

THE YOUTH'S INSTRUCTOR

REMEMBER NOW, THY CREATOR IN THE DAYS OF THY YOUTH.

VOL. XLVII.

BATTLE CREEK, MICH., JUNE 1, 1899.

NO. 22.



THE HAGUE.

It seems as if the prophet Jeremiah must have had a view of our day when he spoke of a people saying, "Peace, peace; when there is no peace." Not many months ago there was proposed a peace and disarmament conference of representatives from the leading nations of the world, with the ostensible purpose of bringing about universal peace, and yet at the same time the very ruling power that has proposed and furthered this move has been, and continues to be, the most eager and active in extensive preparation for war. What, then, did the czar of Russia, that most despotic of all civilized rulers on earth, mean by his proposed "peace conference"?

The 18th of May was the day when this peace conference convened. It was made up of delegates from all the leading civilized powers of the world. Our own government sent no fewer than six prominent men to represent its interest in bringing about that much-desired universal peace. There were Andrew D. White, educator, historian, and diplomat; Stanford Newel, a typical Western citizen; Seth Low, administrator; Alfred T. Mahan, interpreter of naval history; Captain Wm. Crozier, military inventor; and Frederick W. Holls, lawyer.

The place selected for this extraordinary convention was the beautiful city of The Hague, in southern Holland; and the purpose of this article is to give the readers of the INSTRUCTOR some idea of this noted place. It lies about thirty-six miles from Amsterdam, thirteen miles northwest of Rotterdam, and two miles inland from the North Sea. In 1874 the total population was stated at 94,895.

Though Amsterdam, from its size and importance, is looked upon as the commercial capital of Holland, The Hague is the real governmental capital, being the residence of the ruler and the foreign ambassadors, and also the place for all diplomatic and legislative assemblies, in this respect corresponding to our Washington, D. C. On account of its political character, the population is largely made up of government officials, members of the nobility, and of the army and the navy. Broad, regular streets, extensive avenues and drives, and spacious squares, all beautifully lined with trees, also

Spaniards. In 1576 it was restored by William I, and became, in 1584, the seat of the sessions of the states of Holland. Important conventions of European powers have been held at this place from time to time. In 1808 it became the seat of the government administration. Such, in brief, is the history of The Hague.

In the center of the city stand the buildings of the court, the oldest of which date back as far as 1249. A beautiful Gothic building, with towers at each corner of the façade, contains the historic knights' hall, a noble chamber one

hundred and thirty feet in length, sixty-two feet in breadth, and sixty-nine in height. Among the public institutions may be mentioned the royal library, with upward of one hundred thousand volumes, and a valuable collection of manuscripts, coins, and gems; the museum, with many wonderful antiquities and curiosities; the royal picture-gallery; the Vyverberg hotel, which also has a fine collection of curiosities; the town museum of antiquities and modern art; the zoological gardens, founded in 1862; the royal school of design and music; and



VIEW OF VYVERBERG.

numerous shady canals, large and beautiful buildings,—these, in brief, constitute the general features of the city. It is described as "the handsomest, the most fashionable, and the most modern-looking" city in the Netherlands.

The Hague is mentioned as early as 1097 in a document by Count Floris II, and seems originally to have been a shooting-lodge, or hunting-park, of the counts of Holland. During the reign of William II it became the residence of the court. In the fifteenth century it attained the importance of a town, though frequently called a village, even down to the time of Louis Napoleon. In 1479 Austrian soldiers put the place to ransom; in 1525 Johannes Pistorius suffered martyrdom there; in 1528 it was plundered by the people of Guelderland; and in 1572-4 it was laid waste by the

the new buildings for arts and sciences, erected in 1874. Of the twenty or more churches, the Groote Kerk (Great Church) is architecturally the most noted, being three hundred feet long and one hundred and fifty-four broad, with a lofty hexagonal tower, in which is a carillon of thirty-eight bells. This church was founded in 1308. The country around the city is embellished with many handsome residences.

The industries of the city are printing, lithographing, metal-founding, silk-dyeing, carriage-building, cabinet-making, distilling, and a few others.

From the city leads a broad causeway, beautifully skirted with trees, to Scheveningen, a favorite bathing-place on the seacoast.

From a large book on the world's great nations we quote the following:—

Notwithstanding the drawbacks of its situation, it is a splendid town; the public buildings are stately; the streets broad and regular, well paved with small bricks, traversed by canals, crossed by bridges, and lined with trees; and surrounded by a moat with drawbridges. The principal streets are the Voorhout, containing many fine hotels; the Prinsengracht, Kneuterdyk, and Noordende. A trifling rise of the ground here, dignified with the name of a hill, forms the site of the Vyverberg (the hill of the pond), which is a square, planted with trees in formal avenues on one side, forming the public promenade, with the pond on the other. . . . Tame storks are seen parading about the fish-market; and a residence something like a dog-kennel has been built for them."

Between the Vyverberg and the Binnenhof lies the prison gate-house, in which Cornelius de Witt was confined on a charge of conspiracy against the Prince of Orange in 1672, and whence an infuriated mob dragged him and his brother John, who had been induced to visit him, and murdered them in a most inhuman manner, literally tearing them to pieces. The humble dwelling in which the elder of these brothers lived stands within a few yards of this spot, in the Kneuterdyk. A. SWEDBERG.



"It may be glorious to write
Thoughts that shall glad the two or three
High souls, like those far stars that come in sight
Once in a century;
But better far it is to speak
One simple word, which now and then
Shall waken their free nature in the weak
And friendless sons of men."

LOVE'S LABOR LIGHT.

WE live to love and labor. Labor does not beget love, but love insures labor. Love can not be idle; for labor is the joy and life of love. Love does not merely labor, but *delights* in labor. Love goes about doing something,—doing good,—and she goes, too, with buoyant feet and a glad heart. All true labor is a self-sacrifice, is done for God and our neighbors. In this,—self denial, doing, toiling, for the good of others,—Love rejoices greatly.

If we would live truly, if we would live greatly, we must work, and work hard. God has given to every man his work. Work or starve—starve physically, starve mentally, starve spiritually—is nature's sternest law. But the same kind Father has provided for us the oil of gladness with which to make life's labor smooth, easy, and even delightful. Love does not look upon labor as an evil to be endured, but as a blessing to be enjoyed. Of course mere work, without the fragrance and sweetness and brightness and inspiration of love, is irksome and galling enough. But love takes the most menial service, and transfigures it into a thing of beauty, and makes it a joy forever.

First, I must love Him whose love has called me to labor; then his yoke will be easy, and his burden light. Our gracious Father would have us enter his vineyard, not as mere servants, but as sons. The hireling, the mercenary, in quest of the loaves and fishes, working only for wages, has put his neck under a yoke of bondage,—a yoke that ever chafes and galls. He never sings over his work; for his heart is far from it. His daily work is a daily drudgery, a grinding slavery, from which he yearns to escape. He is a slave simply because he refuses to be lifted up into the glorious light and liberty of the Father's love. Let him once open his mind and heart to the light and warmth and power of his Master's love; and that same love will lift him in triumph from the dark dungeon of the slave into the free, glad sonship of his

Father's house. Dwelling in God, he dwells in love, and henceforth labors in love; and love makes his labor one grand, sweet song.

