

Youth's Instructor

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I WILL BE WORTHY OF IT.

MAY not reach the heights I seek,
My untried strength may fail me;
Or, half way up the mountain-peak,
Fierce tempests may assail me.
But though that place I never gain,
Herein lies comfort for my pain,
I will be worthy of it.

I may not triumph in success,
Despite my earnest labor;
I may not grasp results that bless
The efforts of my neighbor.
But though my goal I never see,
This thought shall always dwell with me,
I will be worthy of it.

The golden glory of love's light
May never fall upon my way;
My path may always lead through
night,
Like some deserted by-way;
But though life's dearest joy I
miss,
There lies a nameless joy in this,
I will be worthy of it.
—Selected.

For the INSTRUCTOR. ROUND THE WORLD.—27. THE INDIAN MUTINY.

ON the Oudh and Rohilkund Railway we journeyed to Lucknow, a city famed in part for the buildings erected there by the Moham-medans, but more especially as having been the scene of one of the most terrible sieges recorded in history. This took place in the year of our Lord 1857, when from the second of July to the twenty-fifth of September the Christians were besieged, and a harassing fire constantly poured upon them by the hands of the mutineered native troops.

In this year, 1857, arrived the Hindoo "Sumbut,"—the hundredth year after the battle of Plassy, a battle in which the British arms had gained a decided victory over the natives. Hindoo astrologers had declared that the "raj," or reign, of the British power was to continue for one hundred years, and then be no more. It is impossible to overrate the effect of this strange prediction upon a people who are credulous and superstitious to a degree, who will not marry, make a bargain, set out upon a journey, or even have their nails pared, without a favorable conjunction of the planets.

The British had carried civilization forward to a comparatively high state of perfection, but the religion of the country had not been interfered with in any way. For a while the mutiny smoldered, but was soon kindled to a flame by the following spark:—

A rumor ran through the native army in British employ that the cartridges served out to the regiments had been greased with—the Hindoos said the fat of cows, the sacred animal, and the Mohammedans said the fat of pigs, the quadruped that they detest so much. No sooner had this source of dissatisfaction spread over the country, than the troops revolted, and open hostilities commenced.

The Lucknow Residency, and the compound, or inclosure surrounding it, and the other buildings connected with it, form a spot which nature has spared no pains to adorn, and the arm of mutiny no

steps to devastate. The buildings are on slightly rising ground, now covered with beautiful trees and shrubs, with a soft, mossy carpet of grass beneath. Round the gray old walls the dark green ivy has entwined her loving tendrils, as if to soothe with loving embrace the wounds made by the rebel bullets. In many places there is hardly a square inch not dotted over with the marks of the bullets from the murderous rifles, and huge gaps still remain where cannon balls tore away the masonry, causing pain and death to those within. We walked in the dungeons where the women and children were placed for safety, and where they remained during all the siege, without a change of clothes and with scant provisions. We could but think of the early Christians in

There is a striking contrast in the cold, dismal-looking gray slabs erected in honor of the departed heroes, and the soft, gently undulating grass and the flowers of varied hue, which, fostered by Heaven's tender care, turn their petals to the skies, as if in the act of rendering joyful praise to their Maker. Seemingly they are oft repeating to the mourner, "God gave; he hath taken; he will restore; he doeth all things well." Yes, faith and faithful works, crowned by a martyr's death, will lead to that immortal garden where bloom the flowers of amaranthine shade, and where death's sting will never again be known.

On the twenty-fifth of September, Havelock and Outram arrived with relief, but their force was itself beset by a fresh swarm of rebels, and it was not till November that Sir Colin Campbell cut his way to Lucknow, and on the sixteenth of that month finally delivered the garrison.

From Lucknow we passed to Cawnpore, where occurred one of the most cold-blooded, heartless massacres that the sunlight or stars of heaven have looked down upon. As Taylor, in his admirable history of India, expresses it: "More deliberately treacherous than the catastrophe of the 'Black Hole,' a hundred years before, more intensified and prolonged, the fate of those who perished there forms a tragedy so full of terrible misery, of heroic endurance, and the deepest pathos that it will ever be read with a shuddering tribute of tears, to the latest Christian generation."

There were about a thousand whites in the town, and on the sixth of June they took refuge in a miserable and hastily-prepared entrenchment. Foreighteen days they

fought, under a blazing, scorching sun, until all the medicines for the sick, and well-nigh all the provisions, were exhausted. Their ammunition was also running very low. One of the best buildings was burned, and the rest were riddled with shot, many of the bravest defenders killed, and the remainder greatly debilitated. There were the little band praying for succor, which indeed came, but, alas! too late. At this critical point, Nana, the rebel leader, sent an emissary bearing the white flag of truce. His offer was to transmit the defenders in safety to the city of Allahabad, provided their goods and chattels, and whatever else of value the intrenchment contained, were surrendered to him. Had the men been alone, and not encumbered with helpless women and children, they would have preferred to cut their way through the Sepoy army; but under the existing circumstances that was impossible, and fearing no treachery, they accepted Nana's offer.

