Looking Forward.

James Russell Lowell.

The miller dreams not at what cost
The quivering millstones hum and whirl,
Nor how for every turn are lost
Armfuls of diamond and of pearl.

But summer cleared my happier eyes
With drops of some celestial juice,
To see how beauty underlies
Forever more each form of use.

And more: methought I saw that flood,
Which now so dull and darkling steals,
Thick, here and there, with human blood,
To turn the world's laborious wheels.

No more than doth the miller there
Shut in our several cells, do we
Know with what waste of beauty rare
Moves every day's machinery.

Surely the wiser time shall come
When this fine overplus of might,
No longer sullen, slow and dumb,
Shall leap to music and to light.

In that new childhood of the earth,
Life of itself shall dance and play;
Fresh blood in Time's shrunk veins
make mirth,
And labor most delight half way.

HEALTH AND HOME

SUGGESTIONS FOR CHRISTMAS.

Time's revolving wheel has again brought around the month in which we begin to think, "What shall I make pretty for the Yule Tide."

For the housekeeper who has no time for fancy work, embroider some doyleys. It is quite the thing to put doyleys under the plates, and they are made by cutting heavy undressed linen into circles the size of a breakfast plate. Divide the edges into 12 equal parts, cut into squares, points or scallops, not over 1½ inches deep. Buttonhole these edges with Belding's white wash twist, or the rope silk, and embroider all over designs in the centre. They can all have a different design, pansies for one, dogwood blossoms for another, wild roses, violets and conventional designs. Work the flowers with their natural shades in Belding's wash twist.

For finger-bowl doyleys use best quality of India lawn. See that the threads of the cloth are smooth, as unevenness makes it difficult to draw the threads. Get a quarter of a yard of lawn, even the edges by cutting by a drawn thread; make the strip seven inches deep. This strip will make five doyleys seven by seven. Draw six or seven threads far enough back from the edges to allow for a quarter of an inch hem; hemstitch with very fine thread. Then place the pattern you intend to work on the doyleys underneath, and trace it with a fine pointed lead pencil. Work with Belding's wash silks in shades desired.

To make a bureau-box, take a large-sized cigar box or a pound marshmallow tin box. Cut out of thin cardboard pieces to fit the inside, and cover with a layer of thin cotton and silk, fasten at the corners and slip in the box. Make a puff of silk, which can easily be sown to the cardboad at one edge and drawn under the box with a thread at the lower edge. The top can be finished with a pincushion to use for jewelery. A strap and rosette will keep the lid from falling back. Fasten the lid to the back with silk loops and place a ring in the middle for a lift.

For a dainty watchcase cut four round pieces of pasteboard 3¼ inches in diameter. Cover two of them with red surah silk, and the other two with white satin or chamois skin, for the lining. Take a strip of the red surah 12½ inches in length and three inches in width; make a narrow hem on the two ends, gather the two sides and stitch them on to the wrong side of each white round, just inside the edge, leaving 3½ inches for the opening. Take one yard of half-inch wide ribbon, cut it in two pieces; sew one end of each piece on the wrong side of the white rounds, tie the two ends in a bow to hang it up by. Paste one of Kursheedt's small silk owls in the centre of one of the red rounds, with the words, "You sleep, I'll watch," painted or written in gilt above it. Paste the red rounds on to the white ones.

A necktie case is made of chamois skin, 18 inches long by 12 inches wide, and lined with Nile green China silk, with an interlining of sheet wadding well sprinkled with sachet powder. Make a cord of Belding's Nile green rope silk and silver tinsel cord. The case is folded through the centre, crosswise, and the upper side decorated with a cluster of field daisies, crossing diagonally and painted in their natural colors. One corner is turned over just enough to show the contrast between the lining and chamois skin. A band of inch wide ribbon crosses the centre lengthwise, and is caught down at the ends, in the centre, and in the centre of each side; this makes four loops, under which the neckties may be slipped. The end of the ribbon on the upper side is formed into a large bow, and conceals a hook, which fastens into a loop made on the other end of the ribbon. One lined with pale blue or pink and decorated with forget-me-nots would be pretty. This material is very desirable for necktie, handkerchief, glove and photograph cases, as its soft yellow tints will harmonize well with almost any color, and thus articles made from it may be used in any room, regardless of the predominating shades.

Buy a willow rocker, something about $1.25. Rub the woodwork smooth with sandpaper. Afterwards rub with a soft cloth to remove all particles and grittiness. Get a can of Harrison's sage green enamel paint.