Love lightens, love lifts, love lets the oppressed go free. Love does not release from toil, but makes toil delightful. Jesus went about doing good, and left his footprints stained with blood; but the song and the trumpet were always in his heart. Love enabled the disciples to count it all joy that they were thought worthy to suffer shame for his name's sake. The soul that labors in love is always jubilant with music. What a spring in his every movement! what a sparkle in his every look! what interest, what eagerness, what hope, fill his soul! The self-sacrificing labor of love will experience some pain, but the pain only serves to give emphasis to the joy. Shall we not, then, put our hearts into the homely duties of our workaday life,—strike them through with the light and fire of love, and thus invest them with that charm, that beauty, that dignity, which ennobled and glorified every act in the one perfect life that this world has seen?

Again: no one can do well what he does not do gladly. Delight in what we do is not a mere luxury, it is a necessity for the more perfect doing of our work. A happy mind is a fertile mind; a glad hand is a deft hand. The exquisite finish of the artist's work is due to the fact that the real artist is in love with his work; he rejoices over it. He begins each day's work eagerly, and leaves it regretfully. It is his meat and drink. This thorough enjoyment of his work deepens his insight, sharpens his wit, whets his ingenuity, quickens his eye, and puts cunning into his hand. To hate one's work is to lose nine tenths of one's power for doing it effectively. Love, making all things easy, delightful, does all things well. Jesus is love, and of him it was said, "He doeth all things well." GEORGE W. RINE.

THE SNAKE AMONG THE BOOKS.

NOT long ago I read of a military officer in India, who one day went to his library to get a book, which he found wedged in between two large books. In moving one of these, he felt a slight pain, like a pin-prick, in one of his fingers. As he turned the book around, to examine it, a small snake was dislodged from its hiding-place. With one dash of his military boot, the snake was killed, and the incident was forgotten until, a few hours later, the officer felt a slight pain in his arm, and noticed that his finger was beginning to swell. In two days he was dead.

There are many snakes among books. They are coiled within the leaves of the pleasing story-book; they are lurking in books for girls, for boys, and for older readers. At first one may not realize that he has taken poison into his mind; but it will make itself felt. Do not think that because a book has a taking title or a pretty cover, it will do you no harm. Too often a poisonous snake lies coiled within, ready to sting. The serpents of infidelity, discontent, disobedience, Sabbath-breaking, and many others, lie coiled between the covers of fictitious books. There are many more good books than you can ever read; then why waste the time given you in reading that which will finally destroy both soul and body?

MRS. MARIETTA CARPENTER.

WHAT TO CULTIVATE.

AN unaffected, soft, distinct, silver-toned voice. The art of pleasing those around you, and seeming pleased with them and all they may do for you. The charm of making little sacrifices quite naturally, as if of no account to yourself. The habit of making allowances for the opinions and prejudices of others. An erect carriage and a sound body. A good memory for faces and facts connected with them, thus avoiding giving offense through not recognizing or bowing to people, or saying to them what had best be left unsaid. The art of smiling at the twice-told tale or joke. A generous heart and hand for all in distress.—*Selected.*



THE WANDERER.

UPON a mountain height, far from the sea,
I found a shell;
And to my listening ear the lonely thing
Ever a song of ocean seemed to sing,—
Ever a tale of ocean seemed to tell.

How came that shell upon that mountain height?
Ah, who can say
Whether dropped there by some too careless hand,
Or whether cast when ocean swept the land,
Ere the Eternal had ordained the day?

Strange, was it not? Far from its native deep,
One song it sang,—
Sang of the awful mysteries of the tide,
Sang of the misty sea, profound and wide,—
Ever with echoes of the ocean rang.

And as the shell upon the mountain height
Sings of the sea,
So do I ever, leagues and leagues away,—
So do I ever, wandering where I may,—
Sing, O my home! sing, O my home! of thee.
—Eugene Field.

MAKING HOME PEACEFUL.

XXVI.

WHAT is it that sometimes, in hours of extreme danger, or moments of unusual trial, comes to us as with a message of warning,—a premonition of impending trouble? Who can say but it may be the touch of the angel whose especial mission it is to watch over us? who knows but it may be a faint whisper from his sacred lips, which reaches our inner consciousness, and in some mysterious manner impresses its message of warning upon our hearts?

"Wait, James! Let me go down,—I must go!" she exclaimed, springing from her bed in nervous haste.

"Why, Ellen! I'll go, of course; what's the matter? you're nervous; you've been working too hard to get Regie ready to go. You'll be sick if you're not careful; now go back to bed; it's quite cold in the room. You need not be alarmed at all. I presume it's John Dillon, on some little matter of business: he often comes late, you know. I'll soon be back," he continued, reassuringly, from the top of the stairs.

Ellen Beardsley sank back upon her pillow and listened. For a moment that seemed an age to the overwrought woman; she could hear nothing but the loud beating of her own heart. Then she was sure she heard Reginald's name and an exclamation of astonishment from her husband.

It was the work of but a moment for the excited woman to throw a shawl about her shoulders and follow her husband. She reached the door of the hall just in time to see him partly lead and partly drag a seemingly half-insensible form across the room to the sofa.

"James! James! is it my boy? What has happened? What is it? tell me, Reginald! O have pity on me! Are you hurt? Has he been hurt, James?"

Her only answer was a stupid stare, accompanied with an oath, and an unintelligible medley of words, uttered with a thick tongue.

"Do I live to hear my son curse me? James! James! I can not bear it!" moaned the wretched woman, wildly wringing her hands, and falling upon her knees by the side of the half-unconscious lad.

Already the nauseating smell of liquor has filled the room, the warmth of which is beginning to tell on the poor boy with sickening effect. Reader, let us draw a friendly curtain over this scene. Heart-breaking as it is, there is many a home that has witnessed its counterpart; many a mother's heart that has felt the numbing pain, the anguish unspeakable, that Ellen Beardsley felt that night. Many a loving father has trembled under a burden of like anguish, as he felt that he was draining to the dregs the cup of bitterness.

It is nearly noon of the next day before, thoroughly sobered and chagrined, the boy awakens. His head is aching still; but as he sees his well-packed trunk standing in the hall, his desire to go is as strong as ever. But he rightly judges that his father will be more determined than he has ever been not to trust him away from home. He is heartily ashamed of his conduct, and deeply regrets yielding to temptation. At last he decides that he will humble himself before his father, and ask him to forgive his folly when he comes home to dinner. This is an unusual resolution for the self-willed youth to form, but he sees no other way out of the trouble. Still he fears that his father will not have confidence enough in him to give him money, and allow him to go. If not, he decides so to work upon his mother's sympathies that she will give him the needed amount; or, should all else fail, he will help himself.

James Beardsley was gratified beyond words to see that his son appeared to sense the shame he had brought upon them, and listened eagerly to his expressions of sorrow and his fair promises. And indeed there was a deal of sincerity in them; for Reginald was not yet altogether hardened in evil, and his sorrow and shame over his conduct were not wholly feigned.

"Uncle Earl will expect me to start to-night, father," he urged; "and I can never do any better as long as I stay here; if I can only get away from the boys, I shall be all right."

"I guess he's right, James," said his mother, sadly. But it was plain to see that she did not speak with her usual assurance. For the first time in her life she questioned the wisdom of her course in training her son. So James Beardsley thought the matter over, and prayed over it earnestly, and finally decided that perhaps it would be as well for the boy to go.

Nevertheless it was a sad home-leaving. Flossie sobbed convulsively: the strong, impulsive lad had always loved the little sister for her very weakness. She clung to him now, until papa unclasped the little white arms gently.