Forever will his name be handed down to infamy. On the twenty-seventh, the survivors, now reduced in numbers to four hundred and fifty, were marched down to the boats prepared for them on the Jumna River. No sooner had they embarked than a murderous fire was opened on them from the bank. Many perished, others escaped for the time being, and were again captured. Some of them were instantly shot, but one hundred and twenty-two were reserved for



RUINS OF THE LUCKNOW RESIDENCY.

the catacombs, and we wondered how many fervent prayers had ascended to our Father's throne during that fearful time. In one room upstairs is a huge hole torn by a relentless shell, and the place is shown where it struck the floor and exploded, killing a young girl who was in the act of crossing the room to go to her father.

Near by is the old well which supplied the garrison with water. Over it are the remains of stone arches covered with pretty creepers, and bright syringas gently and softly wave their graceful stems and comely leaves in the pacific zephyrs which are wafted across the Indian plains, as if bewailing in low and mystic music the fate of those gallant defenders whose noble hands had often drawn cooling draughts from the pure, quiet spring beneath, to quench the burning thirst of brothers wounded in the fray. So calm, so secluded is the well, that it almost seems to say to the hearts of those who gaze upon it, "My own praises I never tell; but many a thirsty soul I have refreshed, and the Master knoweth all." The heart was filled with so many sad memories of relatives who had perished here, that we turned with sorrow from the spot to spend a quiet moment in the little church-yard, where truly the words of the poet are verified,—

"And every turf beneath his feet,
Shall be a soldier's sepulcher."

awhile. Of the whole army who left the intrenchment on June twenty-seventh, only four escaped and survived. When news reached Cawnpore that General Havelock and the relieving force were coming up, Nana decided to slay the rest of his victims. Women and children were tossed in the air, and as their bodies descended, they were caught on the rebel bayonet, and dead and dying were hurled into a well near by.

When the relieving force arrived, was it marvelous that the mournful, blood-stained relics, the little shoes and scraps of clothing, and the deep well filled with fresh dead, caused every British soldier to make a vow of revenge, which to the last was sternly fulfilled? It is said that in one building, known as the "Slaughter Ghat," the mutineers had plastered the scalps of the women and children all over the walls, and when the British entered, they stood ankle-deep in blood. Each Britisher took a scalp, and vowed that, for every hair on it, his sword should drink Sepoy blood. At first there was some resistance, but when the order, "Fix bayonets and charge!" was given, the mutineers threw down their arms, and cried for quarter. But it was too late; at the foe went the Highlanders, vengeance stamped on every brow, and like nine-pins the Sepoys went over before their terrible charge. Their rage and passion knew no bounds, and the revolting massacre was punished with a frightful retribution.

Over that well, now inclosed by a rich Gothic screen, stands an angel in marble, with folded wings and crossed hands, bearing two palms of victory, emblematic of the dead who sleep beneath, awaiting the coming of their Lord.

P. T. M.

A WONDERFUL VISITOR.

For a year or more there has been a "stranger within our gates," whose story of life in her native land is so fascinating and wonderful that had she dropped from some cold, starry planet in the northern skies, her presence would be hardly more marvelous.

Olof Krarer, a young Eskimo woman now visiting this country, is probably the only educated Eskimo lady in the world. There have been one or two women who have accompanied Arctic voyagers upon their return to this country, but they were the wives of hunters, women who knew little more than the strange dogs which were their companions. All except Olof Krarer have been natives of West Greenland, a region of which we have read and learned much in the last two decades. It has been left to this one little Eskimo lady from the far distant, almost unknown region of the East Coast, to tell to us the pathetic and curious tale of home life and child-life in the frozen north.

Of this little explored portion of the globe, Captain Holm, the Danish explorer, who recently returned from the Arctic seas to Copenhagen, says: "I found the east coast of Greenland to be the coldest and most dismal region of all the Arctic lands I ever visited, and here, isolated from the whole world, is a race of people who have never known of the great civilized nations of the earth! They differ entirely in language and physical character from the Eskimos of West Greenland. From the meager traditions they have, it is to be supposed that they are descendants of the early Icelandic Norsemen, who, centuries ago, were wrecked off that perilous coast, and, unable to return to their native land, became the founders of this strange people who to-day inhabit this little-known portion of the land. They have been cut off from communication with the outer world, by reason of the great masses of ice, sometimes hundreds of miles wide, perpetually piled up against the shore, which have kept explorers from the east coast of Greenland long after all other Arctic lands were fairly well known. Within the past two centuries, ten or twelve expeditions have been sent out in search of the lost Norsemen, who, it is supposed, settled here, but only one ship has ever been known to reach the coast. The people in this country live in little hamlets, or settlements; and, aside from their ignorance and the suffering caused by the intense cold, they seem to be a happy, contented, honest people."

