

# Youth's Instructor

Vol. 34.

BATTLE CREEK, MICH., JUNE 16, 1886.

No. 24.

## GRASS AND ROSES.

I LOOKED where the roses were blooming,  
They stood among grasses and weeds;  
I said, "Where such beauties are growing,  
Why suffer these paltry weeds?"

Weeping, the poor things faltered,  
'We have neither beauty nor bloom,  
We are grass in the roses' garden,  
But the Master gives us room.

"Slaves of a generous Master,  
Born from a world above,  
We came to this place in his wisdom;  
We stay to this hour from his love.

"We have fed his humblest creatures,  
We have served him truly and long;  
He gave no grace to our features,  
We are grass in the garden of God.

—James Freeman Clarke. (trans.)

Written for the INSTRUCTOR.

## BOOKS OF YE OLDEN TIME.

OF making many books," wrote the wise king, "there is no end." If Solomon grew weary with "much reading" in those days of limited books, I wonder if he wouldn't sigh more heavily now could he step into a modern bookstore. What would he think could he see one of the printing-presses of to-day, capable of turning off in an hour between thirty and forty thousand newspapers, printed on both sides, and neatly folded for mailing? In his wildest dreams of improvement, I don't believe he thought of anything like that.

The earliest writing was done on brick, horn, shells, and stone. The bricks, while soft, were impressed with a stamp; and among the ruins of ancient cities, relic-hunters may still find these bricks stamped with curious figures



and unintelligible writing. The horn and stones were rudely engraved, and the letters scratched on the surface were often stained with some color. The accompanying picture of the horn-book, with the Lord's prayer engraved upon it, will give an idea of these first attempts to preserve a record.

By and by, thin pieces of board covered with wax came to be used, and were written on with an ivory pencil; but of course, on wax soft enough to take an impression, the

writing was soon effaced, and so these were cast aside for the smooth inner bark of trees. Parchment, or the prepared skins of animals, was also largely used, and papyrus, a broad-leaved rush of the Nile. It was often difficult to get parchment, and so the original writing was frequently erased to make way for a new book, in many cases not so good as the original one. These parchment books were not often put up in the square form our books present, but were rolled up; and from this we get our word *volume*, meaning a roll.

In the little town of Nablus, in Palestine, may be found a very ancient roll. It is owned by the Samaritans, whom you will remember as the mixed race of Jews and heathen inhabiting the Holy Land during the captivity. They form the oldest sect in the world, and perhaps the smallest, numbering, all told, only one hundred and twenty persons. Their famous book roll contains the first five books of the Bible, or the Pentateuch, the only portion of the Scriptures which they believe inspired, and it is said to have been copied by the great grandson of Aaron, thirteen years after the conquest of the Holy Land. Whether this be true or not, it is hard to tell; for strangers are not permitted to handle the sacred roll, and the word of a Samaritan is not always to be relied upon. The roll, a picture of which is given on this page, is kept in a silver case, opening on hinges, and the whole is wrapped in a scarf of red satin. The case is oddly chased with figures of the tabernacle and its furniture.

Frequently the wealthy kept educated slaves, who copied books for them; but at length the greater part of the work fell into the hands of the monks, who in their cloister cells, away from the tumult and bustle of life, peacefully spent their days in keeping alive the feeble flame of learning.

And then came the time of Gutenberg and the first printing-press, when the sun of learning shot his clear beams athwart the land, scattering the mist and the vapor that enveloped the minds of the people. It was a great day for the world when Gutenberg struck off the first sheet from his press! No more were books to be multiplied by the tedious process of the pen.

These early printers, when once the secret of printing was blazed abroad, took great pains to inform the public that their books were *printed*. One of them said of his book, "It is not written with pen and ink as other books be, to the end that every man may have them at once; for all the books of this story, thus imprinted as ye here see, were begun in one day, and also finished in one day." And they might justly glory in this "preservative of all arts," and build air-castles high as the skies, for the most visionary would not have foreseen the perfection to which his beloved art is brought at the present day. W. E. L.

## THE BOY WHO WOULD NOT BE WHIPPED.

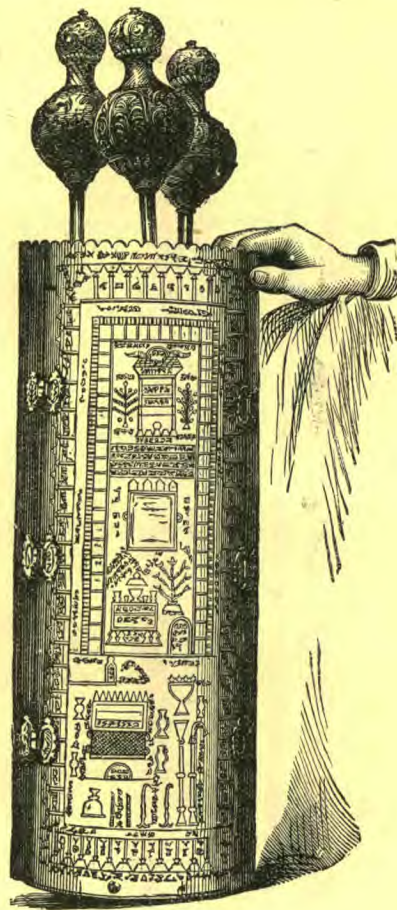
I MAY as well tell the boys now that my mother was a widow, and a woman of great firmness and decision of character, and of deep piety. When she said anything, she meant it, and yet she was always gentle. One time in the fall of the year, when I was about fifteen years old, I was out in the yard trying to move a heavy stick of timber. I asked my brother, then twelve years of age, to help me; but he stood still and laughed at me, while I almost strained my eye-balls out of my head. At last I lost my temper, and picked up a switch and gave my brother a whipping. That was one thing mother did not allow—she did not permit one child to whip another on her place. When she heard the quarrel, she came out of the house and gave brother a good thrashing, and made him help me put the timber in place, and then said to me:—

"Now, my son, I am going to whip you for whipping your brother."