"Brother must go now, little sister. Good-by."

Then the child placed one tiny hand lovingly on the jetty locks, and said, tremulously: "Flossie's going to ask God to let a pretty angel go with Regie, and I guess it won't ever leave him."

"God grant it!" said James Beardsley, earnestly.

Everything went on in about the old way, after Reginald left; and now the snow and ice of winter have melted away, and the early spring violets lift up their brave little faces cheerfully to the passer-by, as if to say: "See! here we are again. God is good; if he remembers us, surely he will not forget you."

Frequent letters from Reginald, and one occasionally from Uncle Earl, told pleasant stories of the absent boy's prosperity, of his diligence in school, and of his success with his studies, until finally James Beardsley began to hope that his fears had been quite unfounded. But unaided human nature is utter weakness.

One morning Grandmother Sharpe awakened with a severe pain in her side. She was almost always strong and well; and as is usually the case in such instances, she feared and dreaded the least symptom of disease, which she watched with wonderful solicitude. But as the weary hours dragged by, it became evident that the poor old woman's case was really serious. She rebelled all day against calling a doctor, on the ground that it would make her appear very ill. There was one thing rather remarkable about her,—it mattered not how querulous and disagreeable she might be in health, it took but an hour or two of pain, or even of indisposition, to render her so kind and good-tempered that the contrast was wonderful. This instance was no exception to the rule. Whether it was fear of death that prompted these sudden reformations, or a real desire to make as little trouble as possible, no one could tell; but let us hope it may have been the latter.

MRS. L. D. AVERY-STUTTLE.

(To be continued.)



PACK-ANIMALS IN MEXICO.

THE accompanying illustration represents a pack-train of mules, laden with corn, ready to start overland. Owing to the scarcity of railroads, and to the mountainous surface of the country, merchandise, machinery, and agricultural and mineral products are largely transported on the backs of horses, mules, and burros. Mules are more used for this purpose than burros, and burros more than horses. Mules and horses travel about twenty miles a day, with a load of from three hundred to three hundred and fifty pounds; and a burro travels forty miles, with about one hundred and fifty pounds' burden.

A well-padded pack-saddle is strapped tightly on the animal, and the load is made into two bundles of equal weight. The mule or horse is blindfolded, so he will not move away as the load is being lifted and secured with rawhide ropes by two muleteers. The mule soon learns



to brace himself with his feet, in order to preserve his balance when the load is being put on his back.

Two mounted muleteers have charge of ten or twelve animals, and they are kept busy hastening from one animal to another, and adjusting the packs, which frequently become disarranged by the mules' running against one another, lying down, or grazing by the way-side.

The pack-animals are put out to graze, when the end of the day's journey brings them to a country town or village; and when they come to a large city, they are put into an enclosure in an inn-yard, and fed straw and corn.

Some of the Indian charcoal-burners carry a load of one hundred and fifty pounds of charcoal on their own backs, as they drive their laden burros to market. The women, who go with the men to make purchases at the market, sometimes carry seventy-five or one hundred pounds of charcoal in this way.

The Bible colporteurs in this field carry their stock of Bibles and Testaments through the country on the backs of animals.

ALFRED COOPER.

THE ALLSPICE-TREE.

THE allspice of commerce is the half-ripe fruit of the beautiful West Indian pimento tree. This tree belongs to the myrtle family, and grows to a height of about thirty feet. It has a straight trunk, covered with smooth bark, and leaves of dark, shiny green. The small white blossoms are very fragrant; and during

July and August, when the trees are in bloom, the air is filled with their perfume.

It is next to impossible to propagate the young plants, or to raise them from seed where they do not grow spontaneously. When a new grove is to be formed, a piece of land near an old grove is chosen, and the timber on it cut down, but left on the ground for a year or two, to protect the young plants. At the end of that time it is cleared away, and the strongest plants are kept. They come to maturity in about seven years.

When the season is favorable, as much as a hundred pounds of dried spice is sometimes gathered from a single tree. The berries are picked when green, and dried in the sun for ten days, changing, during this time, from green to a reddish-brown color. The flavor of the pimento berries is thought by some to resemble that of cinnamon, nutmeg, and cloves; and from this fact it is called "allspice."

FIVE MILES ABOVE THE EARTH.

A MOST interesting balloon ascent was made in September last by Mr. Stanley Spencer and Dr. Berson, when they succeeded in reaching an altitude of twenty-seven thousand five hundred feet.

When released, the balloon shot upward at a great rate, and the two men quickly found themselves at an altitude of two miles above the earth. At that height they could plainly hear the barking of a dog.

Up went the balloon, and the air became colder and rarer. At a height of three miles the thermometer registered seventeen. At four miles the temperature was two degrees below zero.

They could see the English Channel, and towns on the English and French coasts, with great distinctness with the naked eye.

Up to twenty-five thousand feet there was no difficulty in breathing; but above that height, dizziness was felt, and suffocation seemed to be near, and they were obliged to put the tubes of the oxygen inhalers into their mouths. Then a feeling of great buoyancy succeeded.

At twenty-seven thousand feet they were miles above the flights of the highest birds. The few thin cirrus clouds which they had sighted at a height of four miles were now below them, and there was nothing above and around them but an immense expanse of the deepest indigo blue, and a setting sun so dazzling in its brilliancy that they could not bear to look at it.

They now felt the effects of the terrible cold; their beards were crusted with frost; their faces were pale and bloodless. At twenty-seven thousand five hundred feet the temperature was twenty-nine degrees below zero. If they hoped to bring the balloon safely to earth, now was the time to start on the return journey.

The descent was begun. In order to avoid the sea, Mr. Spencer pulled the valve, which so accelerated the descent that it was necessary to discharge ballast.

When they had dropped another mile, and had reached a denser layer of air, so that the rate of descent was decreased, the sand thus thrown out came pattering on the balloon. It had just caught up with them.

They reached the earth in safety, after an aerial trip lasting one hour and fifty minutes.—*Saturday Evening Post.*

AN ODD NEST.

THERE is said to be, in a museum in Solothurn, Switzerland, a bird's-nest made of steel. There are several clock-making establishments at Solothurn, and the broken or imperfect clock-springs are thrown aside. A pair of enterprising wagtails discovered this material, and made their home almost entirely of it. The nest was more than four inches across, and so lined as to be very comfortable.

"THE world was never impoverished in virtue by moral millionaires. The more each man accumulates of goodness, the richer we all are."