In this dreary land, some thirty years ago, was born the little woman who to-day tells us her wonderful story. Her first recollections are of the snow hut which was her home, and the bitter cold and frequent hunger from which every one about her suffered. Fuel there was none, there being no vegetable life in that latitude; and to make the feeble fires which serve to keep them only half warm, the dried flesh of the reindeer, with the bones of the walrus and of fish, were ignited by means of a piece of flint.

Flints are rare in Eskimo-land, and sometimes there

is only one in a community of several families. The flint-owner is the rich man of the place. He does not hoard his treasure, however, for the flint is freely borrowed and generously offered at all times.

There appears to be little true affection in the care which an Eskimo mother gives her babies; she never fondles or pets them, and when they are peevish and ill, she neglects them, not unlike some of the lowest brutes.

As soon as they are able to sit alone, they are put upon the fur-covered floor to take care of themselves; and there they sit, muffled in their little seal-skin jackets—the fur side turned inward—with their little arms folded about their bodies to keep warm. The girls grow deformed by being constantly in this constrained position. The boys, who are more active and go out-of-doors, escape such deformity; but all Eskimo women have the upper arm short and crippled from disuse.

An Eskimo girl has an indolent time of it. There is no housework to do; there are no household utensils of any kind; no brooms with which to sweep; even no water for washing. The blubber of the whale, the



MEMORIAL WELL AT CAWNPORE.

flesh of the polar bear, and fish—their only articles of food—are eaten frozen and raw. Only the very sick or old, or infants, ever taste heated meat. As for washing, an Eskimo does not understand the term.

They have no register or notation of time, nor routine of daily life, as we understand it. They eat when they are hungry, and sleep when they are sleepy.

There is no outdoor occupation or amusement for the women. Occasionally a man will take his mother or wife out in a sledge for an airing; and if a little one goes too, it is carried inside the large fur hood of the woman's coat, and dangles down her back.

There is no mode of government, as we understand it, in these communities: no laws; no written language; no one man holds a higher place than any other—the man who owns the flint is, perhaps, the millionaire of the hamlet, but he shares his riches with the rest. All are equal, and meet on common ground.

Custom is the highest law of their bare, rude lives; and their customs are prompted and regulated mainly by the first great instinct of self-preservation.—*St. Nicholas for August.*

LINCOLN'S SCHOOL-DAYS.

LITTLE Abe was first sent to school when he was about seven years of age. His father had never reached any "book learnin'," as education was termed among such people, and it was with difficulty that he could write his own name. One day, about four weeks after Abe had been sent to school, his father asked the teacher, "How's Abe getting along?"

The teacher replied that he was doing well; he wouldn't ask to have a better boy. He had only one lesson book, an old spelling-book. During the school hours he was attentive to his task, and at night he would study over the lesson he had been engaged upon during the day; the highest ambition of his life at this time was to learn to read. He

believed if he could only read as well as his mother, who read the Bible aloud to the family every day, the whole world of knowledge would be opened to him, and in this conjecture he was about right. As the old Baptist minister said to him one day, "When you can read, you've got something that nobody can get away from you."

In the Kentucky home there were but three books in the family—the Bible, a catechism, and the spelling-book which Abe Lincoln studied. He had not been long in Indiana before he had read the Pilgrim's Progress, his father borrowing it from a friend who lived twenty miles away. He was very fond of reading *Æsop's Fables*, a copy of which came in his way. A young man taught him to write. As writing-paper of any kind was very scarce and expensive, Abe used to practice his writing exercises with bits of chalk or a burnt stick on slabs and trunks of trees. Sometimes he would trace out his name with a sharp stick on the bare ground. When, finally, he was able to write letters, he was called to do the correspondence of his neighbors; for very few grown persons in that district could write even a simple letter.

As Abe Lincoln grew older, he became a great reader, and read all the books he could borrow. Once he borrowed of his school-teacher a *Life of Washington*. His mother happened to put it on a certain shelf, and, the rain coming through the roof, the book was badly damaged. Abe took it back to the school-master, and arranged to purchase it of him, paying for it by three days' hard work in the cornfield, and he was entirely satisfied with the bargain at that. At the age of eighteen his library consisted of the *Life of Franklin*, Plutarch's *Lives*, the Bible, the spelling-book, *Æsop's Fables*, Pilgrim's Progress, and the lives of Washington and Henry Clay. A boy might have a much larger private library than this, but he could scarcely find an equal number of books better calculated to impart wholesome lessons as to correct living and right thinking.—*Harper's Young People.*

SOMETHING BETTER.