I had not had a whipping for a long time, and had begun to feel like a man. I had no idea of taking a whipping. I had violated one of mother's rules, but the provocation had been a great one to a boy. True, if I had gone five steps to the door, and told mother, she would have adjusted matters, and made brother do what I wanted him to do. Instead of this, I had assumed authority, had taken the law into my own hands, and had done what I knew my mother did not allow.

I said, "Mother, you shall not whip me."

"But I shall do it, my son," she replied, and started toward me with a purpose in her eye. I got out of her way; and, bad boy that I was, I turned my back upon home and mother, went off about four miles, and hired myself to a clever, thrifty, well-to-do farmer, for five dollars a month. I told him what had occurred, and how I had been outraged at home, and that, too, by my mother. He told me I had done wrong, and that I ought to go back home; and he proposed to go with me and intercede for me. I was too



much like my mother to yield just then. I went to work, but was not happy. I lost my appetite, and could not sleep. I grew worse and worse, but hoped all the time that mother would send for me, apologize, and take me back "scot free;" but I heard nothing from her. I began to feel that I needed mother and home more than mother and home needed me—a lesson some boys do not learn until it is too late. At the end of the week, on Saturday morning, I told my employer I wanted to go home. He approved my purpose, and kindly offered to go with me; but I preferred to go alone. He paid me for my week's work, but I hated the money. It felt like lead in my pocket, and grew heavier and heavier as I got nearer home, till finally I pulled it out and threw it as far as I could send it into the woods. I did not go home in a hurry. It was four miles, and I was four hours on the way. I hesitated, and turned back, and resolved and re-resolved. The better voice in me said, "Go home, and yield to your mother, and obey her;" but some other thing said, "I would die first."

Those who have never been in the shoes of the "prodigal son" do not know what an effort that trip home cost the poor boy, nor how long he was making it. When I felt that I could go no further, I knelt down and prayed. That always helped me; I felt firmer afterwards. The last hundred yards before I got home seemed a mile long. If it had been night and no light burning, so mother could not see me, how glad I would have been; but there it was, a beautiful, sun-bright day in the calm, cool November. Oh, how black the bright light makes a guilty heart look! The last hour before day is said to be the darkest hour.



When I got near enough to hear, my mother was singing—

"Jesus, lover of my soul,  
Let me to thy bosom fly."

Ah, that song! What mingled feelings it stirred in my heart, and how appropriate it was! Hope and shame had a struggle, but hope prevailed just as I reached the kitchen door where mother was setting the table for dinner.

"Good morning, my son," she said, just as pleasantly as I had ever heard her speak in all my life. "Come in," she continued, "have a seat," setting a chair for me. "I hope you are well, my son?" That word "son," it hurt me; I was not worthy of it.

"Very well, I thank you"—I did not venture to say "mother." Are all well?" I asked.

"Well, thank you, my son," and she went on chatting away just as pleasantly as if I were a neighbor who had called in. I wanted to tell her my sin and shame, but did not know where or how to begin. Dinner was soon ready, and mother asked me to dine with her, with all the politeness and deference due a visitor.

When seated at the table, mother said, "Will you please say grace for us?" That was the worst. The words choked me, though I had been accustomed to asking a blessing for a year or two. I could not eat; I was too full already. Mother hoped I was well. I told her I was.

When dinner was over, I said, "Mother, what work do you want me to do?"

"None at all, my son; I do not expect visitors to work for me," she answered.

"But, mother, I have come home, and want to go to work, and quit this foolishness," I said.

She replied firmly, "Well, my son, to be candid with you, if you will now take a whipping, you can stay; but if not, you can have your clothes and leave."

I jumped up and pulled off my coat and vest, and sat down with my face toward the back of the chair, and my back toward mother, and said,—

"Well, mother, I will take the whipping, and stay at home with you. So get your switch and give it to me."

Then mother burst into tears, caught me in her arms, and said,—

"That will do, my son," and she dropped on her knees and prayed. Oh, that prayer! It lingers yet like the refrain of some old song, grand with the melody of heaven. I then had a home and a mother, and was about as happy as boys ever get to be in this life. Now, boys, I'm ashamed of my sin to this day, but I am so proud of my mother I thought I would tell you this story.—*Selected.*

#### SUMMER.

ALL the birds are here again,  
Winter's gone, and storm and rain;  
No more frost, and no more snow;  
So sing merrily, merrily O.  
Now the sun is shining bright,  
All the day from morn till night;  
Flowers bloom where'er we go,  
So sing merrily, merrily O.

Written for the INSTRUCTOR.

#### HOW BROOMS ARE MADE.

THE first brooms made in this country were manufactured by the Shakers at Watervliet, New York, about the year 1798, and were readily sold at fifty cents apiece. For many years this business was confined almost exclusively to the Shakers, and they gained so good a reputation for making a substantial broom, that even to-day their brooms are, in many localities, preferred to others, although they are really no better.

The first brooms were tied with twine instead of wire, as at the present, and were clumsy and uncouth in appearance. The broom maker, seated in a chair, had his twine wound on a round stick and placed between his feet. The handle for the broom rested upon his lap, and the brush was placed under the twine and rolled round the handle, the twine drawing it down tight, the tension coming from the stick under the feet. We can imagine that in this rude way no very nice broom could be made nor a great many in one day.

But the fertile brain of the Yankee could not long endure such a primitive method of doing things; and a few years later other ways were devised for more rapidly making better and neater brooms. One machine after another was invented, each an improvement on those that had gone before, until we now have a very convenient one, which is used by nearly all broom makers.