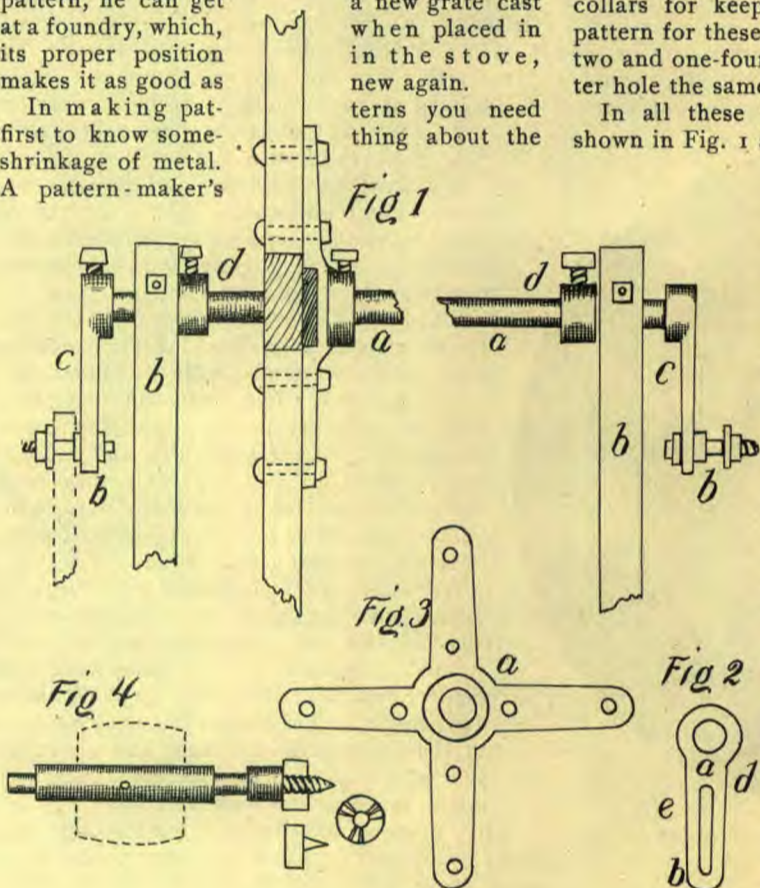
PATTERN-MAKING.

OUR lesson this week is on making patterns for the foot-lathe spoken of in the previous number.

The trade of pattern-making is a good one, not only because it is pleasant work, but also because a first-class pattern-maker always commands good wages, and instead of having to seek employment, his services are in demand. The work is light; but it requires painstaking, and a workman who can readily understand a draft. It is well for boys who are interested in the use of tools to have some knowledge of this kind of work; for many times they can put it to good use in repairing some piece of household furniture. For instance, many times the grate to a cook-stove burns out, rendering the stove almost useless; but if one can make a pattern, he can get a new grate cast when placed in the stove, its proper position makes it as good as new again.

In making patterns you need first to know something about the shrinkage of metal. A pattern-maker's

terms you need to know about the thing about the



made of cast iron. In Fig. 2, *d* represents the face side of the crank. This crank should be about eight inches long, two and one-fourth inches wide at the largest end, with a hole in the center seven eighths of an inch upon the smallest end of the hole, which, by giving one-sixteenth-inch draft, makes it one inch upon the other side. At *e*, three fourths of an inch from the end of the pattern, you will notice a slot three and one-half inches long, and one-half inch wide. This gives place for the bolt to the treadle-rod to move up or down in adjusting the length of the tread.

In Fig. 3 you will see what is called the spider, in the center of which is a round ring two and one-half inches in diameter. At *a* this is placed upon the arms, which are made of two pieces twelve inches long, two inches wide in the center, and an inch and a half wide at each end. The ring should be made one inch thick, so that when placed upon the arms, it will be an inch and a half thick where the hole is made for shaft. Make the hole seven eighths of an inch upon one side, and one inch on the other. Make half-inch holes through the arm-pieces for bolting spider to driving-wheel.

At *d, d*, Fig. 1, are shown some movable collars for keeping the shaft in place. The pattern for these should be one inch thick and two and one-fourth inches in diameter, the center hole the same as in the spider.

In all these you will see a set-screw, as shown in Fig. 1 at *d, d*, so that when the holes are drilled out or filed to fit the shaft, the screws will hold them in place. File a little flat place in shaft for screws to rest upon to prevent their turning upon shaft. Now taper or bevel the edges of all your patterns about one sixteenth of an inch, placing the large size of hole upon the narrow side of patterns.

In the end of crank, *e*, at *b*, is a bolt with double nut for holding it in place in slot, *e*, also a nut and washer; or you can drill a hole, inserting a washer and a cotter-pin to hold the rod in place.

The mandrel is shown in Fig. 4. It is made with a screw upon the end, and the nut has three projecting spurs to hold the wood for turning.

This article is already so long it will be necessary to reserve for our next study the finishing up of patterns, making cores, moldings, etc.

W. K. LOUGHBOROUGH.

rule is always one eighth of an inch longer to the foot than a carpenter's rule. All patterns that are required to fill a certain space must have this addition to size.

One who has never worked in iron hardly knows what can be done with cast iron. I have worked a good deal in a machine-shop and foundry, molding and making iron. At one time, when wanting a quantity of shafting for the shop, we made it of cast iron, in sections eight feet long and three inches in diameter. In cooling, some of it sprung an inch; but by peening (repeatedly striking) it upon the concave side, we straightened it.

My first experience in pattern-making was when I was about thirteen years old. I wanted to make a model for a trip-hammer; so I made my patterns for a drive-wheel, which had to be made in sections, and went out to the sand in the garden, and started a small foundry, using lead instead of iron for my castings. I had no thought then that I should ever work in a foundry; for at that time I had never seen one. All the knowledge I then had of one was imparted to me by a cousin. It is a good plan to study up these things, in order to be ready for any emergency.

Now for the lathe patterns. In Fig. 1 you will see the shaft mentioned in the last article, broken in two at *a, a*. At *b, b* are the two end planks in which the shaft revolves. Upon each end of this shaft, at *c, c*, you will see a crank

THE ANGELS CAME TO TOWN.

PEOPLE tell the story yet,
With pathos of regret,—
How along the streets, one day,
Unawares, from far away,
Angels passed, with gifts for need,
And no mortal gave them heed.
They had cheer for those who weep,
They had light for shadows deep,
Balm for broken hearts they bore,
Rest, deep rest, a boundless store;
But the people, so they say,
Went the old, blind, human way,—
Fed the quack and hailed the clown,
When the angels came to town.

It has been and will be so;
Angels come, and angels go,—
Opportunity and light,—
'Twixt the morning and the night,
With their messages divine
To your little world and mine;
And we wonder why we heard
Not a whisper of their word,
Caught no glimpse of finer grace
In the passing form and face;
That our ears were dull as stones
To the thrill of spirit tones,
And we looked not up, but down,
When the angels came to town.

— Alfred J. Hough, in Christian Herald.

Physical Culture

BREATHING EXERCISES.

IF the subject of physiology is reverently regarded, light will come to those who study; and they, in turn, will be channels of light to others. Statistics show that all children breathe with the diaphragm until about the age of fourteen, when girls change from abdominal and costal breathing to upper-chest breathing.

In breathing-exercises the easiest way to learn one's anatomy, and locate the lateral and forward action of the ribs and abdomen, is to practise the movements in a reclining position until control is obtained of the diaphragm. This can easily be done on retiring at night, and before rising in the morning. Lie on the back, and place one hand on the chest, and the other on the abdomen. Slowly exhale, emptying the lungs; then through the nostrils draw in a deep, full breath. The chest should remain passive during the exercise, but the ribs should be thrown out sidewise, and the abdomen forward and up. Begin breathing-exercises by exhaling. Inhale and exhale slowly.

Another exercise may be taken thus: Gently compress the ribs with both hands as exhalation occurs; then inhale deeply, still compressing the hands, so that when the lungs are full, the hands will be far apart. This exercise is valuable in strengthening the intercostal muscles and educating the action of the diaphragm. Persistent practise will enable one in a short time to use the diaphragm intelligently. The study of the action of this muscle shows that as it descends (flattens out), the ribs expand, and suction draws the lungs down. In expiration the diaphragm rises, pushing the lungs up with it. The muscular contraction of the abdomen in and out and sidewise is helpful in gaining control of waist-breathing. When control is obtained lying down, the exercises may be taken sitting, and then in a standing posture.