Go over every part of the chair smoothly in long strokes, and set away to dry. After twenty-four hours apply another coat. Measure the seat and back, and make two cushions to fit in cloth; fill with excelsior or feathers. Cut the lower corners of each cushion a little rounding, as shown, so as to draw well about the back supports. Have a cover embroidered on art silk with Belding's rope silk, in any pretty design. The lining of the back of the cushions is of yellow or blue sateen. The ribbons to tie the cushion on the chair must match the embroidery in color. This will make a valuable Christmas gift.

TEMPERATURE OF A SICK-ROOM.

The proper temperature of a sick-room is from 65° to 70° F, and the heat should not go much below or much above these points. Abundance of fresh air and sunshine is the rule in all cases, except where the order of the physician prohibits the light. There is far more danger of the patient becoming enervated by close, foul air than there is from ventilation. English physicians insist that an open fire is a necessity to the proper ventilation of a sick-room, and an eminent authority on this subject says:—"I do not consider any room suitable for a patient to occupy during a prolonged illness where there is not an open fire burning on the hearth, in order to secure proper ventilation." A tight stove or a furnace register will not serve any such purpose. On the contrary, the stove throws out a dry heat, which can only be partly counteracted by keeping boiling water on the stove. It does not solve in any way the problem of ventilation. The furnace register, too, often brings up a current of foul air from the cellar or the kitchen, into which the cold air box opens. Unfortunately it is quite the exception to have the cold air box open outdoors, as it should. Even where it so opens, the furnace register does not assist materially in ventilating the room.

One of the best methods of removing odors is to take a shovel of burning coals, sprinkle it with coffee and pass it around the room. Where there is infectious disease a deodorizing solution should be obtained from the physician and used in the water in which the utensils of the room, the bedding and clothing of the patient are washed.

HINTS TO HOUSEKEEPERS.

Perfumed oil sprinkled on library shelves, such as oil of cloves, will prevent mould on books.

An "orange tea" may have orange-colored decorations, oranges served and used in many ways which may suggest themselves.

Too acid, too sweet or too watery fruits are the most indigestible. Berries, oranges and grapes are the easiest of digestion, because there are no tough fibres and no excessive amount of juice to be counteracted.

Oilcloth that has been in use and is soiled should be scrubbed clean, using as little soap as will be necessary for the purpose, and then varnished with oilcloth varnish, which costs about 50 cents a pint.

A warm bread-and milk poultice, with a heaping tablespoonful of pulverized charcoal, will cure carbuncles. Apply warm, and when cold apply another.

The essence of peppermint will cure an inflamed eye Pour five drops in half a wineglass of warm water and then drop into the eye.

Glycerine and rose water, mixed in the proportions of one-third glycerine to two-thirds rose water, is very good for the hands.

It is risky to attempt to decorate china that has been used, because if the glaze has become permeated with grease, which in course of time gradually happens, the colors cannot be successfully fired. Should you decide to make the attempt, cleanse the ware thoroughly first with hot water and soda.

To preserve vinegar for domestic purposes cork it up in glass bottles, set them on the fire with cold water and as much hay or straw as will prevent them knocking together and breaking. When the water nearly boils, take the pan off the fire and leave the bottles in it for a quarter of an hour. Vinegar thus prepared never loses its virtue, though kept many years or occasionally left uncovered, and is peculiarly suitable for pickles.

Beefsteak bones need never be thrown away, as they will make an excellent soup. Crack the bones in pieces and put them in a closely covered saucepan with just enough water to cover them; let them simmer slowly a couple of hours, then add two sliced potatoes, two carrots chopped fine and one sliced onion. If you want a tomato soup, add half a dozen tomatoes peeled and sliced, or tapioca or vermicelli. Add as much water as you will need for the quantity of soup desired, boil for two hours, remove the bones, season and serve.

A useful novelty is the invalid's teacup. It consists of a teacup and saucer, differing neither in price nor in size from the ordinary breakfast or teacup, but so made as to allow of a depression in the saucer, in which is placed a small cube of prepared fuel, by means of which the liquid contained can be kept hot for some time, until the invalid is ready for it.

