewn with wreckage. When the torrent receded a huge pile of lumber and logs lay at the bend below the Meadows cabin.

"God has sent it!" cried Nugget. "Oh, papa Thane, now we can have the little church ready for Easter-day! Then we will have it all full of flowers, and my Testament laid on the altar, and the men 'll come, and we'll sing, and read, and—won't it be nice, papa Thane?"

"What is Easter for, little darter?"

"Why it's the day the Saviour was raised from the dead," she said. "He died three days before, an' on Easter He rose up all new and beautiful again."

The man nodded his head, and sat thinking through a little silence.

"Nugget, I'm goin' to build it for you," he said; "some good may come of it."

Three weeks afterward Nugget's vision became a

reality—a little homely shell of a building lifting a cross among the boughs of a sheltering pine. At one end stood a tiny altar of unpainted redwood, and each seat was a single plank with the rudest of legs; but to Nugget it was wonderful, and the builder's heart was warm with her joy.

It only lacked five days of Easter when it was finished, and Nugget began to plan to beautify it. All that day and the next she made wreaths of leaves for the walls, and a fern cross and crown, starred with white flowers and edged with violets, for the altar. They were rude and unshapely things, and would fade, being made so long beforehand, but she could not wait.

Within three days of Easter a miner, half in liquor, stopped at the spring, and, after drinking, said, with a tipsy leer:

"You're out of luck, little yaller-head, in selectin' timber fer your church! Your dad built it out of Dack Burton's flume, which the river ripped out of its banks the night of the storm! Dack and your dad's been having it hot up in your dad's mine this afternoon; but your dad won't pay for it; he says he won't, if he dies in his tracks! How he does hate Dack Burton!"

The child's eyes widened with horror. Her church made of stolen lumber? God would not accept such an offering!

She went into the cabin with flushed cheeks, panting with the parching eagerness of her purpose. She brought her little deer-skin sack of gold-dust from its hiding-place, and with Buck, started up the river. Nugget was hurrying and whispering, but hindered by her withered foot; Buck was whining from the pain it cost his old legs to follow.

The sun was falling low when Meadows came home that night. He was hot and flushed with anger. When he had called and searched in vain about the cabin for his child, a chill of fear struck through him that whitened his face. Where had she gone? What had happened? He ran up and down the river, peering into the red flood almost in terror. At last he found her footprints going up the river, and pressed after them with throbbing heart.

He had gone but a little way when a bend brought him in sight of a considerable stretch of the river shore. Half a mile away he saw a spot where the stream was crossed by a large log, which served as a footpath to Dack Burton's mine.

There, upon the log above the rushing torrent, a little figure fluttered. For an instant Thane saw it; and then it fell into the torrent below, disappearing below the bank.

Thane was stopped where he stood by the horror of the catastrophe. Nugget had fallen into the river, and would surely be lost!

How he advanced the remaining distance he never knew. But as he staggered down the bank where the log crossed the stream, he suddenly came face to face with Dack Burton.

Across his enemy's arms lay little Nugget. Her curls were straggling down and dripping, her gown was wet and clinging, and her eyes were closed, but she clung to Burton's neck with a grasp which showed that her rescuer had not been too late. Behind, the old dog limped along, now and then springing up stiffly toward the child's head.

"I was comin' down to kill ye, Thane," said Burton, hoarsely, "and just then I see her slip and fall off the log; and I sprung down and lifted her out of the eddy below, just as she was going down. She was gasping for breath, but she had the gold-bag held tight on her breast. She was coming to pay me, Thane! She was coming to pay me for the lumber! Think once o' what kind of men we are!"

The father took the child in his arms. She had fainted, but she breathed still. Burton had saved her life.

"We would have killed her, Dack! We would have killed her with our wickedness!"

He turned back, carrying the child on his breast; but he staggered with excitement and concern, for Nugget had not spoken yet. Burton took the dripping burden from him, and with the father holding his arm, and dragging his feet through the dead leaves as if they were lead, the two went slowly down the river, up the slope, and into the cabin.

The Easter sun rose golden and clear, and climbed slowly into the soft April sky. The great valley was bushed. No powder was blasting the bed-rock;

no rainbows of water tore up the red earth; there was no click of pick, nor sound of voices.

At ten o'clock there was a notable congregation at Nugget's little church. Whether or not the altar was made in due form, you could not tell, for the miners had completely covered it with handfuls of wild flowers picked that very morning; and they had garlanded every window, and hung green things along the wall.

Into her church the rough men came, washed clean, holding their slouch hats awkwardly in both hands, and looking down and then behind them, as if expecting some one.

Presently, from out the strong sunshine came Thane Meadows and Dack Burton, leading little Nugget between them. She was pale, and weaker than usual, but she hardly had need to walk; the strong arms of the men held her up. Both men looked very happy; and not only happy, but clearer-faced and purified.

There was an awkward silence; but presently Thane Meadows rose and cleared his voice with a sound that shook the little church.

"Men," he said, "I ain't going to preach, but maybe it's as good as preaching to you to see two men like me and Dack Burton here. If I was a coward, a coward like I was a few days ago, I should be ashamed to stand here before you, knowing that you know that my child nearly met her death trying to be honest in my place.

"But I'm a changed man; I say it in humbleness and reverence to her. If I have wronged any man among you, I ask to be forgiven. If I have made light of honesty before you, I take it all back, here.

"This is her Easter, and it's full of joy for every one of us, especially for Dack Burton and me. I hope and believe the goodness of it, as well as the joy, is in us. Let us pray."

He knelt, and uttered a stumbling but heartfelt supplication. Then, after a little silence, a halting, disjointed prayer went up from the kneeling figure of Dack Burton; and when they rose from their knees, Nugget's clear voice led the audience in a quavering, old-time hymn, sung by the mothers of most of the men in their boyhood.

Many a tear was wiped away, and many a good resolve was taken in silence that blossomed into worthy conduct.

#### A Queer Little Animal.

THE muskrat is an interesting animal rather than a rare one. It is independent of latitude, being governed by local peculiarities in its choice of a home, and ranges from the Atlantic to the Pacific, and from the Rio Grande to Arctic America.

Although its range extends much further south, it does not inhabit the alluvial lands of the Carolinas, Georgia or Florida—a circumstance upon which the rice-growers may congratulate themselves, as its burrowing propensity would make it destructive to their crops.

It is peculiar to North America, and is nowhere found in the Old World. The Indians used its flesh for food, calling it *musquash*, and also *pecsquar tupeyar*, which means "the animal that sits upon the ground in a round form." The habit, indeed, of rounding itself when sitting is remarkable. Hunters are often unable in consequence of it, to distinguish it from a clod of earth.

Another peculiarity of the muskrat, which it shares with no other quadruped, is its power of contracting itself. By this means it is enabled to creep into a hole which a considerably smaller animal could not enter. This faculty is due to the extreme elasticity of its ribs, and a large muscle lying directly under the skin, which it can expand or contract at will.

The wharves in the vicinity of large cities are among its favorite haunts, and many muskrats may be found along the watercourses in New Jersey opposite Philadelphia. It is often found in streams within the limits of country villages.

It is of the sub-family *Arvicoline*, family *Muride*. In appearance it resembles the common water-rat, but is larger. It is frequently found as large as a cat, but its limbs are much shorter than those of the cat; they are so short, indeed, that its body drags upon the ground in walking.

Its head is broad and its eyes are small. To keep out the water, thick fur covers its ears. The tail, which is two-thirds the length of the body, is laterally compressed and scaly, and like the feet, is perfectly black and nearly hairless.

The hind-feet are webbed, and all four feet are furnished with claws. It has sixteen teeth. The lower teeth are an inch long, and the upper much shorter.

The fur of the muskrat is close and glossy, resembling that of the beaver, and is interspersed with long, stiff hair which conceals the under fur on its back and sides. In color it is sometimes black, but oftener dark brown shaded to gray on the under part of the body. A few pied and even white muskrats have been known.

The musky odor from which the animal derives its name proceeds from a gland situated in the inguinal region, which contains a strong, musky fluid, and is thought to have been intended to serve as a guide to enable the animals to discover each other. The muskrat is aquatic in its habits, and swims with great rapidity, sometimes fifteen or twenty yards under water. As an architect, it is almost as ingenious as the beaver. Its seasons for building is the autumn, before the marshes are frozen over, and its favorite localities are the banks of sluggish streams, marshes and grassy salt-water swamps.

When the streams are chosen, it burrows many subterranean passages, all of which slope upward to a main channel. This channel leads to a chamber, situated above the reach of freshets.

In the center of this chamber beds of grass, large enough to contain several animals are made, and in these beds the young are deposited.

When a marsh is the spot chosen for its habitation, the muskrat erects, above ground, a conical dwelling from two to two and one-half feet in diameter and from two to four feet high, composed of sticks, grass and twigs, plastered together with mud. These huts, dotting the marsh, look at a little distance like miniature hay-cocks.

In salt-water marshes they are built from forty to fifty feet from the water's edge, to escape the tide, and are approached by subterranean passages similar to those already described.

Like the beaver these animals are social in their habits. Several families occupy one house.

The muskrat is nocturnal in its habits, and those who would make its intimate acquaintance must watch for it at night. Although wild in its nature, it may be made as tame as a cat; but its gnawing propensities render it an undesirable inmate of the household.

It is the least suspicious of animals. Without the slightest hesitation it will swim into a trap set at the entrance of its burrow; and if the trap is promptly emptied and reset, as many as eight muskrats may be taken during one night.

The season for muskrat hunting begins in December when the marshes are frozen over. Unless the houses are concealed by snow the chase may continue until May. When warm weather approaches the animal begins to shed its thick coat, and the fur is no longer valuable.

A muskrat hunt is considered a pleasant winter sport in some parts of the country. Large parties go out on moonlight nights in quest of the little animals, sometimes returning with more than a hundred rats in their bags.

When a muskrat's house is attacked, it takes refuge in the main channel which leads to it. A common expedient on the part of hunters is to cut a breathing-hole through this channel before the dwelling is demolished. As the animal puts forth its head to get the air, it is shot or struck with a club.

Rats which escape through the water galleries may be shot, but this is a feat that requires much skill. A muskrat will dive at the flash of a gun, and be under water before the discharge reaches it. The skin upon the body is too thick to be penetrated by small shot. The sportsman, to kill his game, must aim three or four inches in front of the animal when it is swimming, so as to strike it in the head.

The skin of the muskrat is taken whole like that of an eel. If the muskbag is removed with the skin, the flesh will be free from the musky taint which would otherwise lend it much too high a flavor. After their removal, the skins are salted and drawn over shingles, pointed at one end to fit

the head, and dried. They are sent to Europe, or sold to furriers in our own country, and made into caps, muffs, capes and other articles of apparel. Sometimes they bring as much as thirty-five cents at first hand, and sometimes they fall as low as six cents apiece.

Unlike the beaver, the muskrat lays up no supply of food for the winter. It subsists chiefly upon the roots of aquatic plants, but it occasionally adds mussels to its bill of fare. To obtain the mussel, it inserts its forepaws between the two edges of the shell and tears it open—a feat which a man of ordinary strength could not accomplish in the same way.

The muskrat digs from the marsh around him the roots which he uses for food, and carrying them to the water, frees them from the soil which clings to them. He next scrapes off their outer skin and gives them a second washing, after which they are ready for use.

The flesh of this animal is dark in color, and resembles that of the wild duck in flavor, though it is not so delicate. It is often exceedingly fat.

The prejudice which formerly existed against muskrats as an article of food is gradually weakening. They are now exposed for sale in many of our markets, and peddled through the cities by street-vendors.

The price of their fur, together with that of the animal itself, makes the business of trapping them not an unprofitable one.—*Youth's Companion*.