The following exercises are arranged for home practise: Sit on a low, comfortable chair (a camp-chair is good), erect, with the back unsupported; chest well up; arms at side. Empty lungs first; then slowly inhale, raising the arms sidewise until they are even with the shoulders. Allow the hands to droop at the wrist as the arms rise. Hold the breath a second, swelling the waist out full by muscular effort, then gently lower the arms, hands bending upward at the wrist as the arms descend. Exhale with this arm-movement; take care to keep the chest passive and well up. Notice that the abdomen swells and recedes, and the ribs expand and contract. The arm-movement assists in widening the chest, thus strengthening the intercostal muscles, and allows free action of the auxiliary arteries. Take the exercises with arms in front, raising and lowering as before. Next extend arms straight out in front, palms facing; on inhaling carry arms back even with the shoulders, hands turned in, fingers loose. On exhaling, bring the arms forward, wrists leading, hands floating loosely behind. The more feathery, floating, light, and airy the movement of the arms and hands in these exercises, the more graceful and free from tension they are. As we learned in previous lessons, grace is essential to health; in fact, it is health, and awkwardness is deformity. With arms at side, take a deep, full breath (always remember to exhale first), bringing arms up in front and high over the head (lungs are full at this point); then with an easy sweep, bring arms out to the side, palms of hands up; when the arms are even with the shoulders, turn palms down, wrists drooping, and gently lower arms to side. Exhalation begins as the arms leave the upper curve over the head, and is complete as the arms sink. From three to five minutes should be given to each of the movements, care being taken that the poise of the body and the waist action are correct.

MRS. M. D. MCKEE.



CHATS WITH THE CHILDREN

MOTHER'S GIRL.

SLEEVES to the dimpled elbow,
Love in the sweet blue eyes,
To and fro upon errands
The little maiden flies.
Now she is washing dishes,
Now she is feeding the chicks,
Now she is playing with pussy,
Or teaching Rover tricks.

Wrapped in a big white apron,
Pinned in a checkered shawl,
Hanging clothes in the garden,—
O, were she only tall!
Hushing the fretful baby,
Coaxing his hair to curl,
Stepping around so briskly,
Because she is mother's girl.

Hunting for eggs in the haymow,
Petting old Brindle's calf,
Riding Don to the pasture
With many a ringing laugh,
Coming whene'er you call her,
Running wherever sent,—
Mother's girl is a blessing,
And mother is well content.

— Selected.

A GLIMPSE OF THE WORLD WONDERFUL.

"I WISH somebody'd tell me a true story," sighed Jessie; "I'm tired of make-believes." "Somebody" clearly meant Uncle Waldo, since he was the only member of the family who was gifted in story-telling. He looked up from his drawing, and smiled promisingly.

"Did I ever tell you about a trip I made—let me see—three weeks ago to-morrow?"

"To Boston?" asked Jessie.

"Yes, and no." 'T was from Boston I set out for a place called 'Wonderland.'"

"No, you did n't tell me about that. Please tell me now."

"I will, if Tom thinks he can stop playing leap-frog with Rover long enough to listen quietly for ten minutes. Oh, you're seated, Tom? Well, then, one bright morning three weeks ago I set out from the city of Boston to visit an old college friend who lives in the midst of a beautiful wood called 'Wonderland' by his friends, much as your mother calls you 'Sprite,' Jessie, just among ourselves.

"It was a very quiet place, with not another house in sight; even the road was hidden by a thick hedge of flowering locusts. After I had admired everything about the beautiful grounds, I said to my friend, 'You must be very lonely here.'

"'Lonely!' the professor echoed, with a smile; 'how could I be lonely here? But you have not seen half of Wonderland. Come with me; I will show you my treasures.'

"So he led me through the sunny corridors of his great house, up and up to a tower-room, with many large windows and a glass roof.

"'Now close your eyes,' he said, 'and wait till I tell you to look.'

"When he gave the word, I opened my eyes, and saw before me a garden such as had never entered into my happiest dreams. Instead of shrubs and plants, there were trees covered with flowers of great size and beauty, and at the same time laden with fruits of a variety quite unknown to me,—more like melons than anything else I can think of. In the midst of the garden was a lake, crystal clear and smooth as a mirror, teeming with fishes and water-fowl. In a grassy meadow on the right bank a herd of cattle grazed knee-deep in clover,—

such cattle as you have never even heard of,—green cows, blue cows, mottled black-and-yellow cows; some with horns, some with wings."

"Cows with wings, Uncle Waldo!" exclaimed Jessie.

"Yes. Queer, was n't it? But the strangest was to come. On the other side of the lake were two huge, hollow boulders; and in those caverns were the queerest animals imaginable, some with beaks, others with claws and horns, and all perfectly at peace with one another, and so busy with their own affairs that they never even looked at me.

"I stared about me in speechless wonder; and while I looked, great shadows fell across the water and the garden, caused by the flight of immense birds, with wings like the sails of a ship, light as thistle, and tinted with all the colors of the rainbow,—deep-blue, golden, yellow, green, and silver, and pure white. When they lighted on the trees, I noticed that every feather was studded with gems finer than any king's crown. I could have looked all day, but my friend suddenly withdrew the wand, and lo! the fairy scene vanished."



"TO AND FRO UPON ERRANDS."

"O Uncle Waldo! you said it was to be a true story," said Jessie, reproachfully.

"Well, so it is."

"Did the cows really have wings?"

"They did,—at least I suppose they were cows. Perhaps the professor had a better name for them."

"And you said there was a wand," Tom objected, stoutly.

"Yes. Can either of you guess its name?"

After an interval of thoughtful silence, Tom said, "Give it up."

"And you, Jessie?"

"Of course if Tom can't guess it, I can't," she answered, promptly.

"Well, then, the wand was a microscope; and it revealed a glimpse of that hidden world which is more wonderful and beautiful than any fairy land. The garden was a patch of vegetable mold; the grassy pasture a single leaf, with tiny insects grazing upon it; a single drop of unfiltered water formed the lake and fishes; and two hollow grains of sand were the boulder caverns, with their strange inhabitants, so small that a group of twenty, closely packed together, would be barely visible to the naked eye. The birds were the little garden moths, such as you

may see flitting about the flowers every sunny morning."

"My!" said Tom, "think of that, Jessie! and we can't even see those things."

"Yet they are all there, but hidden from our dull sight. You see, God cares for those invisible things in his own way, just as he shapes our lives to suit his own great purpose."

MRS. O. PETERSON.

OLD TOWSER AND THE CHICKS.

ONE evening when Towser, the Newfoundland dog, went to bed in his straw-carpeted kennel, he saw something round and white and smooth lying in one corner; but being a good dog, he did not interfere with it, but lay down and went to sleep. The next night there was another, and then another and another, until thirteen lay in the corner together.

On the fourteenth night old Towser found something else in his kennel,—a little bantam hen covering the round, white eggs with her body and wings.

Now Towser and the bantams were the best of friends, often eating out of the same dish; and I dare say Towser felt not a little complimented as he lay with his nose just a little nearer the door of his kennel, that he might the better guard his little friend, who had apparently sought his protection.