Monthly Prizes for Boys and Girl

The "Sunlight" Soap Co., Toronto, offer the following prizes every month till further notice, to boys and girls under 16, residing in the Province of Ontario, who send the greatest number of "Sunlight" wrappers:—1st, $10; 2nd, $6; 3rd, $3; 4th, $1; 5th to 14th, a Handsome Book; and a pretty picture to those who send not less than 12 wrappers. Send wrapper to "Sunlight" Soap Office, 43 Scott St., Toronto, not later than 20th of each month, and marked "Competition;" also give full name, address, age, and number of wrappers. Winners' names will be published in *The Toronto Mail* on first Saturday in each month D11y-oaws-

Only one American in 264 is over 6 feet in height.

(6) Can dypepsia be cured? Yes! K., D. C. is "a positive cure," "a safe cure," "a complete cure." "a marvellous cure," "the best cure." "a thorough cure, "the only cure," and a guaranteed cure.

Your Christmas Presents Free.

Immense new arrival of superb leather and morocco goods, handkerchief and glove boxes, toilet sets, collar and cuff boxes, companions, etc., at matchless cash prices, or free with Empire's profit-sharing any price teas, coffee, baking powder, cocoa, chocolate, cocoanut, etc. Branches at Woodstock, Galt, Stratford, Berlin, Hamilton. EMPIRE TEA CO., London, Ont, three doors from Kingsmill's. d&wf

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Dr. T. A. Slocum's

Oxygenized Emulsion of Pure Cod Liver Oil. If you have a Cough use it. For sale by all druggists; 35 cents per bottle.

Lions and leopards are very fond of perfumes.

The moon is said to move 3,333 feet per second.

(5) The Dyspeptic's Hope—K. D. C Why? Because it cures when all other remedies fail. Free sample package mailed to any address.—K. D. C. Co., New Glasgow, N. S.

Telephone NO. 371.—To builders and the trade:—We will be pleased to have the opportunity to quote you prices for all kinds of finish and machine-work of every discription. We do turning of all kinds in the neatest manner and of good design Boulevard posts and rails, inside and outside blinds, sash, doors and frames on hand and made to order. A call solicited espectfully yours, J. C. DODD & SON. F1x21ly

Our fall stock is now complete, and we are offering a good assortment of new goods at cut prices. Special value in ladies' and gents' fine lines.—R. KIRKPATRICK, 219 Dundas St. xA21ly

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NOTICE.—Stoves and Furniture—A large assortment to select from, very cheap. Call and inspect before buying.—WM. TRAFFORD, 95 and 97 King street. C5ly

FIRE.—Temperance House, 93 King St., has been refitted since the fire. Accommodation for people and horses better than ever. D8ly

Congregational Singing and Systems.