#### A "Soldering Kit."

SOLDERING is a very simple operation, and every farmer should own a "kit." A soldering iron is the first thing. It is not an iron, but a piece of copper weighing from one-quarter to one-half a pound, with an iron handle either twisted around the piece of copper or inserted like a hammer handle in the hole drilled from side to side, near one end of the piece of copper. The end farthest from the handle should be sharpened like a hatchet for some jobs, but to a square point like a rail fence post for general work.

Any blacksmith can make a soldering tool from the above description, or a complete outfit may be ordered from a hardware dealer by your grocer, for one dollar or one dollar and twenty-five cents. This tool will answer for mending tin ware, but it is not big enough to hold heat sufficient to solder a lead pipe.

Get a neat box for containing the soldering outfit. Perhaps a stout yet light box six inches wide and twelve or fourteen inches long may be had of the grocer. Cut it down to two inches deep, inside measurement. Bend the ends of a piece of heavy wire and drive them into the sides of the box four inches from one end in such a way that the wire will extend across the top of the box. This wire is to lay the copper upon after using, while still hot. The wire is also handy to hold up the stick of solder for use, one end thereof resting on the wire, the other end in the bottom of the box. Get a coarse file, an old knife, for scraping tin, a mustard box with some rosin in it, half a soft brick, split edgewise,—one-half of this lengthwise will answer; the only objection to a whole brick is the weight. A bottle of "killed spirits of salt" completes the outfit. This is nothing but muriatic acid in which zinc has been dissolved until it will eat up no more. Ten cents' worth of acid put in a little wide-mouthed "squat" bottle, so as not to tip over easily, and some strips of old washboard or trimmings from the zinc sheet under the parlor stove will do.

If covered with dross, file the soldering tool until it is bright; heat it about hot enough to melt the solder—which, by the way, is made by melting together one part lead and two parts tin. Pour the melted metal into the edge of a dry, matched board, held level, and it will cool in a convenient shape to use, after being cut into pieces twelve inches long.

The old Britannia tea pot, with the hole melted in its side, may be used for solder. Lead from tea chests can also be used, but it contains so much tin that equal weights with tin may be used. When the tool is heated, melt some rosin (with the hot tool) on the brick. Rub the tool back and forth, keeping the face of the point on the brick so it will be polished. Melt some solder on the brick with the rosin. The solder spreads itself over the tool, forming a white coating. In this condition, the soldering tool is said to be "tinned." Good soldering depends upon this condition of the tool, and nearly all failures in trying to solder may be laid to a poorly tinned tool. Rubbing on the ground will quickly clean a tool for tinning.

Never heat a soldering tool red hot. It destroys the tinning and hurts the tool. Hold near the face when removing from the fire, and a little practice will enable you to tell just the heat needed. Keep a wet rag in a blacking-box in one corner of the kit. This rag is to wipe the tool free of ashes as it is removed from the fire.

To solder a hole in a tin pan: While the tool is heating, scrape all around the hole until the tin is bright and clean; dust on some powdered rosin. If the tin coating is worn off dip a stick in the acid bottle and wet around the hole. This covers the iron with a thin coating of zinc, to which the solder will unite. Test the tool for heat, wipe on the rag, then touch to a stick of solder. A drop will adhere to the tool; carry it to the hole, and the hot solder (if everything is clean) will flow around and over the hole, making a neat round spot on the tin,—and the job is done.

#### The Young Reciter.

WE'RE going to a party, my brother Dick and I,  
The best, grandest party we ever did try,  
And I am very happy—but Dick is so shy.

I've got a white ball dress, and flowers in my hair,  
And a scarf, with a brooch, too, mamma let me wear,  
Silk stockings, and shoes with high heels, I declare.

There is to be music—a real soldiers' band,  
And I mean to waltz, and eat ice, and be fanned  
Like a grown-up young lady, the first in the land.

But Dick is so stupid, so silent and shy,  
Has never learned dancing, so says he won't try,  
Yet Dick is both older and wiser than I.

And I am fond of my brother, this darling old Dick,  
I'll hunt him in corners wherever he stick,  
He's bad at a party—but at school he's a brick.

So good at his Latin, at cricket, football,  
Whatever he tries at, and then he's so tall,  
Yet at play with the children he's best of us all.

And his going to the party is just to please me,  
Poor Dick! so good-natured, how dull he will be!  
But he says I shall dance "like a wave o' the sea."

That's Shakespeare, his Shakespeare, he worships him so,  
Our Dick he writes poems, though none will he show;  
I found out his secret, but I won't tell—no, no!

And when he's a great man, a poet, you see,  
O dear! what a proud little sister I'll be;  
Hark! there comes the carriage, we're off, Dick and me.







### July.

With sinewy arms that bend beneath the strain  
Of wheat that shimmers in the market-place,  
His yellow hair wind-blown about his face,  
Comes swart July, heading the cumbrous wain  
That with its heavy burden doth complain.  
Ripe cherries holding still the orient grace  
Of Syrian groves allowing scanty space  
To crimson apples, and full-bearded grain.  
Poppies and gladioli are round his head,  
And creamy lilies cling about his hands,  
Their regal fragrance luring weary bees;  
His tropic bounty showers its gold and red  
On mountain crag, and where the sunlit seas  
Grow cool and sweet beneath the rippling seas.



BRITISH agriculturists are again complaining of bad harvest prospects, caused chiefly by a deficient rain-fall. When the rain comes, it comes with a rush, doing injury rather than benefit. Up to the middle of June the rain-fall of the season had been below the average, which is a more gloomy state of things than the storms that have occurred.

A RETURN published by the Quebec Government gives the names of the applicants who have filed claims for lands under the provincial law granting 100 acres of Crown lands to each head of a family of twelve or more living children. The families range in number from twelve to eighteen. The figures seem to justify many of the boasts that have been made on behalf of the French-Canadians in Quebec.

GREAT preparations have been made for the coming Toronto Industrial Exhibition, surpassing in extent and attractiveness all former years. Important extensions are to be made to the buildings, and it is proposed to erect a new and magnificent grand stand, capable of seating 40,000 people. The directors have asked the city for \$150,000 to enable them to carry out the proposed extensions and alterations. This shows a determination on the part of the board to keep up the reputation of the exhibition as second to none on the continent, and there is no doubt the city will help them in their praiseworthy efforts.

At the last session of the Ontario Legislature an Act was passed in reference to the spraying of fruit trees and the protection of bees. It will come into

force on January 1st next. The Act is as follows:

1. No person in spraying or sprinkling fruit trees during the period within which such trees are in full bloom shall use, or cause to be used, any mixture containing Paris green or any other poisonous substance injurious to bees. Any person contravening the provisions of this Act shall, on summary conviction thereof before a Justice of the Peace, be subject to a penalty of not less than one dollar, or more than five dollars, with or without costs being awarded, and of the same not being upon conviction forthwith paid, the justice may commit the offender to the common gaol, there to be imprisoned for any term not exceeding thirty days, unless the fine and costs are sooner paid.

THE good nature with which the so-called Christian Scientists were first tolerated is rapidly giving place to amazed indignation, and it will require but few more tragedies to follow in the wake of this new school of healers to excite public sentiment to a pitch which will demand the suppression, or at least restriction, of the little band of fanatics. Hardly a day passes that the daily papers do not contain the particulars of some victim's death at the hands of these alleged scientists, either in the United States or Canada. It is a delicate matter to invoke the aid of legislation in cases of this character, but it is fast becoming apparent that Christian Scientists are capable of mischievous work, and that they should be subjected to some restraining power. There are always to be found visionary people easily influenced by quackery and fanaticism which appeals to the mysterious and unscen, and it is this class which makes the existence of Christian Scientists possible. It is time to stop the tomfoolery.

AN influential deputation of ladies waited upon Premier Abbott some weeks ago, asking for the enfranchisement of their sex. Although the Premier did not give them any hope of anything being done in that direction this year, he practically gave them to understand that the question would receive attention next year. It is evident that there is an increasing influence of public women upon public affairs. In every city the association of mature and intelligent women presses upon the attention the fact that at least the orators of the fair sex are determined to gain a political recognition. Women are teachers, nurses, doctors, editors, bookkeepers, etc., and although none are as yet lawyers in this country, there is every indication that the time is not far distant when we will hear in our courts, "my learned sister." Women, in the exercise of

the privilege of the ballot in school affairs, have shown that they have a thoroughly intelligent appreciation of the advantages accruing therefrom. There should be, in the feminine character, a matter of fact view of communal matters. The details of local rule should interest the wife more than the husband, who lives less in the circle of the neighborhood. If women are to become holders of the governing franchise they should begin with a lesson to their husbands of the care with which the small affairs of the town may be administered. Men will welcome anything that shall purify government.

In the North-West the benefit of a frozen stratum of earth existing until late in the summer has long been recognized. The frozen subsoil supplies moisture to the roots of plants in the dry springs of that climate, and tends to counteract the effect of the sometimes excessive heat poured down through the clear atmosphere of the prairies. The depth of frozen ground and the length of time the frost continues, with other cognate matters, formed the subjects of an investigation by a Committee of the British Association some few years ago, when interesting though not unexpected phenomena were revealed. The depth to which the frost penetrates varies greatly, accord-

ing to the nature and density of the soil, the degree of winter protection, the quantity of moisture present, and other conditions. A very perceptible difference between bare and snow-covered ground was noticed. In one instance, about the middle of March, the ground under a covering of thirteen inches was found to be frozen to a depth of fifty-one inches; but where the snow was only six inches deep, the frost extended to sixty-three inches. On March 31st, thirty-six inches of frozen earth was found under thirty inches of snow, while a few feet away, where the snow was only eighteen inches in depth, the frost had penetrated sixty-eight inches. Ploughed fields in spring were found thawed out to a depth of two feet, when sod-covered ground had thawed out to something generally less than a foot and a half. It was found, also, that frost penetrated further in moist ground than in dry. The fact has a practical bearing in regard to early sowing. It also suggests that wet, undrained lands may retain a frozen or scarcely thawed stratum so late in summer as to aid in the production of early frost. Drainage will yet become a leading matter for concerted action in the North-West.

LEAVES, the ornament of trees, are one of the chief beauties of nature, and form a grateful shade in the hot days of summer. Yet this is the least of the advantages which the leaves of trees afford. We have only to consider their wonderful structure to be convinced that they are formed to answer much more important purposes. Each leaf has certain vessels, which, being closely compressed at the extremity of the stalk, extend themselves like ribs on the interior part of the leaf and ramify in various directions; and every leaf contains also an astonishing number of pores. Leaves are instrumental to the nutrition of plants, by imbibing through their pores the humidity of the atmosphere which they communicate to the whole plant. The wisdom of their organization is admirable. By its means, plants in dry seasons do not run the hazard of being deprived of moisture. They receive a plentiful supply of refreshing dew, which, falling upon the upper leaves, drops from them upon the lower ones, so that all receive a portion and none of the invigorating juice is lost. It appears, from various experiments, that plants perspire to a considerable amount, and the leaves have been ascertained to be the chief organs of this function. They also contribute to introduce into the interior of the plant the air of which it is in want as well as to extricate that which it has used. They tend to the preservation of the buds which are to bloom the following year; hence many trees, when stripped of their leaves, wither and die. This frequently happens to the mulberry tree,



whose leaves are taken to feed silk worms, and this is the reason why the grapes never arrive at maturity when the vine has been stripped of its leaves in summer. Another very important function of leaves is the power which they have of converting the sap into a different fluid. It is completely ascertained that the sap ascends to the leaves, where it undergoes certain changes and there becomes a fluid, which is instrumental in forming the different parts of plants. We may make another remark upon this subject, which throws some light upon the manner in which plants acquire their gradual growth. The interior surface of leaves, which is turned towards the earth, is always of a paler color and less shining appearance, and is more rough and spongy than the upper surface. This peculiarity enables it more effectually to imbibe the dew which exhales from the earth, and to distribute it with more facility and abundance to the whole plant. The leaves turn to that part whence they receive the most nourishment; hence we observe the leaves of certain plants hang very low.