And so every night for three weeks old Towser found the bantam snuggled in one corner of his kennel. On the twenty-first night he heard strange sounds. There were faint "peeps," the cracking of egg-shells, and the soft "cluck" of the bantam hen.

Old Towser did n't understand what was going on, but it made him wakeful, and he pricked up his ears and barked a little; but the next day, when he saw his little friend walking about the yard with eleven little chicks, he was delighted, showing his expressions of joy by frisking about the hen, and in many other ways.

A week later, when the poor little hen was run over and killed, old Towser took the chicks into his kennel, and lay down in the corner; and when they snuggled close up under the long hair of his body, he lay very quiet, that he might not disturb nor injure them. In that way he took care of them all night, led them out the next day, and with a bark of delight was seen scratching the ground vigorously, that the chicks might find a soft place to scratch for themselves. It was a funny sight to see Towser going about the yard followed by

the little chicks. The people here still love to tell how Towser raised all those chicks.—*Christian Work.*

A QUEER CRADLE.

THE funniest cradle you ever did see
Is swung from the limb of the old maple tree;
Peep over the side, and you surely will spy
Three babies; but softly! for they are so shy.

Sweet winds sway them gently to slumbers serene,
And whispering leaves tell them stories, I ween;
When naught but the green, leafy foliage they see,
What wonder they think the whole world is a tree?

But do they not fear when the drenching rain pours,
When the loud thunder rolls, and the hurricane roars?
Ah, no! for they come at the Father's behest,
Who cares e'en for orioles, safe in a nest.

VIOLA E. SMITH.

"IT is best to think twice before taking upon us the burden of hatred for any fellow being. It weighs heavier every year, and exhausts the strength that ought to go in loving and bettering others."

BIBLE LESSONS AND NOTES

THE SABBATH-SCHOOL LESSON.—NO. 11.

(June 10, 1899.)

PARABLES OF THE KINGDOM, AND THE OBEDIENT ELEMENTS.

Lesson Scriptures.—Luke 11:37-54; Matt. 13:1-46; 8:18-27.

Memory Verse.—Matt. 8:26.

QUESTIONS.

While Christ was speaking to the people, what invitation did he receive? Luke 11:37. What conduct of the Saviour attracted the notice of his host? V. 38. How particular were the Pharisees with reference to these ceremonial washings? Note 1. How did the Saviour use this occasion in imparting truth? Vs. 39-41. What rebuke did he administer to the scribes and Pharisees because of their formalities and empty ceremonies? Vs. 42-44. At this point who interrupted the Saviour? V. 45. What answer did this lawyer receive? Vs. 46-52. Note 2. What were the scribes and Pharisees doing while Christ was speaking? V. 53. What wicked purposes prompted them? V. 54. Where did Jesus now go and teach? Matt. 13:1. As the multitude gathered, what point of vantage did he seek? Matt. 13:2. Relate the parable with which he began. Vs. 3-8. What question did the disciples ask? What was the Saviour's answer? Vs. 11-17. Why were these things clear to the disciples, and so hard for these haughty Pharisees to understand? Note 3. Give the Saviour's interpretation of the parable of the sower. Vs. 19-23. Relate the parable of the tares. Vs. 24-30. How did Christ apply it? Vs. 37-43. What other parables did he speak, and what was the teaching of each? Vs. 31, 33, 44-48. Notes 4, 5. After the multitude had been sent away at the close of the day, what did Jesus and his disciples do? Matt. 8:18; Mark 4:35, 36. As they were about to leave, who came to Christ, and for what purpose? Matt. 8:19. What did the Saviour reply? V. 20. What did another disciple request, and what was he told? Vs. 21, 22. After starting on their journey, what overtook them? Was Christ at all disturbed? V. 24. When the disciples had awakened their Lord, how did he tenderly rebuke them? Vs. 25, 26. What did he then proceed to do? How were the disciples affected by this miracle? What questions did they ask among themselves? V. 27.

NOTES.

1. These ablutions were insisted upon with special solemnity by the oral tradition. The Jews of later times related with intense admiration how the Rabbi Akiba, when imprisoned and furnished with only sufficient water to maintain life, preferred to die of starvation rather than eat without the proper washings.—*Farrar's "Life of Christ."*

2. "The Pharisees were a sect, or party, of the Jews who believed that all the principles of the law needed to be elaborated in order to be understood by the common people. They had, in the days of Christ, carried this to such an extreme as to employ the entire worship of the people in carrying out the multitudinous forms prescribed for them. The lawyers are generally supposed to have been the same as the scribes.—Pharisees learned in the law.

3. The disciples were willing to be taught; the Pharisees unwilling, being blinded by prejudice and envy. The disciples, too, were humble men, while the scribes and Pharisees, as a class, were proud and haughty. "The meek will he guide in judgment: and the meek will he teach his way." Ps. 25:9.

"O, truth is easy, and the light shines clear,
For hearts kept open, honest, and sincere."

4. It will be noticed that each of these parables relates to some particular phase of one great subject,—the kingdom of God. The first, on the tares, shows the kingdom of God entire before sin entered, then its corruption through sin, and its restoration. The next shows the growth of the kingdom in the heart, and so on through the light. These parables should be closely studied to get the lesson in each.

5. One general thought that underlies several of these parables is the necessity of making a complete sacrifice of all one is and has, in order to enter the kingdom. One man went and sold all that he had, in order to get the pearl of great price. Another sold all (not a part) that he had, in order to buy the field and secure the treasure. It is fitting that men make this complete renunciation to receive the Saviour, for two reasons: (1) God gave all that he had to redeem man; (2) in the Saviour all things are restored to us.

6. The word here used means a sudden and violent storm. The wild roaring of the wind, the blinding tor-

rents of rain, the thick darkness blotting out the stars, and the sea breaking over the boat and threatening to sink it,—such a condition of things was enough to fill the stoutest hearts with terror. Christ slept soundly through it all, resting from his excessive labors, making up for some of those long nights he had spent pleading with God on the lonely mountain-tops. When aroused, the Saviour exhibited no fear. His first words were directed not to the tempest, but to the disciples, gently reproving them for their lack of faith.

For side-reading see "Desire of Ages," pages 334-336.

INTERNATIONAL LESSON.—NO. 11.

(June 11, 1899.)

CHRIST RISEN.

Lesson Scripture.—John 20:11-20.

Connected Passages.—John 20:1-10; 21:30; 21:1-25.

Golden Text.—1 Cor. 15:20.

TIME: First day of the week, April 9, A. D. 31.

PLACES: A garden near Jerusalem, an upper room.

PERSONS: Jesus, angels, Mary Magdalene, disciples.

QUESTIONS.

Where was Jesus' body buried? How long was it in the tomb? Tell what happened on the morning of the third day. Who first believed in Jesus' resurrection? Where did Mary linger? V. 11. Tell about the sepulcher. Whom did Mary see? V. 12. What conversation had she with the angels? V. 13. What caused her to turn away? V. 14. Why did she fail to recognize Jesus? What conversation followed? V. 15. How did Jesus make himself known? V. 16. How did Mary greet him? Vs. 16, 17. Of what did Jesus assure her? V. 17. On what mission did he send her? V. 17. What glad tidings had she to bear? V. 18. Where were the disciples gathered? V. 19. How did Jesus come to them? V. 19. How greet them? V. 19. How convince them he was the same? V. 20. What now filled their hearts? V. 20. Who conquered in the great conquest between Christ and the evil one? What can death now do to us?

NOTES.