THE "little virtues" are in no way remarkable, but somehow we never get tired of praising them—especially when they are found among strangers. The *Christian Register* relates this pleasant incident of a Southern journey—one of the small happenings which help to make places memorable and life itself delightful.

The fields of Arkansas were white with the bursting balls of cotton, and wherever one traveled, the cotton plantation followed the road. An Eaton lady was very desirous of getting a sprig of the plant, with a bunch of cotton on it; but though the train often stopped provokingly near, it was never quite near enough. In vain she looked for a small boy to gather a spray. When the small boy was there, the cotton was gone, and when the cotton was almost within reach, there was no boy to be seen.

At last her fellow-travelers became interested in her success, and always looked up inquiringly, or in words asked how she fared in her quest.

Just before dusk, the train halted opposite a vast field, tufted with snow-white dots all over its wide expanse; and here was a boy—yes, three of them. Stepping to the front of the car, she said, "A nickle to the boy who brings me a sprig from the cotton plant," and threw down a five-cent piece.

The three black faces grinned at so unusual a request. The boy who caught the money gave a bound, cleared the ditch, and was almost over the fence into the cotton patch, when the warning bell of the engine began to ring. He was doubtful for a moment, then jumped back, and began to follow the train, which was already moving pretty fast.

The lady had not gone in. She was still looking longingly at the coveted plants, and had quite forgotten the trifle she had given in vain, when a black hand caught hold of the stair-railing, and a hurried pair of feet kept pace with the train, while a panting voice exclaimed, "Lady—here's—yer—nickle!" and the shining bit was laid on the car-step as the boy fell back.

The lady kicked it off with her toe so quickly that it must have fallen within his sight; for a loud "Thank yer, lady," followed after the now swiftly moving car.

She returned to her seat, only sorry that she had not ventured more for such a pleasant return. The passengers, seeing her satisfied look, asked eagerly, "Oh, did you find some?" to which she quickly replied,—

"No, but I found something better; I found an honest boy."—*Selected.*

For Our Little Ones.

THE STORY OF THE LITTLE LAD.

WHAT is this that my darling is saying?

You think that your gift is so small,
Though it's all that you had to offer,
It can surely do no good at all?

You forget, then, that sweet Bible story
Meant for little ones, yes, even you,
Of the dear little lad who brought gladly
His gifts, though so small and so few.

Five loaves and the two little fishes
Were all that the little lad brought.
What were they among hungering thousands
That thronged where the Master had taught?

Yet he brought them, not doubting or fearing
But that Jesus the offering would own;

And lo! when the Master had blessed
It,

To abundance the small gift had
grown!

So to-day you may take to the Sav-
lour

Your childish gift without fear
But that he will own and receive it.
Since you bring to him what you
hold dear.

And his blessing will add what it
lacketh,

Till perchance it may do great good.
And carry the news of the gospel
To a hungering multitude.

—Minnie E. Kenney.

For the INSTRUCTOR.

GOLDEN STILTS.

WISH I could think of
some new game," said
Allen. We can't play
marbles, for the street is
all wet with rain, nor roll hoops;
and anyway I'm tired of those
games; for we've played them
all summer."

"I tell you what," said John
excitedly, "let's make some
stilts. I saw a boy down town
this morning walking round
above all the fellows, as though
he owned the whole world."

"Hurrah!" shouted Edgar
and Allen, springing to their
feet. "That's capital! But
where can we get the timber to
do it?"

"Over at the saw-mill."

Away the boys started, to
make known their request to
the foreman.

"So you want to get up in the
world," said the foreman, laugh-
ing. "Well, human nature is
about the same all round. But
when you do get up, boys, be
sure not to look down on
others."

"How can we help it, I'd like
to know," said Allen. "If we're above them, we'll
have to look down, won't we?"

"Well, I'll tell you how to help it," said the fore-
man. "Whenever you find yourself looking down on
anybody, and feeling yourself above him, just step
down yourself, and try to help up the one you despise.
Now, for instance, if you are on stilts,—and stilts are
mighty uncertain things, and sometimes land you
into very humble positions,—and you see a poor boy
without stilts, suppose you say, 'Here, do you want
to try my stilts awhile?' Just step down and help some
one else up, and you'll be pretty sure steppers after
awhile. Its wonderful how tall it makes folks grow to
be always helping some one else up; and it's wonderful,
too, how small people do grow who are always look-
ing down on others, and trying to keep them down.
They turn into dwarfs, and I tell you it takes pretty
high and dangerous stilts to keep them walking with
their heads above their fellow-men. The only way to
grow tall and large and be well-developed boys, is to
do unto others as you would have them do unto you.
That golden rule is the best pair of stilts I ever saw.
Yes, boys, go along, you are welcome to all the tim-
ber you want. Here are some hammers and nails,
and I'll show you how to make the best kind of step-
pers, as it isn't quite one o'clock yet."