A MODERATE quantity of rain always contributes to the growth and fertility of plants, and consequently is of great benefit to the earth. But when it falls with too great vehemence, or continues too long, it becomes hurtful to vegetation. When too violent, it forces the delicate plants into the ground; and its too long continuance prevents their growth. A superabundant moisture deprives them of the necessary degree of heat; the circulation of the sap is interrupted; the secretions are imperfectly performed, and the plants droop and are in danger of perishing. But this is not the only way in which rain is prejudicial. It sometimes causes great destruction, as for example in the districts of London, Chatham and Woodstock, Ont., and more particularly in the Western States and in Pennsylvania within the past few weeks. When several clouds, driven by fierce winds, meet in their course high towers, mountains and other elevated places, they break, and suddenly pour down the water they contain in torrents. This often occasions great damage, for water not being compressible, when it is much pressed it suddenly precipitates itself from mountains and other high places. It is not surprising then that it carries along with it the heaviest stones, beats down trees, and overthrows buildings. Two causes concur in rendering these effects more violent; the great volume of water precipitated, and its rapidity, increased the height from which it falls; the action of a moving body being in proportion to the mass of matter it contains and the degree of velocity impressed upon it. Water-spouts, one of which caused such fearful loss of life in Hungary the other day, are still more formidable. In figure they resemble an inverted cone, whose base terminates in some cloud, whilst the point is directed towards the earth. These water-spouts attract and draw up everything in their way, and afterwards dash them down in the torrents. If the point of this conical stream strikes the sea, the water boils, foams, and rises into the air with a terrible noise; and if it falls upon buildings or vessels it shatters and throws down the one and so violently shakes the other that they often founder. According to all appearance this meteor is produced by the action of winds blowing in contrary directions, and which, in their passage, meeting with clouds, drive them with violence against each other. When these opposite winds strike clouds on one side, they give them a circular motion and make them whirl round with considerable velocity. They then take the form of a whirlwind, and their weight being suddenly increased by the force of pressure, they rush down with impetuosity, and in their fall assume the figure of a column, at one time conical, at another cylindrical, which turns round its centre with great velocity, and their violence is in proportion to the quantity of water and to the rapidity of the descent. Cataracts and water-spouts are always dangerous. Fortunately the latter very seldom occur on land, though they are frequent at sea. Mountainous countries are more exposed to cataracts than are those situations which are more flat or level; and they so rarely happen, that many years often pass before even a few acres of ground are destroyed by them.

IN our last issue we referred briefly to the fact that the Quebec Government had in view the encouragement of the farming interests of the Province by the adoption of various methods to that end. Since then the Provincial Commissioner of Agriculture has unfolded his schemes to the Legislature, which have been enthusiastically approved and the necessary funds to carry them into effect voted. The scheme for the encouragement and improvement of the dairying industry promises to produce results of eminently national importance and to revolutionize the whole export butter and cheese trade of the Province as well as its manufacture. The scheme is in effect that all the butter and cheese factories of the Province should enter into a syndicate, for which a number of advantages are claimed. All the factories would be under the control of a government inspector, so that their products would be articles of uniform quality and value. The formation of this syndicate would be under the control of fifteen inspectors, all specialists; the defect of producing so many different qualities of butter and cheese would disappear and the articles manufactured would command the attention of the English market. They would bear the Government stamp, not upon the box which held them, but upon the articles themselves. The commissioner, in urging the national importance of the subject, estimated the annual return that it should bring the Province at seven million dollars. His first aim was to have one silo, one cheese or butter factory and one farm student in each parish of each county of the Province. He indicated the coming establishment of a school of dairy industry at St. Hyacinthe, where the students would be instructed in the art of cheese and butter making. If the active aid of the clergy and the members of the House went with the efforts of the Government, he was certain that in two years the products of the Province would successfully compete with those of Ontario. He expressed the hope that outside of the House each member would use his endeavors to bring about the general adoption of the system of feeding dairy cattle by ensilage, the various advantages of which had been so ably and conclusively established by the learned and experienced experts who had addressed the members of the Agricultural Committee. It was his earnest hope that each member would work in his own county to secure the establishment of silos in every parish, and a prize of twenty dollars would be awarded in each parish of such county for the best kept and best worked silo. He also urged that from each parish the member for the county, assisted by the cure and other leading people, should endeavor to select and send to the school farm of the county at least one suitable pupil, who would be taught on scientific grounds the true principles of good farming. He explained what would be the working of the school farms. Pupils would be received at them from fourteen to eighteen years of age, so long as they were sons of farmers or of respectable families. He insisted upon a careful choice of students, and after testifying to what education had done for the professional classes of the Province and to the superior acquirements of the clergy who had been educated in the Province, he said their aid was now asked in improving the practical training and attainments of the agricultural classes. Their concurrence was wanted in the formation of a well trained and practically intelligent and educated farming community. He counted upon the aid of members as well as the clergy, as they all knew that to build up rich parishes we must first have good farms and an enlightened system of agriculture.

At a meeting lately held of the Traveling Dairy a lady struck the right key note when she said, "We want a new lot of men in this country; you talk about improved methods of making butter and good appliances, but the men think anything will do for us to work with." There is a great deal of truth in the statement. On the farm the men will have all the latest labor-saving machines, whether they are money-saving or not, but the ladies of the house have to be content often with the appliances that their grandmother used, whereas \$10 or \$15 invested in new appliances and a good agricultural paper would mean easier work and a much better product.



1st—Over 400 lives lost by a fire in the Birkenberg silver mine near Pzibiam, Bohemia. . . . Three persons burned to death by a fire in a saloon at Montreal.

2nd—Fifteen residences demolished, four persons killed and ten injured by a cyclone in Waco, Texas. . . . An enormous arolite, the largest ever known, falls into the Caspian Sea.

3rd—The Canadian Ministers of Finance and Customs have a conference with Secretary Blaine, at Washington, in reference to canal tolls.

4th—The town of McCook, Nebraska, devastated by a cyclone and sixty school children seriously injured by the collapse of a church in which they were rehearsing for an entertainment. . . . United States Secretary Blaine sends in his resignation to the President and it is promptly accepted. . . . Extensive forgeries on the Quebec Treasury discovered and Alfred Morrisette, one of the officials in the Department, arrested.

5th—Hundreds of lives lost and great destruction to property by flood and fire in Oil City and Titusville, Pa.

6th—The British steamer *Albion* burned and sunk on the Unzhar River, Central Russia, and sixty persons drowned. . . . A company organized in New York with ten million dollars capital to place a line of whale-back boats on the Atlantic.

7th—A revolution breaks out in Armenia. . . . Eight persons killed by lightning in the Austrian Alps. . . . Destructive fire in St. Lawrence Street, Montreal; loss, about \$50,000.

8th—Rev. Dr. Caven, of Toronto, elected Moderator of the Presbyterian General Assembly at Montreal. . . . Sir John Thompson presented with a photographic group of the Conservative Members of Parliament on the occasion of the completion of his first year as leader.

9th—Ex-Premier Mercier, of Quebec, and Ernest Pacaud committed for trial. . . . Death of Thomas Norquay, M.P.P., of Manitoba, from an accident.

10th—Nomination of Mr. Harrison for the Presidency by the Republican Convention at Minneapolis.

11th—Mrs. Carruthers, of Port Arthur, acquitted on the charge of murdering her husband.

12th—Riot at Trales, Ireland; many severely injured.

13th—Mr. Robert Watson nominated for Portage la Prairie.

14th—News received of the death of Capt. Stairs, of Halifax, N.S., who was one of Stanley's lieutenants in the Emin Bey expedition. . . . Edward Blake invited to contest a seat in Ireland at the coming general election.

15th—Cyclone at Ste. Rose, near Montreal; several school children killed, a large number injured, and much damage done. . . . Official reports from Russia state that the harvest outlook is much worse than it was in 1891.

16.—Destructive tornado in Minnesota; between forty and fifty persons killed, many injured and great destruction of property.

17th—Prince Michael, of Flying Roll fame, found guilty at Ann Arbor and sentenced to five years' imprisonment. . . . Great demonstration in Ulster against Home Rule for Ireland.

18th—Mr. Edward Blake accepts the invitation from the Irish party, conditionally. . . . Ontario Wire Co.'s factory at Picton destroyed by fire; loss, \$10,000. . . . Four killed and twenty-five injured at a railway accident near Galesburg, Ill.

19th—Great rainstorm in Toronto, 1½ inches fell in 25 minutes; much damage done. . . . A negro kills one man and wounds another at Niagara Falls.

20th—Mr. Henry M. Stanley nominated as a candidate for the Imperial Parliament at the ensuing general election. . . . Accident on the Grand Trunk Railway at Illihurst; four killed and several wounded. . . . Explosion of a boiler on the French cruiser *Dupuy de Lome*, at Brest; twenty killed, many injured.

21st—Marriage of Count Herbert Bismarck and Countess Hoyer. . . . Explosion in the Brownsburg Cartridge Factory near Lachute, Que.; three men killed.

22nd—First reception of Lieut.-Governor Kirkpatrick at Toronto. . . . The anti-Parnellite convention at Dublin select Mr. Edward Blake as their candidate for South Longford.

23rd—Ex-President Cleveland nominated by the Democratic convention, at Chicago, on the first ballot. . . . Ravachol, the French anarchist, sentenced to death.

24th—Quebec Legislature prorogued. . . . Convention of the Knights of St. John meet in Toronto. . . . Grand Trunk station and freight shed at Craigville destroyed by fire; loss, \$6,000.

25th—Railway collision at Harrisburg, Pa.; ten killed, many seriously injured.

26th—Mr. Edward Blake leaves for Ireland.

27th—Severe thunderstorm in Rochester, N.Y.; much damage done.

28th—Imperial Parliament prorogued. . . . Hay Bros. mill, at Listowel, destroyed by fire; loss, between \$30,000 and \$40,000. . . . Mr. Bryson, Conservative, elected for Pontiac County.

29th—Hon. John Robson, Premier of British Columbia, died in London, England. . . . John W. Foster succeeds James G. Blaine as Secretary of State for the U. S.

30th—Death of the Marquis de Drogheda. . . . In the Congress of the Chambers of Commerce of the British Empire, held in London, Sir Charles Tupper's amendment in favor of preferential duties within the Empire was defeated.