The very first thing to be done toward making a broom is to soak the brush in water so as to make it pliable, and then to place it in a tight box, or house, made on purpose, in which a small quantity of brimstone is burned. The smoke of the brimstone bleaches the brush, and makes it look brighter and fresher than before. After bleaching, the brush is laid upon a bench and sorted over for lengths and grades. The longest stalks are called *hurl*; the next in length, *covers*; and the remainder, inside, each intended for a different place in the broom.

The *hurl* stalks are taken by a man or boy, who, with a sharp knife, cuts off the butt-ends of the stalks in such a way as to leave a portion of the splints still fast; these splints are then separated from the part cut off, and, after the coarse center stems are picked out, are ready to form the outside covering of the broom.

Each broom maker has a machine so constructed as to hold his brush ready for the broom, the handle, the tools

to work with, and a spool upon which the wire is wound. Everything ready, the broom maker first puts the handle in the barrel of the machine, and secures it with a thumb-screw. The wire, which is on a spool directly in front of the workman, and within easy reach, is then fastened on the end of the handle, and is of such tension as to securely hold the broom. This done, a small handful of brush is placed under the wire, and by means of a foot treadle the handle is made to revolve, and the brush is evenly distributed. Another handful is then placed on one side of the broom, and another on the opposite side, to form the shoulders. The workman then seizes a large, sharp knife, and trims off the stalk ends in such a manner as to form the shoulders, the whole being wrapped with wire.

Over this is next placed another covering, composed of the second length brush, called *covers*. These are dextrously wound around the handle in such a manner as to cover up the rough edges made by cutting the shoulders. Over this is placed the last finishing coat, the *hurl* above-mentioned. Some broom makers take great pride in showing their skill by weaving and braiding various devices on the neck of the broom with the *hurl*, finishing the broom very handsomely.

When the broom leaves the hand of the tier, it appears to be round. It is then pressed in a vice and made flat, ready to be sewed. The man who does this has on each hand a cuff, in the palm of which is a steel plate; and with a long needle pointed at both ends, and the eye in the center, the string is sewed through and through the broom. The ends are then trimmed off, and the broom is done. A smart workman can make from four to five dozen brooms a day, when the brush is prepared for him.

Brooms are manufactured largely in Chicago, St. Louis, Mo., Amsterdam, N. Y., and in many other cities in the United States, and besides there are many small factories all over the country. In some States, brooms are made by prisoners in the state-prisons, and even by the blind in the asylums; but of course these are not so neatly made as those of other factories.

When you select a broom at the store, you should pick for one that is green and fine and not very heavy; and when not using it, you should hang it up, or set it up on the handle, and not on the brush end.

Now, I do not expect that from this brief description of broom making any of you could go to work and make one. You would have to educate your hands to apply the brush, just as you would have to have the practice to do any piece of work. First theory, and then practice. I have given you theory, and leave you to get the practice.

C. S. VEEDER.

#### BLIND TOM IN INDIA.

Is there one who has not heard of Blind Tom? No one ever listened to his playing without being lost in wonder. But there is another blind Tom. I heard of him for the first time last evening. A native of India, who speaks the English language as well as you or I can, told us about the wonderful continent he lives in.

I was deeply touched when he told us about his blind Tom. Tom is a man who has been blind for many years. He learned to speak English without much trouble, for he had nothing else to do. The teacher who told us his touching history said that Tom heard from him the wonderful story of Jesus and his love, and believed it. He came one day to his teacher and said to him:—

"Teacher, I want something."

"Well, Tom, what is it?"

"Why, teacher, I want to learn to read."

"But, Tom," said his teacher, "I can't help you."

"Why not?"

"Because you can't see, and we have no books for the blind."

"But, teacher, can't we pray to God to put it into the heart of some one in your country to send us a book in raised print?"

"We can try it," said the teacher.

But that teacher did not really expect such a book. Tom did. He prayed in earnest.

Two or three months after this interview, a ship came in from America. She brought supplies for the missionaries. But what is that package? It looked like a large book. When opened, it proved to be the gospel according to St. John in raised print for the blind. No one in America had ever heard of blind Tom in India.

The good teacher sent for him at once. "Tom," said he, "what do you think of this?"

"Think of it?" said Tom; "why, I knew it was coming."

Then Tom began to learn a letter at a time in raised print. Of course he soon learned to read, for his heart was in it. But that was not enough. He had an object in view. He must tell others the wonderful truth he found in his precious book. He went from village to village, and crowds came to hear him.

It was a strange sight to those heathen when they saw a blind man reading English words with his fingers and translating them into their language.

God blessed his labors among his ignorant countrymen. They sometimes gave him money. Every little while he comes in and says, "Teacher, here is something for Jesus; take it and use it for him." And then he lays down a rupee. The coin is worth about fifty cents.

To-day, blind Tom in India is giving more money for missionary purposes than many rich men in this country are giving.—*Selected.*

#### STUDYING GOPHERS.

THERE are many important matters which turn upon little things, and those who have eyes to see *little things* will frequently be able to settle and decide questions of the greatest importance.

When Abraham Lincoln was a young lawyer, he was employed in a case in which the question at issue concerned the boundary of a piece of land on a prairie. As there were no trees or stones on the prairie, the surveyors used to fix the corners of lots by shoveling up heaps of earth; but the gophers, or prairie squirrels, also threw up little heaps of earth over their houses, and so in this case the question was whether the mound had been heaped up by the surveyor or the gopher.