When the boys started off from the mill, you may

be sure they felt happy. There was a warm glow
round their hearts, and they thanked the kind fore-
man for all his help, though they didn't realize what
help he had given them.

He stood in the doorway as the one o'clock bell
rang, and called after them, "Don't forget the Golden
Rule stilts, boys. I want to see you about the biggest
men in the country."

"What a queer man he is," said Allen. "But he is
nice, though."

Wasn't it fun to stride over the ditches and mud-
puddles, and splash through the ruts in the road? By
and by the boys of the neighborhood came run-
ning to see the stilt-walkers. Marbles and hoops and
balls and everything lost all attractions in contrast
with this novelty.

It was hard for the boys not to feel a little big
as they strode around, head and shoulders above the
other boys, and it was not long before the boys found

them with sticks and straws, so that no one would
suspect holes were there.

"There, that will serve them just right. 'Pride
goes before a fall,' you know. We've seen the pride,
now I hope we'll see the fall."

Edgar had stopped walking on his stilts as soon as
he heard John say, "None of your business!" and
ever since, he had been leaning up against the fence,
thinking.

"It's kind of hard to give up my stilts now; but
I am sure it's about time to use the other pair."

Allen and John were marching round the corner
when Edgar came to this conclusion.

"Say, boys," he said, "don't you think we'd better
use the Golden Rule stilts awhile?"

"What do you mean? Give up our stilts to these
rude fellows? Not by a long ways. Just see them
grinning and making faces at us."

"Well, if you won't, I will," said Edgar.

So Edgar called out, "Say,
boys, I've got another pair of
stilts, and if any of you want to
try this pair, all right, come
on."

There were several who did
want to try them, and Edgar
found that as he stepped down
to let another step up, he did
feel a kind of tallness that he
had never felt before. It was
real fun to see the boys look so
happy.

Edgar was the hero of the
day. One boy gave him a beau-
tiful glass agate, and another
gave him a hoop, though Edgar
did not expect anything, and
felt a little ashamed to take
these presents.

"But say, where's your other
pair of stilts?" asked one big
boy, who thought perhaps he
could borrow them for a race
with Allen.

"O, my other pair are golden
ones," said Edgar.

"Golden!" exclaimed the
boys; "why, I never heard of
stilts like that. Can't you show
them to us?"

"Easy enough," said Edgar.
"They are made of the Golden
Rule, 'Do unto others as you
would that others should do
unto you.'"

"Humph!" said the big boy,
and the others looked at him as
though they thought him rather
queer.

But the little boy exclaimed,
"That's a boss pair! I'll have
some of them right off."

"Say, Allen," he continued,
"don't go over to that side of
the road, for I made some holes
there to trip you up in."

"Thanks," said Allen. "Long
as you told me before I fell into
them, I'll let you take my
stilts."

Well, it was strange what a fine time those boys
had that afternoon, and yet it wasn't strange either;
for before night every one had taken a step up on the
Golden Rule stilts.