**Permanent Ladder for the Barn.**

BARNs that were constructed years ago always had a ladder permanently affixed to them so that the top of the beam could be readily reached from the floor. But the ladder was in the middle of the barn, and now that the modern threshing machine

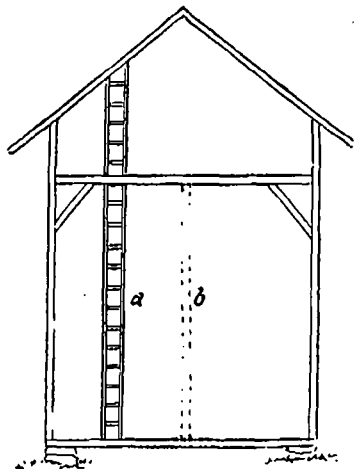


Fig. 1.—LOCATION FOR A PERMANENT LADDER.

is used it is always in the way. In many improved barns of to-day there is no permanent ladder, and access to and from the mow is had by a portable ladder that is liable to, and does, often slip, endangering the life and limbs of the workman. A permanent ladder may be securely spiked to the beam, floor, and rafters at about the point *a*, indicated in Fig. 1. Thus located, it does not interfere with the use of the horse hayfork, and is not in the way at threshing time; *b* indicates the location of the ladder in the centre of the barn. Make the side and rungs of good, sound material, so they will

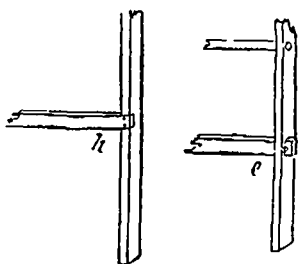


Fig. 2.—MANNER OF CONSTRUCTING LADDERS.

easily support the weight of a heavy man. In Fig. 2 is shown the method of making a ladder. The bottom, top and middle rung of a common ladder should have their ends fitted into a mortise and secured by a wooden pin, as shown at *c*. This prevents spreading and consequent loosening of the rungs. A very strong ladder is made with square rungs, the ends fitted into the side of uprights, as seen at *h*. They should fit closely and be firmly

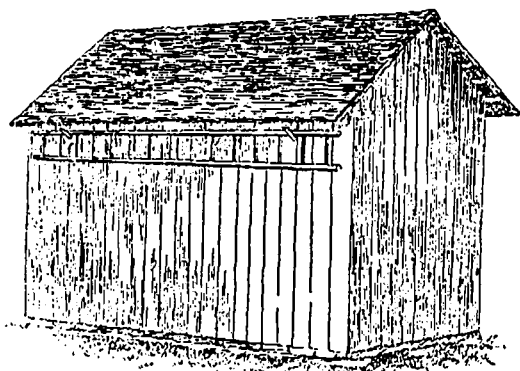


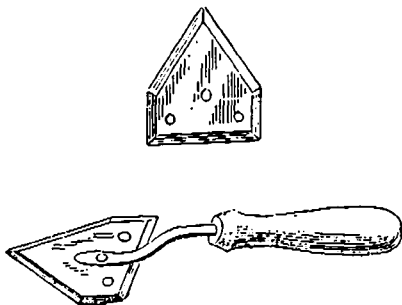
Fig. 3.—LONG LADDER UNDER BARN EAVES.

nailed in position. Many prefer this to the common ladder. Every farmer should be equipped with a portable ladder long enough to reach the roof of

the highest building on the premises. Keep it under shelter and convenient for instant use in case of fire. The best place for this is under the projecting eaves of some low building, as shown in Fig. 3, where it is readily accessible, protected against rain and sun, and not in the way of men or teams. —*American Agriculturist.*

**Home-Made Weeder.**

GOOD work in weeding may be done with various simple tools, such as broken table knives, bent in a slight curve, ordinary iron spoons, which are used by many growers in onion weeding, etc. Following is a description of a very convenient home-made

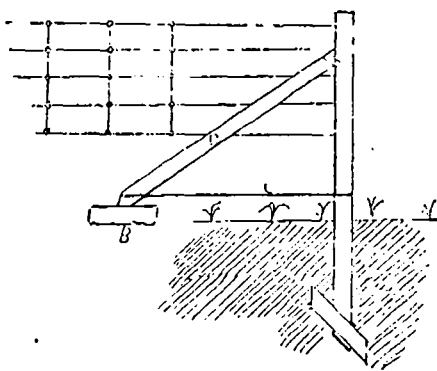


weeder: Take a section of an old mowing machine knife; drill a hole in center; grind all the edges sharp; rivet an iron rod about a foot long to it, passing through the centre hole, and fit a wooden handle to the rod. You will then have a useful implement to cut out weeds from among garden vegetables.

**Smooth-Wire Fence.**

To make a good smooth-wire fence, it is first needful that the end post be well set and braced. I have tried various forms of end braces, and have hit on one that I believe, for cheapness and effectiveness, cannot be equaled by any patent contrivance.

Let the post be of good size, 5 by 5 or 6 by 6. It should be 7 feet long. Frame or spike across the bottom end, a 3 by 6 piece 3 feet long. Dig the trench for this across the plane of the fence and 3 feet deep. Set post in with cross-piece forward—



I mean so that when the wires strain the post they will pull it against the ground-sill. *B* in cut is a flat stone or plank 2 or 3 inches thick. The brace, *D*, should be 8 feet long, rests on this, and is not necessarily fast to it. At *C* put four or five strands of large, strong wire around base of post and end of brace; cross them in centre, and twist them until quite tight. It is well to set post leaning a little backwards, away from fence. The brace *D*, remember, must not be butted up against anything solid—it is free to slide, except as restrained by the wires at *C*. This wiring at *C* must be strong and thorough. The pull of the fence wires is transferred through the brace, *D*, to the bottom of the post through the strands, *C*. I am not competent to calculate the strain on the wires at *C*, but I judge it to be over 50 per cent. of the total strain exerted by the main fence wires. However, wire is cheap, and a number of strands can be put around and twisted up in a very few minutes.

If your post has been leaned back a little when the bracing was done, the pull of the fence will bring it straight, and no power applied in a forward

direction can uproot it unless something breaks. I use a 5 by 5 brace for my 8-wire fence, made of No. 8 or 9 wire, so that it will not bend. This post will not pull up, or give in the ground, even if the hole be not filled with earth after it is set, providing it is a solid stick and will not bend or break. —*Country Gentleman.*

**Three Kinds of Neck Yokes.**

ANY one who has to carry water for the house, milk, pig food, or other liquid any distance, will find one of the instruments in the illustrations of great service. With them a man can carry two three-gallon pails with ease, and in passing through

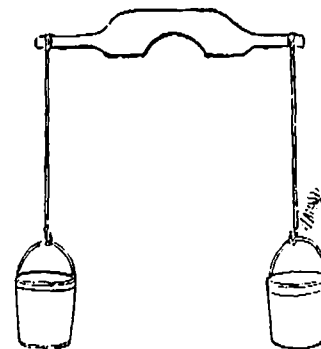


Fig. 1.—OLD STYLE NECK YOKE.

a door the pail has not to be set down to open the door; the hands being only used to steady the pails and help the shoulders. Fig. 1 shows a neck yoke of the old pattern which has been used for ages. It consists of a stick of light soft wood fitted to the shoulders. Fig. 2 is made of a wooden frame *A*,

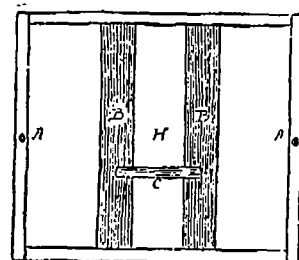


Fig. 2.—FRAME OF NECK YOKE.

across which are fastened the leather straps, *BB*, a short piece of webbing, *C*, holds the straps from spreading and slipping over the shoulders when in use. The buckets or other burdens are suspended from hooks at the end of ropes or straps fastened to the wooden frame at the points indicated by the black dots. Fig. 3 shows an improved form, em-

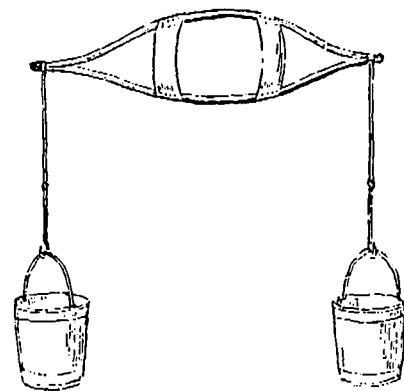


Fig. 3.—IMPROVED NECK YOKE.

bracing the advantages of both the others. Two sticks, bent to the proper curve, and riveted together at the ends, and straps fastened to them as shown in the engraving, which is clear enough without detailed description. —*American Agriculturist.*

A GOOD way to dispose of horse manure is to draw it out and spread it on the wheat field as fast as made. In this way it will afford an excellent protection against frost in winter and drought in summer. In a dry season used as a top-dressing for oats, it will double the crop.

A DAMP handkerchief in the hat, or, in the absence of that, a handful of grass or a large leaf, will do much to protect the head from the influence of the sun's rays, and will promote comfort.

If you find the shade of a tree is grateful these days, consider it as a reminder that you should be planting others next fall or spring. Shade is good not alone for you, but as well for the stock that stands unsheltered all day long in the open pasture. Plant a row of shade trees along the edge of the field that is next the road and get the blessings of the traveler and of your own cattle, and beautify the farm as well.

IN estimating the size of a silo it should be remembered that each animal will need from 50 to 60 lbs. ensilage per day. If this is multiplied by the number of days in a year, or in six months, the amount of food per cow, is got. This for say 70 head would make 756,000 lbs. at 60 lbs. each for the six months—November to May. Divide this by 40, the average weight in pounds per cubic foot, and the volume of the required silo in cubic feet, which is 18,900, is obtained. If the silo is 30 feet high, and the 18,900 is divided by this number, we get the cross section of the silo, which is 630 square feet. The square root of this is about 25 feet, which gives the side of a square silo 30 feet high, which will give feed for 70 head of cattle. The ideal silo is round, built of boards, and made air and water tight. This is cheap, very strong, and avoids angles.

MUCH hay is overcured. It is exposed to sun and air until it becomes dry, hard, and brittle, and the handling necessary to get it to the mow and then to the animals, loses a part of the most valuable portions, and it is less digestible and palatable than if it had only the proper amount of curing. This overcuring is not necessary to the proper preservation of the hay. If the hay is stored in good mows, or even good barracks, it may be placed in them while the grasses have a decided green tinge, and while clover has a slight greenish tinge. It is impossible to describe in words the indications of the proper condition for storing. Each farmer should experiment by storing each year a small quantity not so well cured as he has heretofore made his hay, noting carefully the condition when stored, and the condition when fed. In this way the least necessary curing may be determined. It should be considered that overcuring, by keeping the grass longer in the field, increases the chances of its being rained upon. In fact, more hay is damaged by rain falling during the last two hours it was designed to have it in the field than by the rain during the preceding hours.

THE mellow surface required in a young orchard may be secured with least labor and with less chance to be omitted or neglected, by the use of the horse. If the ground is planted with hoed crops, double benefit is obtained in keeping these well cultivated between the rows of trees. This cultivation should be shallow, so as not to injure the crops and the trees. A deep-running implement should not be used as late as the present time, but a shallow one which will not disturb the roots. A light harrow, with numerous slanting teeth, will leave the ground in excellent condition, and thus manufacture a good surface mulch of fine soil in the operation, and not disturb the coarser bed of earth below. The owner should lay down the rule for himself, to pass this cultivator often enough to break any crust which may be formed, and to prevent any germinating weeds below. Or, as soon as the young weeds become visible at the surface, and show their green points, the cultivating should not be deferred another day, for they may then be rumbled and powdered by the passing harrow with a small part of the labor which would be required to get rid of them a week or two later when they are grown a foot high.

## Live Stock.

IN this hot weather do not allow the horses to stop at the creek, either to bathe or to drink, as they come in from work. Cool them off first and then there will be no danger of injury, and both the drink and the bath will do them good.

PURE water should be given freely to the fattening hogs. Milk, which is sometimes given in place of water, is too solid and does not relieve thirst as water does, and dishwater and swill from the house are often salty. Give fresh, pure water.

IN no manner does system in English agriculture show to better advantage than in the management of sheep. Flocks are restricted to a given area, instead of being allowed boundless range. The sheep are confined within certain limits by hurdles, which are advanced daily. Thus they are given at one time only so much land in grass as they can eat off clean, and when through with that space they have thoroughly manured it, so there is waste neither of grass nor of manure.

Do not allow the foals to run with their dams, but keep them in the stable while the mares are at work. Exercise is good for any young, growing animal, but no good comes to a colt from following in a tired and listless way the team on its round in the cornfield. Leave some fresh oats where the little fellows can find them, and they will get along till their mothers come home to give them a full meal. Slow up on the gait as noon approaches so that the mare will have time to cool off; or, if there is too much milk, take some of it away.