Abraham Lincoln endeavored to go to the bottom of the matter, and sent to New York for books on natural history, and studied up the habits of the prairie squirrel; and when the trial came, he went into court and told the judge and jury the difference between the surveyor's mound and the gopher's. The gopher, careful of the comfort of his little family, used to beat down the roof of his house firmly, and make it slope to a *point* in the middle, so that the rain would run off. The surveyor had no such anxiety, and so would leave his mound flat or irregular on the top. This little difference of course had a very important bearing on the case in hand.

When the trial was over, the judge, Stephen A. Douglass, went to Lincoln's office, and found him with his books, still studying the habits of the gopher. They spent the evening together over the books, little thinking that in future days they would be pitted against each other as antagonists, and that one of them would be president of the United States. But the painstaking care of Abraham Lincoln, which led him to study the habits of the gopher to win his case at law, went with him all his life, and made him a faithful and successful man.—*Sel.*

#### THE ART OF LISTENING.

WE learn more by listening than by talking, as a cistern fills up by what runs into it, and not by what runs out of it. Yet few good listeners can be found. To be a good listener does not mean that we should never speak. A cistern that never gives out is not only useless, but its contents grow foul. To be a good listener it is necessary to keep the mind on what is being said, and not let it wander all over the world. Some persons are continually saying what shows that they have not been listening at all.

Never talk, except to ask a question or show approbation, *when some one from whom you can learn anything is willing to talk.*

If you can't see what is meant, after the speaker has paused, politely ask for further explanation. And when the conversation is over, go to any book or dictionary that you may have at hand for more light.

Never, in the presence of others, correct persons older than you are. You may be wrong. You may hurt their feelings. If you think they are mistaken ask them privately, if you know them well enough; and they will thank you.

When they cease speaking, if you have anything to say, proceed with it, and be sure not to carry it too far. The beauty of conversation is not to wear one thing out, but to have new subjects springing up all the time.

When the company breaks up, ask yourself these questions:—

What did I hear that was new to me, and who said it?

What did I find was wrong that I had thought was right, and what right that I had thought was wrong?

Listen in this way, and you will learn to the last day of your lives.

But those who understand the art of listening are not so numerous as those who can merely keep still.

And those who can keep still are not nearly so many as those who cannot.—*Christian Advocate.*

#### LIGHT.

THE purest thing that nature knows,  
The purest thing that God hath shown,  
Is light, that paints the blushing rose,  
And veils the Father's blazing throne.

—L. L. Turney.

#### IT'S WHAT YOU SPEND.

"It's what thee'll spend, my son," said a sage old Quaker, "not what thee'll make, which will decide whether thee is to be rich or no." The advice was right, for it was but Franklin's in another shape, "Take care of the pennies, and the pounds will take care of themselves." But it cannot be too often repeated. Men are continually indulging in small expenses, saying to themselves that it is only a trifle, yet forgetting that in the aggregate it is serious, that even the sea-shore is made up of petty grains of sand. Ten cents a day is thirty-six dollars and a half a year, and that is the interest of a capital of six hundred dollars. The man that saves ten cents a day only, is so much richer than he that does not, as if he owned a life estate in a house worth six hundred dollars. Every sixteen years ten cents a day becomes six hundred dollars; and if invested quarterly, does not take half that time. But ten cents a day is child's play, some will exclaim. Well, then, John Jacob Astor used to say, that when a man who wishes to be rich, has saved ten thousand dollars, he has won half the battle. The advice here given should be dearly cherished by every little boy and girl in our land. Much good would result therefrom.



## The Sabbath - School.

### FIRST SABBATH IN JULY.

#### IMPORTANT BIBLE SUBJECTS.

##### LESSON 11.—UNDER THE LAW.

[NOTE TO THE STUDENT.—Do not consider the lesson learned until you can give at least the substance of every text, with the correct reference for each. The references in black letters indicate those texts that should be committed to memory. A little diligent application each day will enable you to learn them, although this need not be considered a test of scholarship.]

1. WHAT exhortation does Paul give in Rom. 6:12?
2. What is sin? 1 John 3:4.
3. Then what does the apostle really warn us not to do?
4. Where is this exhortation repeated? Rom. 6:13, first part.
5. If people heed this exhortation, what will have no dominion over them? Rom. 6:14, first part.
6. If a person sins, what does he transgress?
7. Then if sin has no dominion over him, what does he keep?
8. What does Paul say to those who thus refrain from sinning? Rom. 6:14, last part.
9. Will those sin who are not under the law but under grace? Rom. 6:15.
10. Speaking to those who are not under the law, to what does Paul say they had formerly been subject? Rom. 6:17.
11. But now, being not under the law, from what are they free? Rom. 6:18.
12. Then what must be meant by being "under the law"?
13. What do those who are free from sin, or who, in other words, are not under the law? Rom. 6:18, last part.
14. And what is righteousness? Ps. 119:172.
15. Then if people are not under the law, what do they do?
16. Under what must they then necessarily be? Rom. 6:14, last part.
17. Why? John 15:4, 5; Heb. 4:14-16.

#### NOTES.

"SIN is the transgression of the law;" therefore when Paul warns us against letting sin reign over us, he warns us against transgressing the law. And since when a person sins, he transgresses the law, it follows that when sin has no dominion over him, he obeys the law.

In speaking to those who are not under the law, Paul says that they had formerly been the servants of sin (Rom. 6:18), but that now they are "made free from sin." Now if when they are not under the law, they are free from sin, it necessarily follows that when they were under the law, they were servants of sin. "Under the law," therefore, is equivalent to being in a state of sin. And so if people are not under the law, they keep the commandments. But the commandments can be kept only by the help of Christ; and this help is given by the grace of God (Heb. 4:16); therefore those who are not under the law are under grace.