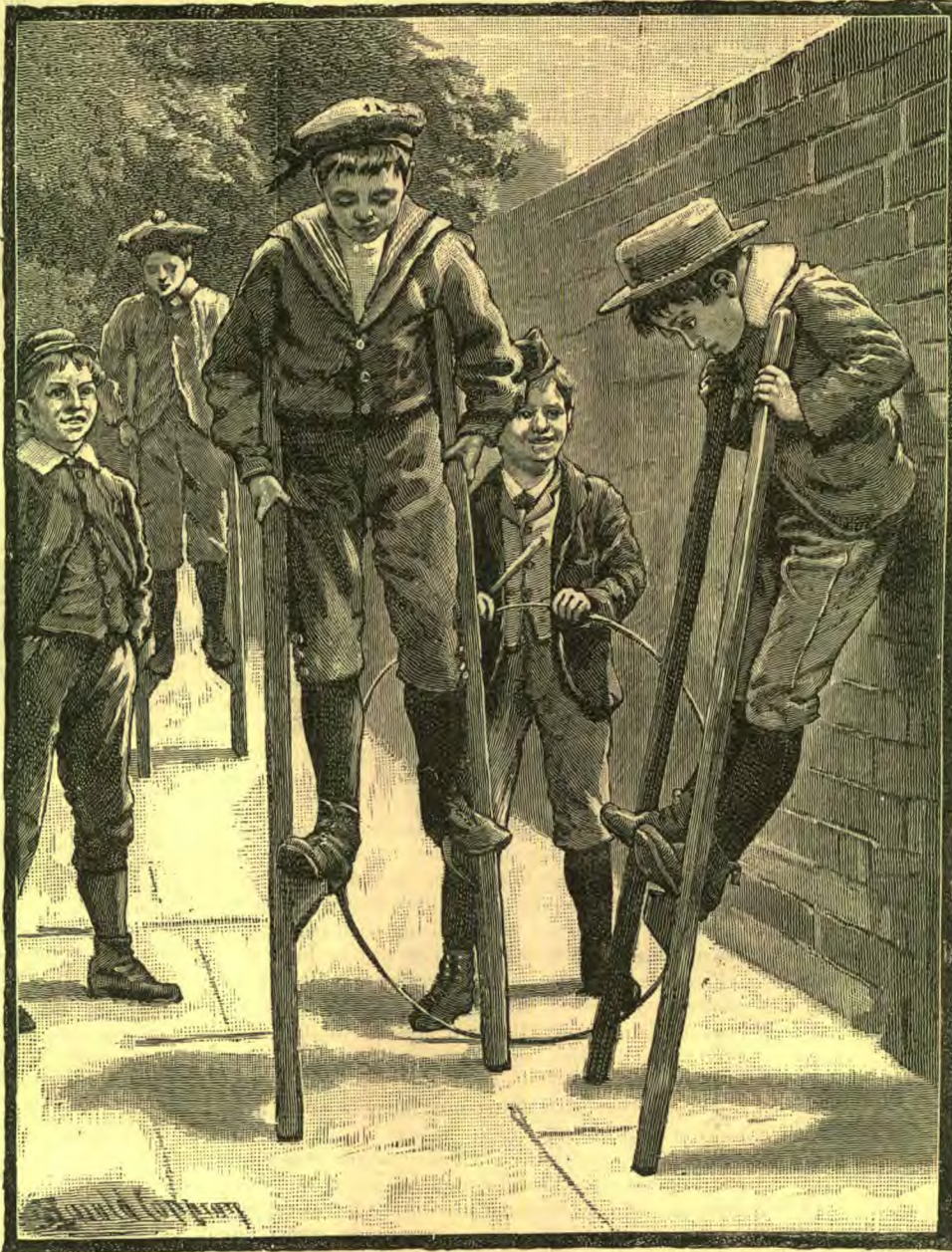
When the others had gone to bed, Edgar stood
beside his mother. "Mother, do you think a fellow
grows any faster for being kind to others?"

"Why, yes," said his mother, "in one way he does,
and I might say in every way. A kind, genial dispo-
sition is a promoter of health and happiness, so that
physically one is apt to be better and bigger for this
trait; but I think that it benefits the spirit, the char-
acter, more even than the body, and makes a boy
manly and Christlike, helping to the beautiful, noble
stature that God calls manly."

Edgar kissed his mother good night, and left her
somewhat puzzled, but greatly pleased, by saying,
"Then I think I'll always keep a pair of the Golden
Rule stilts to walk on."

Won't you all keep a pair of them, boys and girls?
FANNIE BOLTON.

SPARE moments are the gold-dust of time. We
should see that they are well improved. They are
often the most fruitful of evil; for they are gaps
through which temptations find the easiest way to
the garden of the soul.



ARTIFICIAL FLOWERS.

ARTIFICIAL flowers, says a writer in the *Gartenlaube*, were first invented by pious nuns. In the Italian convents the altars and shrines of saints were, up to the end of the eighteenth century, decorated with artificial flowers, laboriously put together, of paper, parchment, and other stiff materials. Since then, the "Italian flowers," which are made in Venetian factories of the imperfect cocoons of silk-worms, have become famous for their daintiness. Besides these silk flowers, other artificial flowers are made in Venice, whence nearly all Italy is supplied, and whence whole wagon loads are exported to other countries. No sooner has the visitor to Venice taken his early cup of chocolate at Florian's, near the Marcus Place, than the *cicerone* appears, offering to show him the "famous" factory of the "famous Italian flowers." This factory is situated in one of the gray old houses of the Frezzaria, and several hundred girls are occupied in it. In the warehouse the most wonderful reproduction of natural flowers is exhibited in glass cases, and it seems in many instances as if not only the richest and most brilliant colors, but the very scent of the flowers, had been stolen from nature; for some of the artificial flowers are steeped in the perfume distilled from the flowers which they represent. Any one wishing to take home some souvenir of Venice can have his choice of beautiful and often fantastic objects at the factory.

In the upper stories of the house the girls sit at their work, constructing, with clever hands, the most beautiful works of art; for all the most expensive artificial flowers are nearly exclusively made by hand, and their value depends solely on the manual dexterity and taste of the poorly-clad and mostly delicate-looking girls, sitting at the long tables and inhaling the unhealthful dust of the dyed materials. No machinery could replace this dexterity and taste. Last century a Swiss invented a machine for cutting out the leaves and petals, but it can only be used for the smallest kinds, such as are wanted for hyacinths, lilies of the valley, and other small flowers. In larger petals the irregularities of manual work are preferred to the stiff and correct forms produced by machinery. The material of which the petals are made is woven in special factories; the scissors and other tools used by the girls, as well as the presses on which the veins are traced on the leaves, are of a shape specially adapted to the work. Each part of a flower is made by specialists. In one room, for instance, only stalks of flowers and leaves are made; in another fruits and berries of all kinds are cast, if they are made of wax, or blown, if of glass. The cleverest workmen are employed in making blossoms of the single petals, and bouquets, wreaths, and garlands of the single blossoms. It is very interesting to watch this process and to see how, first, the center of a flower is constructed, then the petals put round, next the green leaves, and so forth, till a flower or a branch is complete.—*Exchange*.