A PROMINENT stockbreeder says: During the past three winters I have fed ensilage freely at times to horses of all kinds, and have found it too loosening for driving or draft horses; but for colts of all ages, mares, suckling colts in winter and mares in foal, the results have been highly satisfactory. Last winter I had twenty colts of all ages with brood mares, several of them suckling colts from four to eight months old, and all running in an open yard; their feed was half a bushel (about fifteen pounds) of the poorest ensilage (if there was any poor) per day, one feed of good clover and timothy hay, a feed of dry corn fodder, and a run at the straw stack. The colts did well all winter and are doing well yet. The brood mares had strong, healthy colts, and are now doing as well as one could wish. The mares with colts following them have been doing the common work of the farm since spring opened. While the stock was without grain in winter, they did no work.

No bull can do heavy service well on pasturage alone. There is no better food ration than the best pasturage, and it meets the requirements of animals under ordinary conditions, most admirably; but a bull doing full service the year round is not living under ordinary conditions, and he needs a more condensed ration, one which will give a greater amount of nutritive food for the same bulk. The pasturage should be supplemented by a liberal allowance—as much as the bull will eat up cleanly in most cases, unless actual experience shows that he inclines to become too fat on such a ration—of cut oats and chopped hay, and a good feed of wheat, bran, and corn, shelled and crushed if possible. A great many breeders allow their stock bull to run out with their cows, and especially with their dry cows. The result of this is that they get only such food as the cows get. Now, while there is no need of anything more than pasturage, or pasturage and hay and corn-fodder for dry cows, a bull cannot do heavy service on such a ration. Every breeder who has pursued such a course has surely noticed that, while the cows keep in excellent condition, the bull is almost always in low flesh, and not unfrequently excessively thin.

## The Poultry Yard.

THIS is a hard month on young chicks. See that they have lots of shade on the very hot days and by all means keep your hen house well ventilated and clean, giving the perches and around the nests some coal oil at least once a week.

THE water dish this month needs constant attention. It should be emptied out and filled with fresh, clean water several times every day. Wash it out thoroughly at least twice a week, and rinse in water with a little carbolic acid added to it.

FREEDOM is important to the growing birds in more ways than one. Freedom of range does not imply a wide stretch of land as far as the eye can see; it means enough of ground outside the hennery where they can forage and extend their walks at will, without being confined to a narrow run and house tainted from use; and where they can enjoy sun and shade, fresh earth and air, and enough of precious bits of food and agreeable exercise to keep them in good health.

THE expense of maintaining a few thousand lice through the winter, and their invincible millions of progeny through the summer is incalculable, for if the fowls are not killed outright by their ravages, these wee parasites still insist on drawing their support from the vital forces of the bodies of their unfortunate victims. The louse-encumbered hen therefore requires not only food for her own sustenance, but a surplus to offset what she furnishes to the lice. Keep your hens clear of them.

THE sooner the chicks are weaned from the hens in summer the better for the chicks, as they will be less liable to become afflicted with lice. When with the hen they crowd more than if away from her, and she will sooner begin to lay when the chicks are weaned, as she can secure more food for herself, instead of being compelled to provide for all, as she will attempt to do whether she is fed or not. Chicks can get along well in the summer without the hen after they are six weeks old.

SOME poultry keepers declare that the loss of many hens at moulting time is unavoidable, but this is simply an acknowledgment of their inability to care for them properly. The process of feather-making is very exhausting, and hot weather renders disease more prevalent, but if proper sanitary precautions be strictly enforced, the flock may be kept just as healthy, though not as handsome looking, as at any other season. Now, more than ever, must all their surroundings be kept clean and wholesome, their feeding pans and drinking vessels in good order, and if vermin infest their house, make them lay—and roost too—out of doors, care being taken to get them promptly under shelter upon the approach of the cool nights and chilling rains of autumn.

WITH board floors the cleaning out of the poultry house becomes an easy matter, only the sweeping of the floor with an old broom being necessary. To do this, go to the poultry house in the morning, taking a pail of day earth with you. Carefully sweep off the floor, remove the accumulations, and then scatter the dry dust over the floor, placing the larger portion under the roosts. Do not be afraid to throw or scatter it over the nests, walls, or any other portion of the house, as lice do not relish dry earth, and if you prefer to use sifted coal ashes so much the better. The next morning, when you begin to sweep, you will find no difficulty, as you sweep the droppings away with the dust, and they will not stick to the floor. The work can be done as quickly as the sweeping of an equal area of the floor of the dwelling house.



### Give Children Something to Do.

AN important point in managing children is to always have ready something for the little hands to do at those times which come quite often on rainy and other days when, tired of play, they listlessly gaze through the window or wander aimlessly about, not knowing what to do with themselves. Children at such times are a great trial to the busy and often nervous people of the house, and are quite likely to be scolded, though such a course is so unwise and unjust that it can lead only to the worst results in the child's future. Calm and reproving words, kindly spoken, are necessary with all bright children and are usually very effective, but words uttered in a sharp, scolding tone must in most cases work an injury to the child's disposition. It is all the more sad, because the matter could be so easily managed by a very little attention on the mother's part.

How often we hear mothers or older sisters say to some little child who is full of desire to do right if it only knew how, "Do get something to do; how lazy you are; I never saw such a good-for-nothing child. I am sure I don't know what is to become of you," and a great deal more of such talk, which, alas, most people have heard too often. The child at such times is not in fault. It is the mother's duty to see that suitable work is always ready, and she should require the child to do a moderate task for which she should not be afraid to give a due measure of praise after it is done. Always be careful to see that the child is not kept too long at one task as such a course would be worse than idleness.

It is worthy of note that the work given to a child has a great influence in molding the mind and taste. A child kept always at knitting stockings or cutting carpet rags will be very practical, perhaps too much so. A wise mother will have a variety of work, both useful and ornamental. Some parents think it useless to teach boys to sew or knit. It is not, however, for there are many times in a boy's life when such knowledge may be useful. I have often observed that many college boys could mend their own clothes while they were quite up in their classes. I think the subject should be thoughtfully considered by parents, seeing to it that time should never hang on their children's hands for want of something to do.

### Something a Little Girl Can Make.

OPEN a sheet of fine imported tissue paper, fold in the center, lengthwise, once, then fold the other way twice, and cut. There will be six squares. Fold across, cornerwise, three times, cut a deep round scallop, and unfold. You have six rounds of eight scallops each. Use four sheets, of any shade desired. Fold and cut each sheet the same as the first. Take one round of the paper, fold one scallop lengthwise in the center on one wire of a common hairpin, holding the head of the pin in the right hand. Press the paper into gathers with the left hand, pressing towards the right, without breaking the paper. Shirr each scallop in this way, then take one round of each shade, from dark to light, and tack together in the center, and you will have six handsome mats. Some decorate them by taking some rose-colored paper, red, pink, yellow, and cream-white. Fold and cut in the same way three rounds of each color—size three inches each; shirr in the same way. Take a piece of yellow paper on a wire for the center, put them on the wire, and you have a handsome rose. Place, equal distances apart, one of each shade around the mat, and fasten in place.

### Unselfish.

THERE are usually two ways of looking at a thing, and it is well now and then to change one's point of view. Little Hans had just begun his school life, and his mother was ambitious to have him keep a high standing in his class.

"Why, Hans," she said, regretfully, at the end of his second week, "last week you gave me so much pleasure by getting to be at the head of your class, and now you are only number four, I see."

"Yes'm, I know," admitted the little fellow, with great gravity; "but then," he added, "some other boy's mamma has the pleasure this week, so I thought perhaps you wouldn't mind so very much!"

"You're quite right, Hans," said his mother, giving him an appreciative smile, "I don't mind it at all, now."

### There is a Boy I Can Trust.

WE once visited a public school. At recess a little fellow came up and spoke to the teacher; as he turned to go down the platform, the master said, "That is a boy I can trust; he never failed me." We followed him with our eye, and looked at him when he took his seat after recess; he had a fine, open, manly face. We thought a good deal about the master's remark. What a character had that boy earned! He had already got what would be worth more to him than a fortune. It would be a passport into the best store in the city and, what is better, into the confidence and respect of the whole community. We wonder if the boys know how soon they are rated by other people. Every boy in the neighborhood is known, and opinions are formed of him; he has a character either favorable or unfavorable. A boy of whom the master can say, "I can trust him; he never failed me," will never want employment.



CURIOSITY.

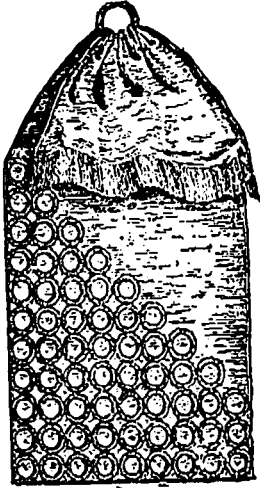




(Communications intended for this Department should be addressed to AUNT TUTU, care MASSEY PRESS, Massey Street, Toronto.)

**A Ribbon Photograph Holder.**

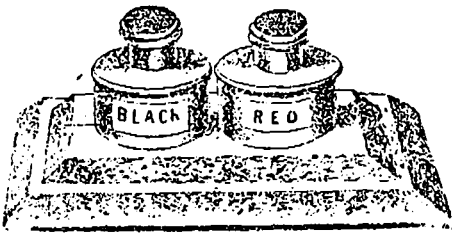
THIS simple photograph holder is made of a piece of five and one-half inch ribbon which measures fourteen inches in length. This is hemmed on one end; the other end is drawn through a crochet ring and fastened with a few invisible stitches to keep



in place. The other end is fringed out to the depth of one inch. The pocket is composed of six or three crocheted rings, which are joined together and attached to the ribbon on the sides and bottom. These rings can be bought ready to use, or they can be covered at home, as they are merely brass rings half an inch in diameter with a crocheted covering of silk. They are pretty to trim shopping bags with, and are used largely now in the make-up for fancy strings.

**For the Writing Desk.**

THE illustration shows a convenient and ornamental inkstand for home construction, adapted to hold common small ink bottles. It consists of bottom and top boards, each five-eighths of an inch thick. The bottom board is nine by five and a half



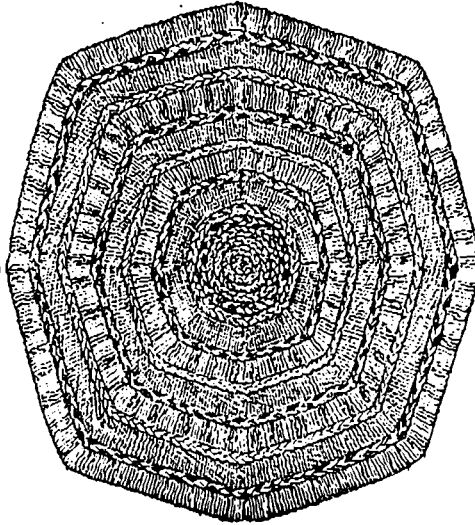
A HOME-MADE INKSTAND.

inches, and beveled all around the edges; upon this the bottles rest. The top consists of two halves, each of which are cut two half circles, which are made to fit nicely around the two bottles to keep them in place. The outer edges of the top are beveled like the bottom. Before fastening together cover the inside pieces of wood with plush or velvet, tacking the edges under side. Four one and one-eighth-inch screws from the under side fasten the whole together.