1. After the crucifixion of Jesus, the priests urged that the death of the malefactors be hastened, and their bodies be removed from the crosses. They still feared the people, for the reaction soon began. The soldiers broke the legs of the thieves, but found it unnecessary to break those of Jesus. No bone of him was to be broken. To make sure that he was dead, they pierced his side, and blood and water burst from the wound. He had died from a broken heart. "Reproach hath broken mine heart." Ps. 69:20.

2. "Treason against the Roman government was the crime for which Jesus was condemned; and persons put to death for this offense were consigned to a burial-ground especially provided for such criminals. . . . The disciples could not leave the body of their Lord to be handled by the unfeeling soldiers, and buried in a dishonored grave. . . . In this emergency, Joseph of Arimathea and Nicodemus came to the help of the disciples."

3. The tomb where Jesus was laid was near Calvary, in a garden owned by Joseph of Arimathea. It is supposed to have been either a natural cave or hewn from rock, and had never been used.

4. The report that Jesus had said he would rise in three days prompted the priests to ask for a large Roman guard. The stone was also bound down and sealed. All that human power and hellish hate could do to keep the Saviour the prisoner of death was done.

5. At the darkest hour—the hour just before dawn—the power of heaven was revealed. The puny powers of evil had done their worst: one hour more would prove their triumph. A moment's flashing forth of God proved their utter weakness. They could do nothing against the truth. What was the Roman seal, the Roman guard, the stone, which shut in the Resurrection and the Life? The glory of the angel left the guards as dead; and when they recovered from the shock of the blinding brightness and of the mighty earthquake, the tomb was empty. Love divine had proved his victory over hate and force.

6. Life is irrepressible. To make a floor for a grain-elevator, a layer of gravel and two layers of hot asphalt were rolled on the ground. At the end of four years a little bulge showed in a conspicuous, much-trodden part. Men watched the bulge, and saw the asphalt crumble away. At the end of six hours, they stood amazed to see a beautiful, unscarred, white toadstool, which, through the power of life, had pressed its way up to light and air. If God's life is in you, what can keep you down? "If the Spirit of him who raised up Jesus from the dead dwell in you," you will rise with irrepressible life, spiritually, physically, eternally.

7. The infallible proofs of Christ's resurrection were first brought to the ears of men through his enemies.

The friends of Jesus were astonished at the report, and it was hard to convince them of the reality.

8. The shock that buried Lisbon in 1775 never ceased to vibrate till it reached the wilds of Scotland and the vineyards of Madeira. It was felt among the islands of the Grecian Archipelago, and it changed the level of the solitary lakes that sleep beneath the shadows of the North Alps. Even so the shock that Satan's kingdom sustained when Christ arose will not cease to vibrate till it moves the whole world.—*Hardwick.*

9. The women who first sought the sepulcher went weeping. They looked only for the dead, the grave, the stone, the bereavement; yet an hour before Love and Life had burst forth. "God is on the field when most invisible." Shall we not trust him while it is yet dark? Heaven was singing while mortals wept,—for Christ had risen.



A Sanitary Measure.—Any one who gives the subject a moment's thought will appreciate the value of the step taken by a savings-bank in Brussels, which has recently adopted a plan of sterilizing all bank-notes passing through its offices. The money is exposed for several hours to a strong disinfecting vapor.

Magnetic Rocks.—There is said to be, in the Baltic Sea, ninety miles from Zealand, a small island formed of magnetic rocks, which so affect the compass that sailors in the vicinity are obliged to rely on stationary objects in steering their boats. One of these rocks is so charged with magnetism that a compass held over it dips straight downward.

A New Waterway.—A canal to connect Lakes Huron and Superior with the St. Lawrence has been begun. Between Montreal and Ottawa the canal already built will be utilized, and will be extended along the line of the Ottawa River to Lake Nipissing, and thence by French River to Georgian Bay. This canal is to be built deep enough to permit the passage of grain-laden barges and steamers, so that freight may be taken directly from Duluth, Port Arthur, and other points to the ocean. It is hoped that the canal may be finally deepened sufficiently to permit the passage of ocean steamers. If this is ever accomplished, wheat can be put on shipboard at Duluth, and taken to Liverpool without reshipping. The journey from Chicago to Liverpool will be seven hundred miles shorter by this route than by the Erie Canal.

At Our Doors.—Only a hundred miles from Key West is the island that Columbus called "the fairest land that ever human eyes rested on." In a country where all tropical fruits may be grown; where iron, coal, and marble abound; whose forests are rich with rare woods,—mahogany, ebony, and cedar,—the great mass of the people live in abject poverty and ignorance. During the late revolution the population of the island was reduced nearly one third, there being now only about a million inhabitants. These poor people need schools and instruction in farming and home-making. Such help will open their hearts to receive the good news of salvation. We already have two sisters teaching in this needy field. One of these is over sixty years old, and not strong; but she is doing what she can, and says she hopes that other workers will enter the field next fall.

The Dowager Empress of China.—Professor John Fryer, who lived thirty-five years in China, thus describes the dowager empress,—the real power behind the throne in the Flowery Kingdom: "She is still wonderfully vigorous, although in her sixty-fourth year. Her hair is noted for its darkness and brilliancy, and her complexion is clearer than that of most of her countrywomen, being of a delicate cream color. Her eyes are large, bright, and piercing; and her feet are, of course, of natural size, as no Manchu binds the feet. . . . A more capable and wonderful woman is not to be found in the whole world. She is a strict disciplinarian, and considering the seclusion in which she has lived, possesses a surprising knowledge of the outside world." A few months ago, at a crisis in the affairs of state, she seized the reigns of government, setting aside the emperor, who was disposed to favor reforms of various sorts. The name of the empress, as nearly as it can be spelled in English letters, is Tszeh-hsi-tuangu-kang-chao-ipi-chuangchêng-shokung-chinhiên-chung-sih. Probably no one unfamiliar with the intricacies of the Chinese language can give it anything like the correct pronunciation.



THE WONDERFUL EDISON LABORATORY.

"My greatest luxury," said Thomas A. Edison, in his early days of struggle, "would be a laboratory more perfect than any we now have in this country. I want a splendid collection of material,—every chemical, every metal, every substance, in fact, that may be of use to me; and I hardly know what may not be of use. I want all this right at hand, within a few feet of my own house. Give me these advantages, and I will gladly devote fifteen hours a day to solid work. I want none of the rich men's usual toys, no matter how rich I may become. I want no horses nor yachts; for I have no time for them. I want a perfect workshop."

In the last twelve years the great inventor has seen his dream fulfilled. In 1886 he bought a fine villa in Llewellyn Park. He took the house as it stood, with all its luxurious fittings, rather to please his wife than himself: a corner of the laboratory would suit him quite as well. Right outside the gates of the park, and within view of the house, he bought ten acres of land, and began his laboratory. Two handsome structures of brick, each sixty feet wide, one hundred feet long, and four stories high, accommodate the machine-shop, library, lecture-room, experimental workshops, assistants' rooms, and storerooms. The boiler-house and dynamo-rooms are outside the main buildings. Also, in a separate room, the floor of which consists of immense blocks of stone, are the delicate instruments of precision used in testing electric currents. The instruments in this one room cost eighteen thousand dollars to make and import from Europe.

There are eighty assistants, who have charge of the various departments. The most expert iron-workers, glass-blowers, wood-turners, metal-spinners, screw-makers, chemists, and machinists in the country are to be found here. A rough drawing of the most complicated model is all they require to work from.