#### ONLY A BROOK.

THAT brook is hurrying away, splashing, and dashing, one crystal ripple mirroring the next, rounding gracefully a ledge, lingering and hiding in a deep cool recess, then flowing out again to chatter away as it meets a bank of pebbles, and then finally disappearing beyond a clump of birches. A capitalist comes along, and sighs as he exclaims, "How much wasted power here!" If only guided, it might unite with another brook, and then what a hum of the spindles would be heard where bees and birds now make the only music!

"Only a boy!" we say. "Only a girl!" It is just youth with its thoughtless fun, its vivacity, its energy, its enthusiasm, its intense vitality. Save, develop, use these forces. Guide these brooks. No service to society and to the church is more important than that of the man or woman who saves mental and moral power, gathers it up, and directs it toward the best ends. No work is grander than that person's who encourages a boy's industry, who teaches him to be honest, manly, temperate, pure; who stimulates his sense of duty toward God, and helps him to be reverent, prayerful, loyal. Only a brook, but to how many useful wheels this now wasted power might be attached, and how effectively it might drive them!—S. S. Journal.

A SUCCESSFUL school should be an increasing school. Not so much that its number should increase, as that there should be new faces to be met, new hearts to be touched, new hands to be shaken. In every school there is the decreasing side. Scholars leave, because of removal, or because they think they have outgrown the school; and some are taken away by death. New scholars should be obtained to take their places. A large school is not necessarily a successful school.

It is in childhood that we find the germs of a man's true character, and commonly it is found that both his character and his course in life are given their supreme direction before he is seven years old.—H. C. Trumbull.

## Our Scrap-Book.

#### BELIEVE AND TRUST.

BELIEVE and trust. Through stars and suns,  
Through all occasions and events,  
His wise paternal purpose runs;  
The darkness of His providence  
Is star-lit with benign intents.

—Atlantic.

#### NATURE'S FANCIES.

AN examination of Nature's handiwork reveals her wonderful architectural powers; that she not only builds grandly and beautifully, but as often curiously. We have already, at different times, given you specimens of her singular designing, and there is seemingly no end of such, prominent among which are the Giant's Causeway in Ireland, the Natural Bridge in Virginia, the profile of Washington in the White Mountains, etc. A writer in a recent exchange notices something which has the appearance "of a gigantic, glittering white cross, reposing on the somber slope of a distant mountain-peak," in crossing the Rocky Mountains at a certain point. He says "the cross is made by two intersecting gorges so deep that the snow never melts in them." And he further remarks:—

"In our Western country many a traveler has been startled by seeing, not far off, the peaks, turrets, and roofs of a walled city, such as was common in the Middle Ages in Europe. A closer inspection proves the supposed city to be nothing but a mighty mass of rock, so marked and scored as to appear the handiwork of man.

"Very recently an explorer in South America came upon a startling deception of somewhat the same order. While crossing the Andes, from Chili, his eye suddenly fell upon two series of towering waves, chasing each other over the mountains, and each moment threatening to break in an overwhelming flood over the whole country.

"An exclamation of alarm broke from his lips before he had time to assure himself of the impossibility of the waves' being real. An examination proved them to be strata of rock, upheaved and curled into their singular form during some frightful convulsion of Nature.

"The passage-way between these waves of stone called the Gorge Camataqui, is so twisted and grooved that the wind play most extraordinary pranks in it. When the wind is comparatively still elsewhere, it will often be whistling and shrieking furiously in there. At other times it will gather great clouds of dust and keep them whirling about over the gorge for days, completely obscuring the sun."

And so, had we space, we might enumerate, almost indefinitely, the strange, impressive outlines Nature assumes in her workmanship.

#### A NEWSPAPER OFFICE IN JAPAN.

THE office of the *Nichi-Nichi Shinbun*, a Japanese newspaper, is thus described: "The feature of the *Shinbun* office was its type case—for there was only one of body type. And such a type case! It is divided, for utility, into two sections, sloping toward an alley five feet wide. Each section is four feet wide by thirty feet long—four by sixty feet. There's a new case for you! This is divided into small compartments or boxes, into which the type is laid in regular piles, several piles in a box, with faces all toward the compositors, who are mostly boys, big and little. Each holds a wooden 'stick,' with brass rule. The type are all of a size; the 'stick' is not set to the measure of the column, which is twenty ems pica, but to about half the measure, it being the business of the other workmen to impose the lines in columns, take proof, and make up forms.

"The type-setting was equally curious. Armed with 'sticks' and rule and copy, the dozen compositors read the last in an earnest, sing-song way, each rushing to some box, far or near, for the needed letter, then back ten or twelve feet to the needed one; all are on the lively move, rushing and skipping to and fro, right and left, up and down, singing the copy, catching one letter here, another there, prancing and dodging, humming and skipping—a perfect maze of noise and confusion, yet out of confusion bringing printed order! It was a sight to be seen.

"How many different characters are there in this case, anyhow?" we asked our guide. Then our guide asked the printers, and none could answer better than say: "Nobody knows, sir. Nobody knows—many thousand." Later on we repeated the same question to a more intelligent person, who said: "At least fifty thousand." That will account for the remarkable size of the case, and the racing to and fro of the compositors.

"Just why they sing their copy all the while was not made so clear, other than the remark that it was the custom. Tokio monopolizes the Japan newspaper business, there being only one other point—Kofu—in Eastern Japan where newspapers are printed. The masses of the people are able to read in their own way, but comparatively few can grasp the full flow of Chinese characters. In point of illiteracy, the statistics place this nation at only seven per cent, or next to Bavaria, which is the lowest on the list."—*Pall Mall Gazette*.

#### THE CREATOR'S WATER-WORKS.

A LARGE proportion of this world is water, . . . which is the most wonderful element we know, and its wonders are as yet but dimly understood. Without its presence in our atmosphere, everything must be parched to aridity and desolation; hence some method is needful by which water can be constantly lifted up into the air. This can be done by the sun's drawing water directly from the oceans and seas; but the land needs water still more, and so the habitable earth is covered with the most marvelous system of water-works imaginable.