**An Octagonal Rug.**

A HANDSOME rug noted recently was so odd, and simple in design and construction, that a sketch may not come amiss to those who are interested in rug-making. As will be seen by referring to the illustration, the circular center is entirely of braids, and comes a knitted strip, then a braid, then another knitted strip, and so on till the edge is

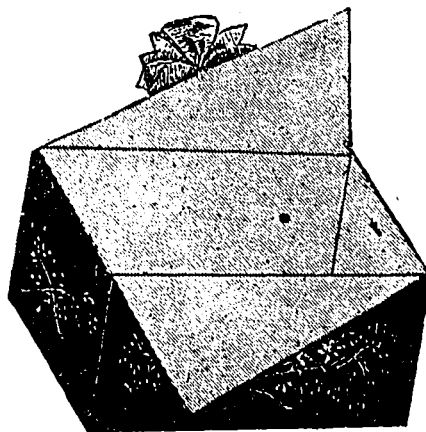
reached. When the braided center is completed it is marked off into eight sections (like cutting a pie) by pinning four narrow bands or cords across from side to side, crossing in the center. Then, when the first knitted strip is sewed on, it is held slightly



full at each of the eight points marked, and smooth and straight between each point. By sewing all of the knitted strips on in the same way the octagonal shape is produced. The braids are of flannel, and the knitted strips are of all sorts of wool dress goods. The mixed braids are black and golden yellow (old white flannel colored), and the plain braids are old blue (also colored). For the knitted strips all of the neutral tints—grays, drabs, etc.—are mixed together and used for the three plain strips; and all of the dark, and bright, and very light-colored pieces are striped together for the other three strips, one of which forms the outside border of the rug. Thus arranged, each black and yellow braid forms a sort of heading for a gaily-striped row, while the gray and old blue tones down and harmonizes the whole. The rug is so much handsomer than the ordinary rug, with no "color scheme" whatever, that it more than pays for the small amount of extra thought and labor required to produce it. The goods for the knitted portions are cut or torn into strips about an inch wide, and are knitted on slender wooden needles, in garter stitch, casting on seven stitches for each strip.

**A Box for Photographs.**

THIS idea of the photograph box, here shown, originated with a young lady who did not have an album for displaying her photographs. With the aid of some old white silk and satin ribbon, which she dyed a lively shade of pink, and some pieces of brown velvet, she made as pretty a case for photographs as one need desire. The foundation was made of pasteboard; the pieces for the bottom and

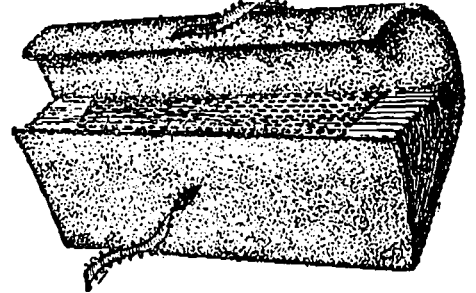


lid are cut seven and a half inches by five and a half; the sides seven and a half by two and a half. The ends five and a half by two and a half. The lid is cut in two diagonally. A layer of cotton sprinkled with sachet powder, is basted on one side of each of these pieces; then they are covered on one side with silk, and the other with velvet or plush: the edges are turned in, and they are over-

cast together. The parts are then joined to form the box by overhanding them neatly together, with silk the color of the velvet. The lid must be sewed on the outside, to keep it from falling in. A large bow of ribbon is sewed on one half the lid. A little painting can be added to the outside, if one is accomplished in that art.

**A Case for Pins.**

THIS little article will be found to sell readily at fairs. A correct pattern for the cover will be found by using a pin-paper cover as a guide. This can be easily taken off, as it is held on by glue.



Buckram is used for the lining, and anything that one may have on hand for the outside. White butcher's linen and satin, with a little spray painted on them, make the daintiest, while plush and sateen form a more serviceable cover. The little ribbon is to tie it together when closed.

**Hints to Housekeepers.**

While baking do not open your oven doors only on a crack, as fanning in cold air makes the cake fall.

The best way to fry apples is to halve them, remove core, put some butter in frying-pan and put in the halves, the cut side down; then add a little water and let boil dry; then fry.

When celery is brought home, if not wanted immediately, it should be wrapped in a wet cloth. An hour before dinner put into cold water, then clean and arrange on a celery dish.

Always bake a tester in a small pan first, to see if your dough is right; if your cake is too solid put in a few teaspoonfuls of milk; if too soft it will fall in the middle and be spongy or crumbly; add one tablespoonful or a little over, of flour.

To serve oysters on the half-shell, clean the shells thoroughly, open them carefully, and place those to which the oysters adhere upon an oyster plate, arranging them in a circle about the outside of the plate, with a piece of lemon in the centre.

To fringe celery, cut it in pieces two inches long, stick several needles into a cork, and comb the celery with it, or split it down into several parts with a sharp knife. Throw into cold water to curl. This is a very appetizing relish, also, with vinegar, pepper and salt.

When putting the bread in the oven it should be hot enough to hold the hand in and count 20 rather quick. Care must be taken with the fire, to keep the heat steady, allowing it to gradually die away towards the last of the baking; and this is the best time to set in your rolls, as a more moderate fire is necessary for them.

The order of washing dishes is of some importance. Glass should be taken first, then silver, then china. If there is a specially choice dish, search it out, wash and wipe it by itself, and immediately set it away, that the chances of breakage may be reduced to a minimum. After the dishes are done, carefully scald, rinse and dry dishcloth and towels. If they can be dried in the open air, so much the better.

An admirable method of preparing chicken for travelling luncheons, etc., is as follows: Use only a young and tender fowl. Clean, split it down the back, and wipe perfectly dry. Season with salt and pepper, and sprinkle on a small quantity of flour. Place the chicken in a pan, add water, and bake for an hour, basting frequently. Do not use any butter, even if the chicken is a very lean one, for the oil in the meat is intensely disagreeable where the latter has to be eaten from the fingers. Cut in small pieces for the lunch.



Sunday School Teacher: "Johnny, who was the prodigal son?" Johnny: "Oh! that was the fellow who went away a dude and came back a tramp."

HOW TOMMY GREW IN A YEAR.—Visitor: "You've grown, Tommy, since last year." Tommy (disdainfully): "Oh, yes! Why, I only came up as high as my necktie then."

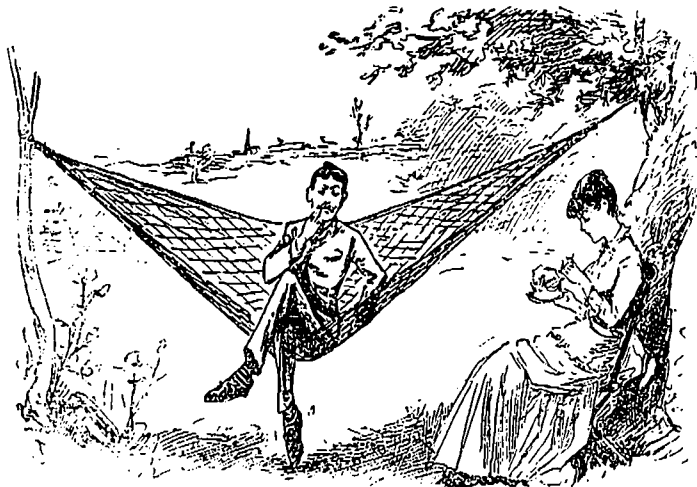
DIDN'T WANT TO BE AN ANGEL.—Poverty-stricken suitor: "Be mine, Amanda, and I will treat you like an angel!" Amanda: "I should think so! Nothing to eat, and still less to wear. Not me!"

First Statesman: "How is the official investigation into those boodle charges coming on?" Second Statesman: "Splendidly, splendidly. We've succeeded in not finding out a thing."

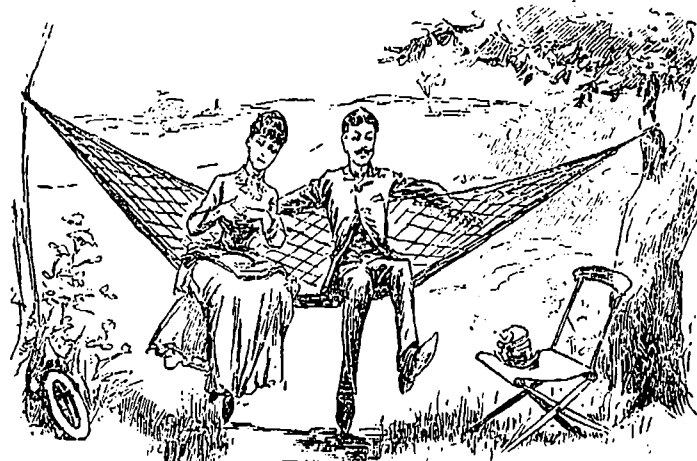
LETTING NO CHANCE SLIP.—Housewife: "If you are not away from here in two minutes I'll send for a policeman." Hungry Higgins: "Give me the 'arrant, ma'am. I'll hunt one up for only ten cents."

He: "Yes, darling, and it shall be the purpose of my life to surround you with every comfort and to anticipate and gratify your every wish." She: "How good of you Harry! And all on \$12 a week, too."

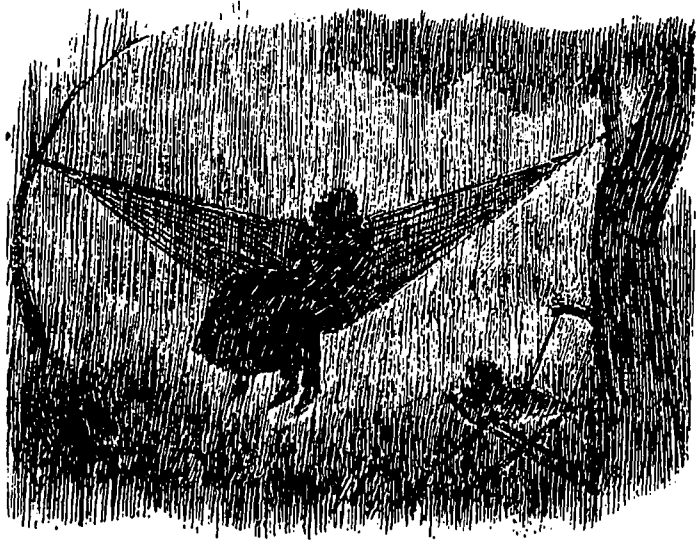
THE HAMMOCK.



SEVEN P.M.



EIGHT P.M.



NINE P.M.

COWARDICE.

The extent to which everything depends upon the point of view is illustrated by a little dialogue between a boy who is a mighty hunter for his age and a lady of his acquaintance.

"A rabbit," said the young hunter, "is the most awful coward that there is in the world. My! How he does run from a hunter!"

"So you think the rabbit is a coward, eh?"

"Why, of course."

"Well, let us 'suppose' a little. Suppose you were about six or eight inches tall."

"Well?"

"And had good, strong, swift legs."

"Yes?"

"And didn't have any gun, and a great big fellow came after you who did have one. What would you do?"

"What should I do? I should streak it like a whitehead!"

"I think you would. And I think, also, that you would have your own ideas as to who was the coward."

Miss Emersonia Russell (from Beacon Hill): "Don't you think Mr. Bowles's countenance would arrest the workings of the interior mechanism of a horologe?" Miss Calumetia Porcine (from Michigan Avenue): "I don't know. But it would stop a clock."

"That was a mean trick of that dry goods concern." "What did they do?" "Advertised 'Circulars Given Away To-day,' and all the women within ten miles went down to get one. When they got there they found the circulars were printed ones, and not cloaks."

The deaf mute is always ready to take a hand in conversation.

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

Lawyer.—Have you conscientious scruples about serving as a juror where the penalty is death? Boston taleman—I have. Lawyer.—What is your objection? Boston taleman—I do not desire to die.

Suitor—I have come to ask for your daughter's hand and at the same time to deposit my fortune of 50,000 marks in your bank. Banker.—What! and to such a reckless man you expect me to intrust my daughter?

HUNT HIS FINER FEELINGS.—Simmons: "You seem to be at outs with Miss Figg." Timmons: "Yes; on account of her disgusting addition to slang." "Slang?" "So I said. You see, I asked her to marry me and she said 'Rats!'"