QUEER WOOL.

STRANGE as it may seem, there comes from the iron furnaces of Pittsburg a substance so white and light, so fluffy and flaky, that it looks and feels like picked wool. It is called "slag wool," and a correspondent tells us how it is made and for what it is used. Slag is a waste substance which issues from iron melting furnaces. It is formed by the separation of the earthy matter from the ore, and looks like coarse, dark glass if allowed to cool as it comes from the furnaces. Formerly it was thrown away as valueless, but since a process for converting it into "wool" has been discovered, it is utilized for many purposes.

This mineral wool is formed by causing a jet of steam to play upon the stream of molten slag as it issues from the furnace. This has the effect of breaking up the melted mass into countless small, bead-like particles, so light that they fly in every direction. Each of these tiny beads carries behind it a delicate thread of finely-spun slag, so that one is reminded of a comet with its tail.

To collect these threads, and to separate the fibers from the beads, or heavier portions of the slag, the steam jet is arranged at the mouth of an open cylinder of sheet-iron, in which a strong air current is induced by additional jets of steam.

The tube, or shaft, is furnished with a shield, or striking plate, which detains the heavier particles, while the lighter slag wool is carried by the draught into a large chamber resembling a gigantic meat-safe, its walls being formed of wire netting with about sixteen meshes to the square inch. Here the steam condenses and escapes, leaving the slag wool, which now has the appearance of snowflakes, deposited on the floor of the chamber, or clinging to its wire walls.

The filaments, or flakes, are then broken up and felted together, when they look and feel like wool.

This mineral wool is extremely light and absolutely fire-proof—properties which make it useful for a large variety of purposes. It is a marvelous non-conductor of heat and sound, which renders it valuable for packing between the floors of rooms and in the spaces between partitions. It serves as an excellent covering for boilers, heating pipes, and such things.

It can be woven into cloth, and as such makes fire-proof curtains for theaters, and it might not be a bad plan to make clothes out of it for children who persist in playing near the fire. It is so porous that it will absorb and retain large quantities of water, like a sponge, and it is also an antiseptic, that is, a substance which resists or corrects putrefaction. It is useful, therefore, as a dressing for wounds, as well as for other medical purposes.—*Selected*.

POWER OF PLANT GROWTH.

ORDINARILY the immense power exerted by plants during growth passes unnoticed, because of the gradual and unobtrusive way in which the results are attained. When, however, some unusual obstacle has to be overcome, the manifestation of power is often strikingly exhibited.

At one of the grain elevators in Buffalo, a few years ago, there was noticed in the asphalt floor a curious bulge, which, when first seen, covered about a square foot. The flooring was known to consist of two layers, and under one of tar and gravel six inches thick, and upon this seven inches of asphalt which had been laid hot and rolled down four years previous.

"In six hours," so runs the account, "the floor was burst open, and a perfectly formed toadstool, with the stem two inches through, and a very wide cap, made its appearance. Elsewhere the floor was smooth and unbroken."

Such a soft-textured plant as a toadstool is surely the last that would be expected to do such a piece of work; still, not a few similar cases are on record. In one instance reported, a toadstool raised through a distance of several inches a stone weighing over three hundred and fifty pounds.

Cases such as these suggested to the President of the Massachusetts Agricultural College the idea of trying to measure the expansive force of a squash during the process of ripening. When about half grown, the fruit, still connected with the vine, was placed in a wooden cradle, and to the upper surface was fitted a basket-like frame-work of iron bands riveted together.

As the squash enlarged, the frame-work was pushed against a stout beam, arranged as a lever and weighted at regular distances. In spite of all this harnessing, the squash steadily enlarged from August 21st to October 31st, raising with perfect ease the weights which were added from day to day.

From sixty pounds on the first day, the burden was gradually increased to over two tons, and the squash continued to grow. Under a pressure of five thousand pounds, the iron frame-work broke, and so brought the experiment to an end—leaving it in doubt whether with a stronger harness still greater power might not have been displayed.