The storerooms contain all the material needed. Four men are employed to keep the supplies, valued at one hundred thousand dollars, in order, and ready for use at a moment's notice. Each article is put down in a catalogue, which shows the shelf or bottle where it may be found. Every known metal; every chemical known to science; every kind of glass, stone, earth, wood, fiber, paper, skin, and cloth, is to be found here. In making up the chemical collection, an assistant was kept at work for weeks, going through the three most exhaustive works on chemistry in English, French, and German, making a note of every substance mentioned. This list constituted the order for chemicals,—an order, by the way, which required seven months to fill. In the glass department, for instance, there is every known kind of glass, from plate two inches thick to the finest films; and if anything else in the way of glass is needed, the glass-workers are there to make it.

The library is the only part of the main building that shows any attempt at decoration. It is a superb room, sixty feet by forty, with a height of twenty-five feet. Galleries run round the second story. The shelves contain nothing but scientific works, and files of the forty-six scientific periodicals in English, French, and German, to which Edison subscribes. They are indexed by a librarian as soon as received, so that the inventor can see at a glance what they contain concerning the special fields in which he is interested.

Nothing in this great establishment, often employing more than one hundred persons, is made for sale. It is wholly devoted to experimental work and tests. Its expenses, said to be more than one hundred and fifty thousand dollars a year, are paid by the commercial companies in which Edison is interested, he, on his

part, giving them the benefit of any improvements made. Thus, in one room hundreds of incandescent electric lamps burn night and day the year through. Each lamp is specially marked; and when it burns out more quickly than the average, or lasts longer, a special study is made as to the contributing causes.

It may seem impossible that the suggestions of one man can keep busy a big workshop upon experiments the year round; but Edison says that the temptation is always to increase the force. When it is remembered that the list of Edison's patents reaches to seven hundred and forty, and that on the electric light alone he has worked out several hundred theories, the wonder ceases. Ten minutes' work with a pencil may sketch an apparatus that a dozen men can not finish inside a fortnight.—*Wellspring.*



MISSIONARY MONEY FROM BOUQUETS.

AS THE season advances, flowers become numerous, and green material abundant, with which to make bouquets that may be readily sold, or that will prove a welcome gift at the hospital or the sick-bed. In summer more elaborate and variegated bouquets can be made. I am not now writing about the ordinary bouquets you are accustomed to see and to make, but of what I called, years ago, "mud bouquets;" in the construction of which your ingenuity and taste will find a wide and interesting field. I have two or three times sent to family papers directions for making these bouquets, but as some INSTRUCTOR readers may not have seen these directions or the bouquets, I will tell how to make them, as they last a long time, and are beautiful ornaments for parlor, dining-table, or sick-room.

First procure one or more wooden butter-dishes from your grocer. These may be oblong or circular, as you prefer. Next take a basket, scissors, and trowel, go into the woods, and gather everything you see that is odd, pretty, or in any way desirable, with which to make a green border all around the dish. There must be three or more layers,—the first two of leaves, next flat limbs or grasses, and then sprigs of green to put around the top, to finish the border. Cut everything with a stem at least two inches long, and longer if possible. Gather shiny greens, as soft or fuzzy leaves and twigs will soon wither. Anything that is hard and shines will last well. Do not forget to get some twigs with buds on the end, just about to open. These are to set all off well.

Bring home your prizes, and empty them in a cool place, where, if to remain long, they should be sprinkled. Then go out with your basket and scissors, and cut buds and blossoms from trees and plants, or if you desire to make your bouquet of one kind of flowers, cut only that kind. With an old flour-sifter, sift enough dirt or sand to make a heap, when moistened, in the plate or butter-dish you intend to use. Sift the earth into a pan into which you can pour water, making mud soft enough to mold readily into shape, but not so wet that water will ooze from it when handled. Put the mud on the dish, and round it up so it will be from two to three inches higher in the middle than at the sides. Be careful to have the mound well proportioned, neither too high nor too low. Push the dirt back from the edge, so there will be a clear margin from half to three quarters of an inch wide around the plate. Turn a bowl upside down on the table, and put your dish on top of it. If the plate is clear from the table, you can arrange the border better than if it rests directly upon it. At all times the plate should rest upon something that will elevate it above the flat surface of whatever holds it.

W. S. CHAPMAN.

(Conclusion in next number.)



TOOLS FOR SEWING.

CHILDREN, I suppose you have heard about our little sewing-circle. This circle will be for all who want to learn to sew, mend, darn, etc., in order to become more useful in the home. Each week a lesson will be given in the INSTRUCTOR, in as plain and simple a way as possible, so you can do the work at your own home as easily and as well as if you were in a class at school. Take an interest in this work, and do your best; for what you make may be called for, to see how well it is made.

In our first lesson we will learn what tools we shall need in sewing. First of all, we must have needles; and we must be careful to get them the right size to carry our thread. A No. 8 needle will be needed for No. 50 and No. 60 thread; for No. 36 and No. 40 thread a No. 7 needle should be used. It will be a good plan to get a paper of assorted ground down needles, Nos. 5-10. We will use this kind because they will not break easily.

Next we shall need some thread, a thimble, and a pair of scissors. Let each get a celluloid thimble to fit the second finger of the right hand, a spool of No. 50 white thread, and a small pair of sharp scissors.

We must have something to learn to sew on; and as we are going to make this work practical, let each one get a piece of outing-flannel of a color that will not soil easily, about sixteen inches wide and twenty-four inches long. Of this we will make a little sewing bag to hold our tools, so we will always know where to find them.

Now we have needles, thread, thimble, scissors, and cloth. Do you think of anything more we shall need?—A paper of pins, an emery-bag, a tape measure, and a piece of wax, you say. Yes, each should have a pin-ball well filled with small pins, an emery-bag to brighten the needle when it does not go through the cloth easily, a tape-line to measure the work, and a piece of wax to wax the thread when it knots. This list of tools comprises all we shall need at present. Be sure to have all these articles ready before our next lesson.

NELLIE V. DICE.

HOW THIMBLES ARE MADE.

THE thimble is a Dutch invention, and the first one was made in 1684 by a goldsmith named Nicholas Van Benschoten. Originally it was called a "thumb-bell," because it was worn on the thumb. In making thimbles the gold and silver ingots are rolled out into sheets of the desired thickness, and cut by a stamp into circular pieces of the required size. These circular pieces are bent into thimble shape by means of a solid metal bar that is of the same size as the inside of the intended thimble. This bar is moved by machinery up and down in a bottomless mold; and each time it descends, it presses one of the circular pieces into thimble shape.

When the thimble is shaped, the next work is to brighten, polish, and decorate it. First the blank thimble is fitted with a rapidly revolving rod. A slight touch of a sharp chisel cuts a thin shaving from the end of the thimble, a second chisel does the same on the side, and a third neatly rounds off the rim. A round steel rod, well oiled, is held against the surface of the revolving thimble, to polish it bright. The inside is brightened and polished in a similar manner, the thimble being held in a revolving mold. Then a delicate revolving steel wheel, with a raised ornamental edge, is pressed against the blank thimble, and prints the ornament seen just outside the rim. Another steel wheel, covered with sharp points, makes tiny indentations all over the remaining blank surface of the thimble. The last operation is to wash it thoroughly in soapy water, and brush it carefully.—*Children's Visitor.*