ANXIOUS TO KNOW.—"Now, you never smell the odor of liquor on my breath," said the young clergyman, expostulating with Staggers for his bibulous propensities. "No; what do you do for it?" asked Staggers, with deep interest.

A CHIVALROUS LAD.—"Mamma," said Willie, "that little Susie Farkins called me a donkey to-day." "What did you do?" "Well, of course I couldn't slap a little girl, so I told sister Mary, and she just scarched Susie out of sight."

IT'S A POOR RULE, ETC.—Mind cure doctor: "Make up your mind there is no pain and there is none. Five dollars, please." Patient (moving toward the door): "Make up your mind there is no payin', and there is none. Good morning."

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

Mrs. Suburb was in trouble with her washer-woman. "Why can't you come and work for me to-morrow, as usual?" she inquired. "Cause I've got ter stay at home an' mend the childers' clothes—that's why. And it's your own fault, too." "My fault! How can that be?" "Well, what business had ye to go an' put a barbed wire fence round your apple orchard, I should like to know?"

RETIRED AGRICULTURIST.—Stranger: "Your farm has a prosperous look." Farmer: "Wall, I ain't complainin'. I've worked this 'ere farm night an' day fer nigh onto forty years, an' now I've about made up my mind to let 'er out on shares an' retire from business. I've got money saved up." Stranger: "Retire, eh? What will you do with yourself then?" Farmer: "Same as they all do. I'll become a weather prophet."

The Worcester Gazette says that a farmer has a sow and four well-grown pigs, which have the run of an orchard where the branches of the trees hang low and are full of apples. The old sow springs up and catches a limb and shakes it, and then she and the pigs devour the fruit thus shaken down. When all that can be obtained in this way has been eaten, one of the pigs climbs on the mother's back and reaches a higher limb, which it shakes vigorously, and so brings down a fresh supply of apples.

CORRESPONDENCE

YOUNG MECHANIC, Oxenden, Ont., writes: "I have been taking the MASSEY ILLUSTRATED since last summer and am very much pleased with it, but would be more so if there was a scientific department in it, and I think many more of your readers would like it also. I have been thinking if you would answer a few questions in that line I would be very much obliged to you, as I have a great liking for machinery and think I will learn to be a machinist if I can get a chance. Here are two of the questions I would like to have answered: How to calculate the horse-power of engines and boilers? I was speaking to a machinist who had to come from a distance to put a new engine in a mill here, and he gave me some figures to work out, but I either made a mistake in taking them down or he made a mistake in giving them to me, for I cannot get a correct answer from them. The horse-power of the engine is about seventy (70), and these are the figures I have:

Diameter of Cylinder.	Length of Stroke.	Steam Pressure.	Revolutions.	One Horse-Power.
20 x 20	78 x 45	160	3 3/4	33,000.

Here is my way of working it out. Am I right?  

$$\frac{20 \times 20 \times 78 \times 45 \times 160 \times 3 \frac{3}{4}}{33,000} = 226 \frac{1}{2}$$

According to these figures it is nearly 227 horse-power. What is the .78 and 3 3/4 for? Could the horse-power of an engine be worked out from the diameter of the cylinder, length of stroke, and steam pressure? Suppose any one wished an engine of a stated horse-power, how would he get at the diameter of cylinder and length of stroke for an engine, only knowing what the horse-power is to be?

ANSWER: .78 is the constant for finding the area and 3 3/4 the stroke in feet.

In order to get the horse-power of an engine you require to know:—

- (1) The diameter of cylinder, in inches.
  - (2) The length of stroke, in inches.
  - (3) The mean pressure of steam in cylinder as given by indicator diagram, in pounds per square inch.
  - (4) Number of revolutions per minute.
- (1) To find resistance in pounds, square the cylinder's diameter in inches and multiply by .7854 and by the mean pressure in pounds per square inch.
- (2) To get the piston's speed in feet per minute multiply twice the stroke in feet by the number revolutions per minute.
- (3) Multiply answer (1) by answer (2) which gives foot pounds per minute.
- (4) Divide foot pounds per minute by 33,000.

Example: Find horse-power of given engine.

Diameter of cylinder,	= 20"
Length of stroke,	= 20"
Mean pressure of steam,	= 45 lbs. per sq. in.
Number of revolutions,	= 160.

Area of cylinder =  $20 \times 20 \times .7854 = 314.16$  sq. in.  
 Total pressure on piston, in pounds =  $314.16 \times 45$   
 Piston speed in feet per minute =  $3' 4" \times 160 = 533'$   
 Foot pounds per minute =  $314.16 \times 45 \times 533'$   
 H. P. =  $\frac{314.16 \times 45 \times 533' 4"}{33,000} = 228$  H. P. nearly

In the above example nothing has been deducted for friction, and 45 pounds per square inch has been taken as the pressure the full length of the stroke allowing no cut-off.

In calculating the horse-power of boilers horizontal tubular and lap-welded flue boilers square feet active heating surface is equivalent to one horse-power. For riveted flue boilers, 15 square feet; for fire box boilers, 10 square feet. The nominal horse-power of boilers requires one gallon of water per hour.

We shall always be glad to answer any question if at all in our power to do so.

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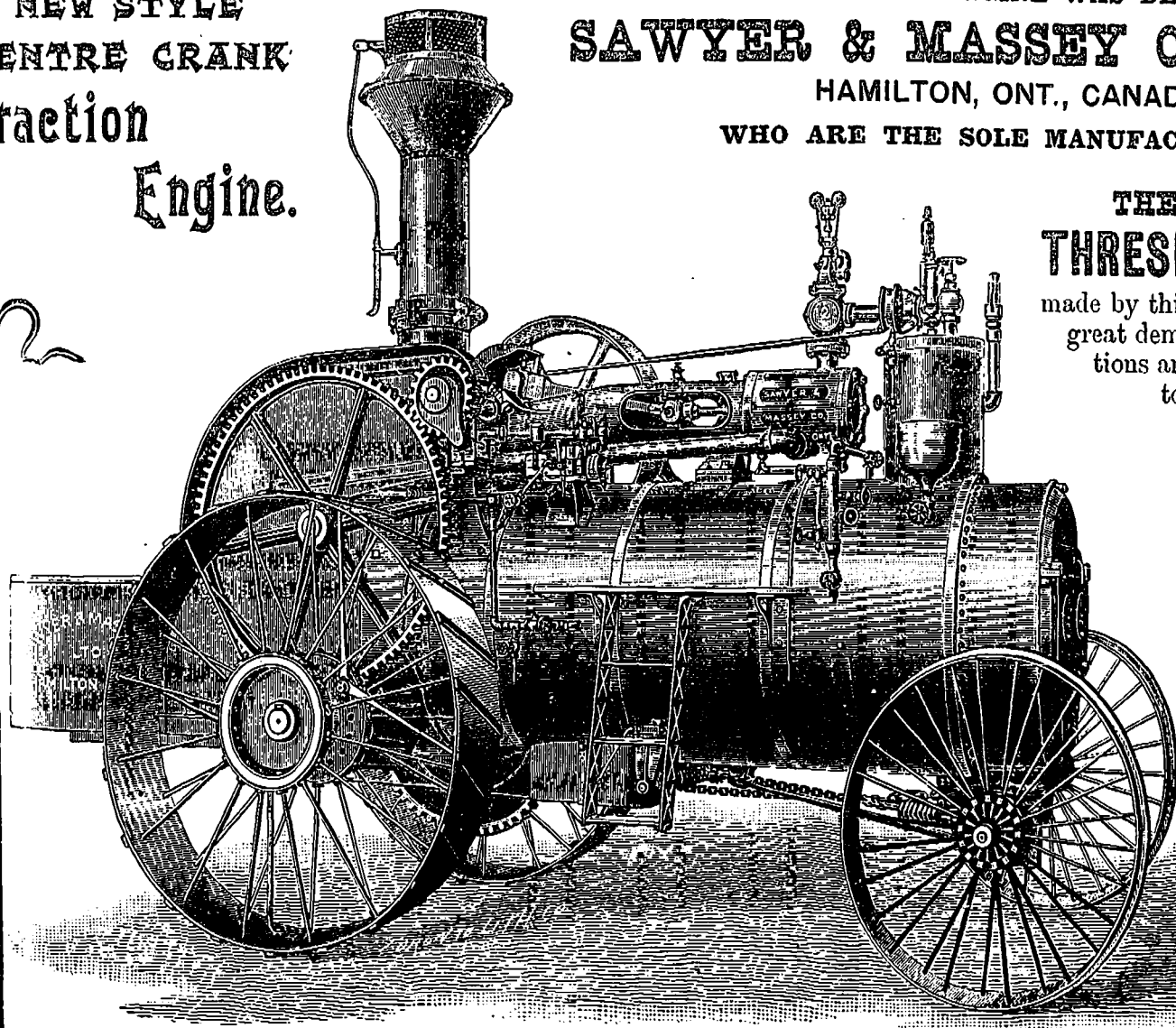
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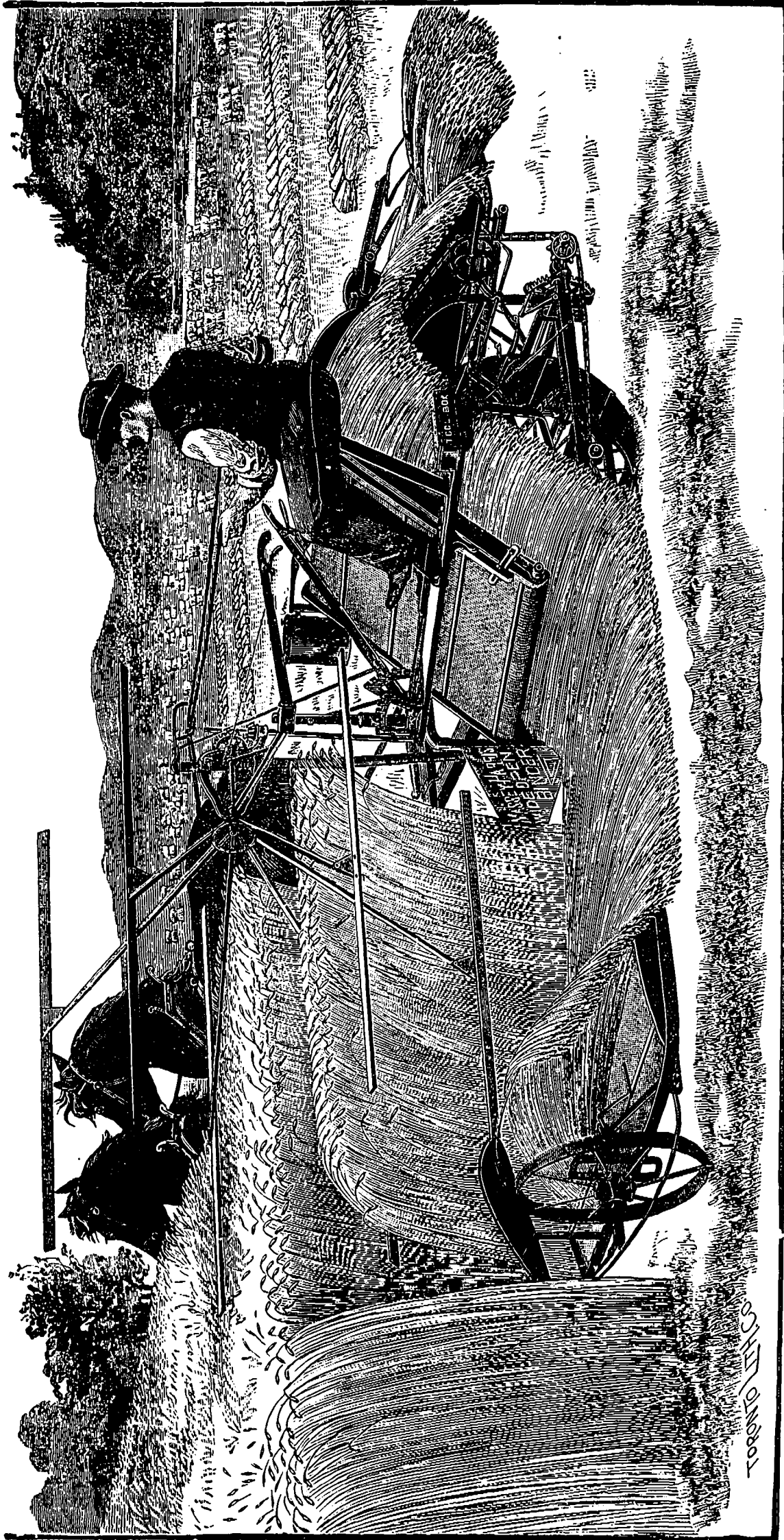
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that by all hands and  
with one accord they  
are proclaimed

**"The Best."**



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For Symmetry and Beauty of Design, this new Machine stands unrivalled. The excellence of its mechanical principles and the extreme ease with which it can be operated in any and every kind of crop, and the perfection of the work it performs under all circumstances, place it far in advance of any previous achievements in Self-Binding Harvesting Machinery.