Says a writer in *Science for All*, "All plants give off their moisture from their leaves, even though this is invisible to the eye, just as our skin is always perspiring, though the sweat may not stand in drops. This can be seen if a plant is grown under a glass shade in such a manner that no evaporation can be given off by the earth or water in which it is grown. Nevertheless, in a few hours the inside of the glass will be dimmed by the moisture given off by the leaves, which has condensed on it. Calculations have been made as to the amount of water thus perspired by plants. A sunflower, only 3½ feet high,

with 5,616 square inches of surface exposed to the air, gives off every twelve hours twenty to thirty ounces avoirdupois of water in this form—which is more than a man does. Most of the common agricultural plants, such as wheat, peas, and clover, exhale during the five months of growth more than two hundred times their weight of water. The Cornelian cherry is still more remarkable. In the course of twenty-four hours it exhales water equal in weight to twice that of the whole shrub. Naturally, the degree of light, warmth, and dryness of the air affects the amount of fluid given off, as well as the age and texture of the leaf. However, a calculation of the amount of fluid perspired by an acre of cabbages may be curious. If the cabbages are planted in rows 18 inches apart and 18 inches from each other, it is estimated that in twelve hours no less than 10 tons, 4 cwt., 3 quarters, and 11 lbs. weight of water will have been insensibly perspired by their fleshy leaves.

It is estimated that a good-sized tree throws off eight barrels of water into the air in a day, and that an acre of forest throws up eight hundred barrels of water in twenty-four hours.

This water is drawn from the earth, and in it all the elements of nutrition are held in solution. It brings all these up into the tree or plant, and leaves them there, thus adding to its substance, while the pure, distilled water passes off to cool the air, condense again into rain and dew, and thus return to the earth once more.

Suppose this process continued the whole year round? Then in the winter the face of the earth would be buried in snow and ice. So in the autumn the evaporators, or leaves, drop off, the water-works cease to operate, and the machinery stands still till spring returns.

When a country is stripped of vegetation, then the water is evaporated directly from the soil; the clouds grow dry, the sands become arid and desert, the air is dry and hot, and death and desolation brood around.

Hence all plants and trees are ingeniously devised water-works, and from the forest trees to the smallest herbs and grasses, all operate to moisten and cool the air, fertilize the earth, and make it fit for the habitation of man. Be careful, then, how you cut down the Lord's water-works.—*The Little Christian*.

#### HOW THE OYSTER MAKES HIS SHELL.

NOT the least of the wonders of that marvelous book of nature is the formation of the oyster-shell. If you would take a pair of these shells in your hand to examine while reading the following description of their process of growth, as published in the May number of *Popular Science Monthly*, it might awaken in some minds a desire to know more of God's work of creation. The editor of this magazine thus writes:—

"Prof. Samuel Lockwood, in a recent lecture before the New York Microscopic Society, thus answers one who wishes to know how the oyster makes his shell. Beginning with the hinge-end, at a point of the shell above the hinge, he says, 'a small plate, or single scale, now represents each valve, and that is the first season's growth. The next season a new growth, or plate, shoots out from underneath the first one, just as shingles do. The oyster-men call these laps, or plates, "shoots;" and they claim that the number of shoots indicates the years of the oyster. They certainly do contain a record of the seasons, showing the slow-growing and the fast-growing seasons. . . . I have likened these shoots to shingles. Now, at the gable of a house, the shingles may be seen edgewise. So on the side of an oyster-shell is a series of lines. This is the edgewise view of the shoots, or season-growths.

"Another factor" in solving the age of the oyster "is the purple spot, or scar, in the interior of the shell. It is the place of attachment of the adductor muscle," that which serves to draw the valves together. This muscle was first attached "close up to the hinge. Had it stayed there until the shell had become old, how difficult would be the task of pulling the valves together!—the leverage to be overcome would be so great. [Here the boys and girls have an opportunity of philosophizing on the use of the lever]; for we must bear in mind the fact that at the hinge-end, the valves are held by this black ligament, which is, in life, elastic, swelling when the shell opens, and being compressed when the animal draws the valves together. So, with every year's growth, or elongation of the shell, the mollusk moves the place of attachment of the muscle onward, that is, in advance farther from the hinge. As it does so, it covers up with white naure [a substance with which some shells are lined] all the scars that are back of the one to which the muscle is now attached."

"To make the likeness of the oyster's shoots, or season-growths, with the shingles on a roof complete, 'it would be necessary for the bottom shingle on the roof to underlie the whole series, and reach even to the roof-tree, or ridge-pole. Then the second shingle from the gutter must in like manner underlie all the rest of the series; so of the third, and so on with the rest. In this way lie the shoots or laps of the oyster's shell. The last one deposited underlies them all, and every one terminates at the channel in the bill; thus this groove in the bill contains a series of transverse lines, each one marking a season, or a year.'" So that from the way the shell is made "we get really four factors for the solution of the question, 'How old is the oyster?'"

#### WHAT A SPIDER DID.

A SPIDER, as shown by means of actually weighing it and then confining in a cage, ate four times its weight for breakfast, nearly nine times its weight for dinner, thirteen times its weight for supper, finishing up with an ounce; and at 8 p. m., when released, ran off in search of food. At this rate, a man weighing 160 pounds would require the whole of a fat steer for breakfast, the dose repeated with the addition of a half-dozen well-fatted sheep for dinner, and two bullocks, eight sheep and four hogs for supper, and then as a lunch before going to his club banquet, he would indulge in about four barrels of fresh fish. *Ex.*

#### AN AFRICAN PRODIGY.

THE Hamburg Zoological garden has received a full-grown specimen of the *canis pictus*, or spotted wild dog of Africa. The creature is a native of western Transvaal, and in appearance, an astonishing hybrid between a hound and half a dozen other animals. He has the size and general form of a deerhound, the tail of a fox, the black snout of a hyena, and the spots and stripes of a leopard. His voice is a sort of coughing howl, and he paces his cage all day long with the restlessness of a captured wolf.—*Felix L. Oswald*.