In woody plants the expansive power is generally less conspicuously exhibited, because of the slower growth, and for the same reason the force exerted is more difficult to measure. Tree roots which have penetrated into the crevice of a rock, sometimes afford, however, quite impressive examples of what such a plant can do, if occasion requires. A sugar-maple in South Hadley, Mass., having insinuated one of its roots between the horizontal layers of a sandstone ledge, was found to have raised a slab measuring more than twenty-four cubic feet, and weighing, therefore, over two tons.

In Norwall, Connecticut, the writer found what appeared to be an apple-tree growing between the separated halves of a good-sized boulder. It was evident that a seed had lodged in some crevice opened by the frost, and from this seed had grown the tree whose trunk had wedged the rock asunder.

Visitors to Marien Cemetery, in Hanover, Germany, are shown a strongly-built tomb, the stones of which have been similarly displaced through the growth of a tree. By a singular coincidence the tomb bears the following inscription: "This sepulcher, bought for all eternity, let no man open."

Although the above examples of plant power are truly extraordinary, they are no more wonderful than the exhibitions of growth-force which we may see all around us. It is surely surprising to see through what a thickness of overlaying earth a slender seed-sprout will force its way. The wonder increases as we follow the boring of its roots through the soil, and if our seedling grow into a stately tree, how immense

is the force which carries high up into the air tons of branches and foliage!—*Youth's Companion*.

Letter Budget.

ROSA EMELIA HANSON sends the following interesting letter from Shelby Co., Iowa: "I love to read the INSTRUCTOR. I like the pieces about good boys and girls best. I also like to read the Budget. I am ten years old. I go to day school, and study the fourth reader. I have three sisters and one brother. Three of my little brothers are dead. I go to Sabbath-school, and study in Book No. 3. Mamma took me to the camp-meeting at Des Moines when I was a baby, but I do not remember that. That was the time she first subscribed for the INSTRUCTOR. I was at the Des Moines camp-meeting this year, and we had such good children's meetings. We are going to start a Danish school next Thursday, just for the children of our church. The teacher has been around visiting us. She seems very pleasant. I hope we will have a good school, and I think she will also teach us how to love Jesus more than we do. I want to be a good girl."

CLARA L. JACOBS writes from Adair Co., Iowa: "I am eleven years old. I go to Sabbath-school every Sabbath, and study in Book No. 5. I have a brother three years older than I am, and one three years younger. We have been keeping the Sabbath nine years. Our day school will begin the ninth of September. I study reading, arithmetic, spelling, writing, language, and geography. I have a sheep and a little lamb, which are very nice. I take a penny to meeting every Sabbath for the missionary ship. I have a missionary garden, but the weather has been so dry it has not done very well; but I think I shall have a few melons to sell."

BERTIE and MINNIE GOULD send letters from Jer-auld Co., South Dakota. Bertie writes: "I like to read the INSTRUCTOR very much. I do not take the paper, but a lady in Kansas sends it to me. My papa drives the stage from Crow Lake to White Lake, a trip of thirty-six miles a day. I have a colt; its name is Dexter. I am eleven years old. I have two brothers and one sister. People see quite hard times here, and a good many are leaving on account of not raising crops. I have a grandma, an uncle, and an aunt, all working in the mission. I hope I will see my letter in print. I want to be a good boy."

Minnie says: "As my brother is writing, I will get my mamma to write some for me, but I will tell her what to write. I like to hear my papa read the little letters. I have a little brother three years old and another one year old, whose names are Chester and Frankie; but I have no sister. We have a little Sabbath-school at home, and mamma teaches us. We have never been to any other. I am trying to be a good girl, so that I can play with the little INSTRUCTOR girls in the new earth."

SIDNEY and IRENE HENNEY send letters from Kit Carson Co., Colo. Sidney writes: "We are living on a quarter-section of Government land in Eastern Colorado. There were no Sabbath-keepers here when we came, but we have been doing missionary work, and one woman and her children are keeping the Sabbath. We have a Sabbath-school at our house, and there are thirteen members. I have a sister seven years old, and a brother four. We have kept the Sabbath over three years with papa and mamma. Papa works in Denver. I have a black pony. His name is Paddy. I have killed five snakes this summer. I want to be a good boy."

Irene says: "I have a pet hen. Her name is Dolly. I like to have mamma read the INSTRUCTOR. I asked a little girl and her two brothers to come to our Sabbath-school, and they like it very much. I am going to sell my hen, and put the money in the missionary box. I go to school, and read in the second reader. I want to be saved in the new earth."

EUGENE COMBS writes from Lyon Co., Kansas: "I am twelve years old. I keep the Sabbath with my father, sister, and step-mother. My own mother, a sister, and two brothers are dead. We have Sabbath-school at our house. There are only two families of Sabbath-keepers here. Bro. Darrow and his family began to keep it a year ago last Christmas, and he is preaching it now. I have been a cripple ever since I can remember. I have been taking the INSTRUCTOR for about five or six years. I go to day school. If some boy about my own age would write to me, I would answer his letter."

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