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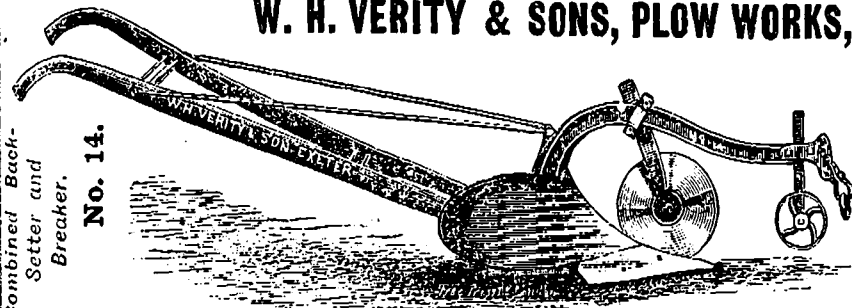
Toronto and Brantford Self-Binders, and the **Massey-Harris Wide-Open Binder**, illustrated above, is the result. Quite a large number of these Machines were in use during last season, and were everywhere pronounced a brilliant success.

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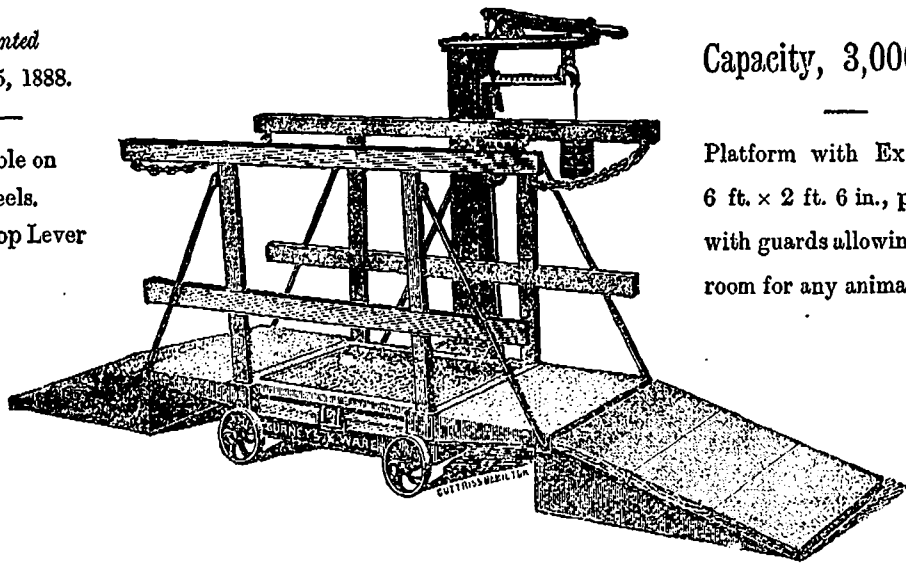
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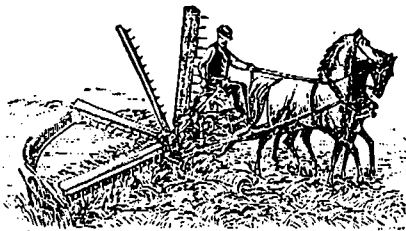
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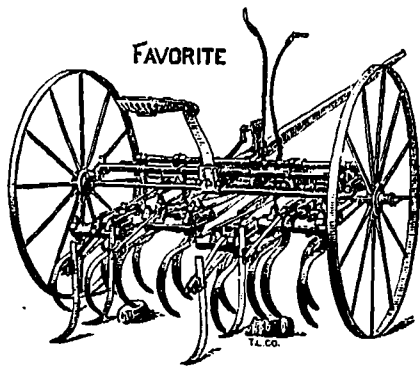
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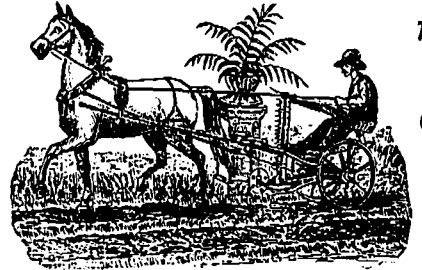
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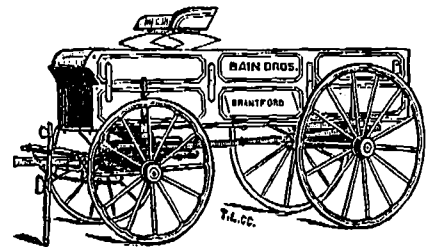
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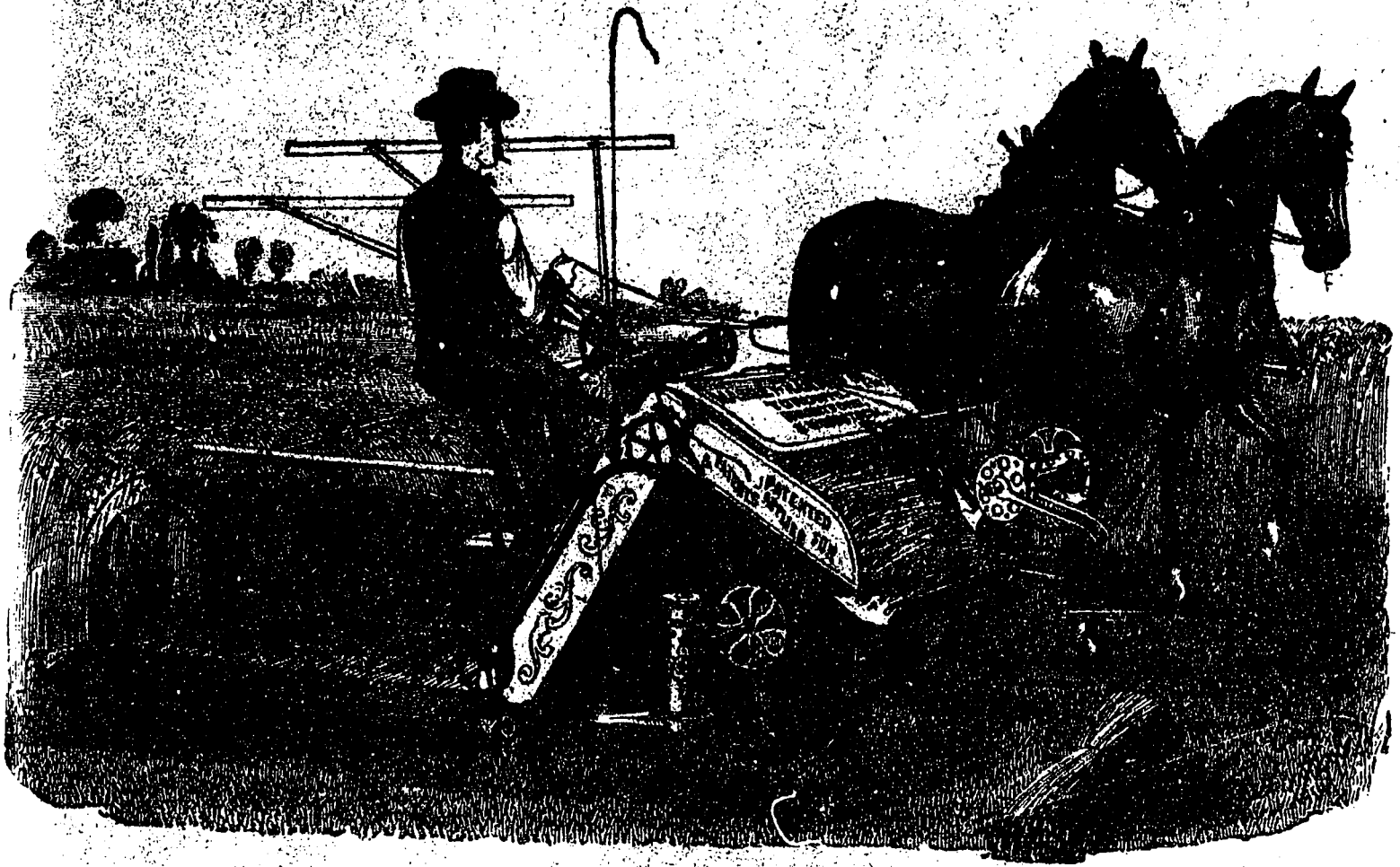
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The Steel Frame is light, yet strong—the channel bars keeping it perfectly rigid.

The arched channel steel elevator frame is securely secured by a strong brace to the main frame, preventing the machine sagging either backward or forward, and the elevator bars will run square and true. To prevent the tilting condition from springing the elevator frame, a strong steel brace is carried from the main sill to the front post, which supports the tilting lever bracket.

The Grain Wheel is in line with the Drive Wheel and can be raised and tilted on this line, and is in such perfect balance that it is only necessary to use one hand to tilt the Binder to any desired angle.

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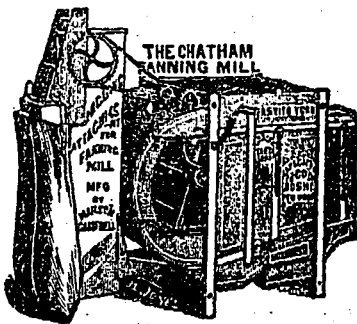
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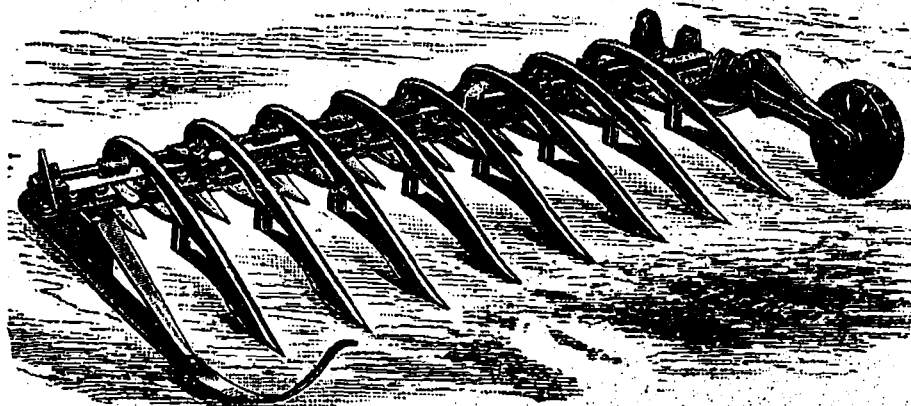
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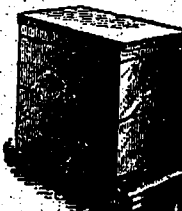
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