## WHO STOLE THE BIRD'S NEST?

TO-WHIT! to-whit! to-whee!  
Will you listen to me?  
Who stole four eggs I laid,  
And the nice nest I made?"

"Not I," said the cow, "Moo-oo!  
Such a thing I'd never do.  
I gave you a wisp of hay,  
But did n't take your nest away.  
Not I," said the cow, "Moo-oo!  
Such a thing I'd never do."

"Bob-o-link! Bob-o-link!  
Now what do you think?  
Who stole a nest away  
From the plum tree to-day?"

"Coo, coo! coo, coo! coo, coo!  
Let me speak a word too;

Who stole that pretty nest  
From little yellow-breast?"

"Not I," said the sheep; "oh no!  
I would n't treat a poor bird so;  
I gave wool the nest to line,  
But the nest was none of mine.  
Baa! baa!" said the sheep; "oh no,  
I would n't treat a poor bird so."

"Caw! caw!" cried the crow,  
"I should like to know  
What thief took away  
A bird's nest to-day?"

"Chirr-a-whirr! chirr-a-whirr!  
We will make a great stir!  
Let us find out his name,  
And all cry, 'For shame!'"

"I would not rob a bird,"  
Said little Mary Green;  
"I think I never heard  
Of anything so mean."

"'Tis very cruel, too,"  
Said little Alice Neal;  
"I wonder if he knew  
How sad the bird would feel?"

A little boy hung down his head,  
And went and hid behind the bed;  
For he stole that pretty nest  
From poor little yellow-breast;  
And he felt so full of shame  
He did n't like to tell his name.

—Lydia Maria Child, adapted.

Written for the INSTRUCTOR.

## "THOU LORD SEEST ME."

WONDER how many of the children stop to think that God always sees them, every hour and every minute? There is not a single thing that they do or say, but what the Lord knows all about it. It seems strange that this should be so, but it really is, for that good book—the Bible—which always tells the truth, says it is so. It says so a good many times, and very plainly, so that we know that it must certainly be true. Here is one text that says: "Neither is there any creature that is not manifest in his sight: but all things are naked and opened unto the eyes of him with whom we have to do." Heb. 4:13. Then every creature, you see, is manifest in the sight of God, and every thing is open and naked, right before his eyes, so that he sees them all the time. God not only sees the earth, and big cities, and great men, but he sees and notices all of the little things, the birds and cattle, and children. There is not one so small, nor so poor, that the Lord does not see him. So the Bible says again: "Thine eyes are open upon all the ways of the sons of men." Jer. 32:19.

Not only does God see us, but he sees right into our minds and hearts, and knows just what we are thinking about every minute, for the Bible plainly says so. Here is one text: "For I know the things that come into your mind, every one of them." Ezek. 11:5. Not a single thing then, children, comes into your mind, but what the Lord knows all about it. How careful you ought to be, therefore, not even to think a wrong, mean thought, much more to do anything wrong. But let us read in the Bible again, in the 139th psalm. "O Lord, thou hast searched me, and known me. Thou knowest my down-sitting and mine uprising; thou understandest my thought afar off." The Lord sees you when you sit down, and when you rise up, and understands every thought of yours. "Thou art acquainted with all my ways." Verse 3. But a little further: "For there is not a word in my tongue, but, lo, O Lord, thou knowest it altogether." Verse 4. The Lord knows every word you speak.

But can the Lord see us in the night? Can he see us when it is dark in our rooms? Oh, yes. The Lord can see just as well in the dark as he can in the light. That seems wonderful, does it not? Yet it is so; for the Bible says, "If I say, surely the darkness shall cover me; even the night shall be light about me. Yea, the darkness hideth not from thee; but the night shineth as the day; the darkness and the light are both alike to thee." Verses 11, 12. Then, we cannot hide away from the Lord in any place. Suppose you go up into your bedroom, shut the blinds, and put down the curtains, and close the door, can the Lord see you there? Yes, indeed; just as well as though you

were right outdoors. Now you blow the light out, and get into bed. It is all dark. Can the Lord see you? Yes; just as well as when the lamp was burning, and he knows just what you do then, and just what you think. Do you know of any animals that can see in the dark? I asked this question to a lot of little children the other day, and they immediately named the cat, and the owl, and the horse, and other animals, and that is so. You know several kinds of animals that can see even better in the night than they can in the daytime. Now, who makes them to see in the dark? Why! the Lord. Then if the Lord can make others to see in the dark, of course he himself is able to see in the dark. So we want always to remember this, wherever we go, whatever we do, and whatever we say, that the Lord sees it all, and he knows all about it, every minute. We all say that we believe this, but I am afraid very few children realize that it is so.

Now, you turn to Genesis, the 16th chapter, and there you will read about Hagar, how she left her home once, and went away out into the woods. She felt that she was entirely alone, that nobody was with her. She sat down and cried. But pretty soon the Lord spoke to her. She had not seen him before, but he had seen her all the time. When she looked up, and saw him, she exclaimed: "Thou God seest me." Verse 13. Then she realized for the first time that the Lord did actually see her all the time. And it is just so with us, children; we do not realize it, but it is true, for all that.

So we read about Jacob, in Gen. 28:16. How he went out in the wilderness and laid down all alone in the dark one night. He believed in God just as we do, but he did not realize that the Lord was there. In his dream, he saw the Lord, and saw the angels of God coming to him. When he woke up, he exclaimed: "Surely the Lord is in this place, and I knew it not." The Lord was there all the time, though he did not realize it. And just so with us, children. The Lord sees us every minute, and we should try to realize it. So, if you are tempted to do some naughty thing, to do something secret, something that you do not want your father or your mother to know, something that you would be ashamed to have anybody know, just stop and think a minute, that the great God sees you just then, and knows just what you are doing. Do this, and it will help you to overcome evil, and to keep yourselves from sin!

D. M. CANRIGHT.

If you love others, they will love you. If you speak kindly to them, they will speak kindly to you. Love is repaid with love, and hatred with hatred. Would you hear a sweet and pleasing echo, speak sweetly and pleasantly yourself.

## Letter Budget.

THE letter box has got so much the start of us we don't see any way of catching up with it only by making the less interesting letters quite short. We don't like this way best when we have a good variety in the letter-box; but there is such a sameness in some of the letters we now have on hand, that it will be better every way to cut them down. Some of you have never written before, but next time you will find it easy to write something which we will have room for. What you have all written is good of itself, but it lacks variety; so you must be treasuring up all the good things you can, to tell us next time you write. We pray often for these dear lambs of the fold, that they may all be securely sheltered from the coming storm. We give you first a letter from—

LILLIAN A. JORDAN, a little girl nine years old, who writes from Aroostook Co., Maine. She attends day school, and Sabbath-school, and her father superintends the latter. She has a little brother five years old. A series of meetings was just begun there. She is trying to be a good girl.

ASHTON LEWIS, of Webster Co., Ky., had only been keeping the Sabbath three months when he wrote his letter. He is eleven years old. Sabbath-school is held at his home, and he enjoys it very much. He learns his lesson in the INSTRUCTOR, and he likes to read the paper. His day school had closed, so he was helping his father about his work.

WESLEY O. BRISTOW wrote his letter from Macon Co., Mo., when he thought the letter box was nearly empty. There are twenty-nine members in his Sabbath-school. He had just finished Lesson Book No. 2. He loves to read the INSTRUCTOR. As his school was out, he employed his time chopping wood. He is twelve years of age.

MAY A. MAXWELL, of Carroll Co., Ind., who is seven years of age, is regular at Sabbath-school and studies Book No. 1. Her papa is her teacher. She has no sister, but she has ten brothers, and all but the oldest keep the Sabbath. She sends love to the INSTRUCTOR family.

NEXT comes a letter from DUDLIE DORTCH, of Henry Co., Tenn. He writes: "I am eight years old. I have one brother. His name is Freddie, and he is five years old. We all go to Sabbath-school. I study in Book No. 3, and Freddie studies in No. 1. We thank you very much for the good little paper. I worked for papa the week before Christmas, and got twenty cents for a Christmas offering. We have a mare and a filly, seven head of sheep, and one little lamb. We have two cows. The oldest is named Pet because she is such a little pet. Since I began my letter, papa and four others have been prosecuted for working on Sunday, and will be tried soon. I am afraid papa will have to go to prison. If he does, I want the INSTRUCTOR family to pray that the Lord may preserve him."

Because Dudlie was in trouble, we thought you would like to read all of his letter. It is more than four months since his letter was written, but we do not know whether his father's trial has come off yet or not. Surely you will remember these dear friends, and any others who may be exposed to prison-life, and pray that God may deliver them from evil.

SPERRY H. WINN, writing from Grant Co., Wis., says his uncle sends him the INSTRUCTOR now, but he is saving his money to subscribe for it himself. His mother keeps the Sabbath, and he hopes his father will soon. Says he wants to keep it too, so he can live in the new earth. He has three brothers, and two of them had the chicken pox at the time he wrote his letter, and he had such a severe burn on his own hand that he got some one to copy his letter. We hope they are all well now, and faithfully keeping God's law.

BERTIE E. HOBSON, who lives in Daws Co., Neb., says he likes the INSTRUCTOR so well he wants to write for the Budget. He likes his home, which is in a hilly country, surrounded by pine forests. His father has held Bible readings, and now several are keeping the Sabbath. He has four sisters, but no brothers. He likes to read the INSTRUCTOR, and would like to see all its readers together. He is ten years old. Says they have five cows and two calves.

HARLEY NOURSE, a little boy about eight years old, writes from Rome, N. Y. He is a little student both at school and Sabbath-school, and wants to be a good boy. He says: "We used to live on a farm, where we kept cows and horses, some hens, and a cat. I do n't think you could read my writing, so my sister will copy this for me."

## THE YOUTH'S INSTRUCTOR

IS PUBLISHED WEEKLY BY THE

S. D. A. PUBLISHING ASSOCIATION,

Battle Creek, Mich.

Mrs. M. J. CHAPMAN, - - Editor.

Miss WINNIE LOUGHBOROUGH, Ass't Editor.

The INSTRUCTOR is an illustrated, four-page sheet, especially adapted to the use of Sabbath-schools. Terms always in advance.

Single copy, - - - - 75 cts. a year.  
5 copies to one address, - - - 30 cts. each.  
10 or more copies to one address, 50 cts. each.

## SPECIAL PREMIUM OFFER.

## GOLDEN GRAIN SERIES.

For every new subscription, accompanied with 85 cents, we will give "The Golden Grain Series," consisting of a package of ten beautiful pamphlets of 32 pages each. These comprise a choice collection of sketches, stories, poems, etc., adapted to the wants of children, and contain more reading matter than can be found in many dollar books. Remember, the whole series, 320 pages, and the INSTRUCTOR for a year, for 85 cents.

Address,

YOUTH'S INSTRUCTOR,  
BATTLE CREEK, MICH.,  
Or, PACIFIC PRESS, Oakland, California.