I have always advocated congregational singing, and therefore rejoice whenever I come across newspaper letters every now and then, which show that there is a growing distaste for that form of musical worship which leaves the praise of God almost entirely to the choir. These newspaper letters, however, while urgently advising the early training of children in class singing, have usually the same tendency, viz.:—They advocate too strongly one special system. Now this is a grave mistake, and will never do any good to the cause to be advanced. The two systems of teaching class singing, as most people are aware, are the "staff notation" and the "Tonic Sol Fa." I do not intend to discuss the respective merits of either, as I have always been of the same mind in the matter, maintaining that it is not the system nearly as much as the teacher which does the work. Some time ago I was present at a contest (shall I call it?) of the two systems. The one which gained the day, as far as sight-singing was concerned, was conducted by a teacher who is peculiarly fitted for the work, being clever, concise, and with his class thoroughly under control. The opposite side was also conducted by a clever and competent teacher, but somehow he lacked that indefinable something which his rival (I only mean "rival" musically, as I believe they are good friends,) possessed. Now, upon this evidence I should never conclude that one system was good—the other bad. Undoubtedly both have their merits. The only thing I take exception to in the Tonic Sol Fa system is that you have to learn the staff notation as well in order to become what is understood to be a musician, by which I mean one who can read fluently from the printed music in general use. The question, then, which presents itself to many, is:—"Why learn one system at first only to continue with another, which has to be learned after all? Why not begin and end with the same?" I repeat that the old staff notation has to be learned, because as the day will probably never dawn in which all music will be printed in the Tonic Sol Fa notation, it stands to reason that a singer must be able to read the other. Those who do not learn the staff notation are simply nowhere when they have to read it, as I can testify. I know people who are expert Tonic Sol Fa sight readers—one an experienced teacher of the system in England and elsewhere—and they were like unto a blind man—especially the teacher—when attempting to read a simple part song. On the other hand, a staff notationist is all at sea when peering at the letters, dots and dashes of the Tonic Sol Fa, which are, however, simple enough. The truth is, that when you once, as it were, "see the sound" (for this is the whole basis of sight singing), system means very little. As I never myself studied any one particular system of sight singing, for I happened to "see" the sounds naturally, I may be exonerated from prejudice or a wish to advocate one system above another. I merely wish to advocate good teachers. Whilst many are quarrelling and wasting their time over their own pet "system," the rising generation might be learning something, part of the "something" being the building up of congregational singing. No one can more deeply appreciate that sublime church singing which can only be done by the choir, such as anthems, services and the more difficult chants. I would, by no means, do away with these, which would be casting out some of the grandest sacred music. It is in the hymns that I notice generally a lassitude and want of fullness. Many people imagine that it is in the extreme High Church services where the singing is left to the choir. This is a mistake, for I have heard more hearty congregational singing of hymns (aye, and chants, too) in the very highest church services than anywhere else. As I write I have in mind two churches I lately attended in a large city, where the services were quite ritualistic, but where the spontaneous and hearty joining in of the large congregation was a pleasure to listen to. People often say—"Why don't they have hymns every one knows, so that we can all sing?" Now, this, my friends, would mean the exclusion of all new tunes and also of many most beautiful hymns, which are, however, somewhat difficult. It has always seemed to me that there are several ways by which good congregational singing might be attained. One way is to hold weekly practices, perhaps after week day service, when the congregation, or, at least, the major part of it, join the choir in practising the hymns, which could easily be practised first, in case it were inconvenient for people to remain late. Another way is for some members of the choir, or all, if possible, to have a weekly practice with as many as possible of their friends as soon as they know the hymns to be sung the following Sunday. Still another way, although not so good, is for as many as possible of the congregation to get the hymn books, with the music also, and ascertain for themselves the hymns in order that that may know, at least, something of the tune. By far the best plan is the first, though, for even the old tunes, which everyone knows (or think they know), are often spoiled by a want of unity, as too many sing them their own way, with a fine disregard of light and shade and rhythm, whereas, if they had once sung them at a practice, there would be far more accuracy and unity, even if they do know the tunes of old, and it is surely needless to speak of the advantage to be gained by practice if they do not know the tunes.

Yes, let us have as much congregational singing as possible. Let the choir sing its glorious anthems and services, but in the hymns and simpler chants let us all join "with heart and voice."

FRANCES J. MOORE.

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Its true theory now established.
Its treatment through the stomach.
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Its treatment through the lungs.

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New pastry and confectionery store.—W. Stiling has opened out in this line of business at 312 Dundas street, where a full stock will be always found. "Home-made pies a speciality" A28w,s-ly

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Teeth without plates; gold and porcelain crowns; established fifteen years, J. B Cook, L.D.S. tf

SCIENCE AND INDUSTRY.

In connection with the introduction of ball bearings for machine tools, mention is made of a recently invented machine for rolling steel balls by Mr. Fairbairn, of Manchester, England. This machine is provided with two horizontal disks, each having on one of its faces a spiral groove starting from near the rim of its disk and ending near its centre, with a feeding rim round its edges, the shape of the groove being half round in section; these disks are placed one above the other, with their faces in contact, and in this position are rotated in opposite directions. In the centre of the lower disk there is a hole through, and the spiral groove ends in this hole. Now, if a heated bar of steel be presented with its ends to the disks, so that it enters between them, the feeding rims in the disks grasp the rod and draw it forward until the outer ends of the spirals meet at the end of the bar at each revolution, and, acting like shears, cut off a short length of the bar, sufficient to make a ball. By the rotation of the disks, the steel is rolled around in all possible directions, and at the same time compressed in the grooves, which alternately give a perfectly globular shape to the steel and deliver it to a hole, through which the perfected ball drops from the machine.

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The improvements effected by Dr. Alphonse Hennin in the manufacture of fuel gas are claimed to result in an article containing as high as sixty per cent. of combustible matter, and at the same time obtaining larger quantities of ammonia and tar per ton of coal used than have ever before been secured by any of the various methods heretofore brought forward. The apparatus by which this is accomplished consists of cylindrical producers, ten feet in diameter and fifteen feet high, made of wrought iron and lined with firebrick, the fuel being fed into a hopper at the top of the producer, and the bed of fire supported on a grate near the bottom; the combustion which generates the heat for distillation is maintained by blasts of steam and air, which are introduced radially through tuyeres just above the grate. The peculiar advantage possessed by this method, as compared with all others which have been proposed, consists in its adaptation to so regulate the relative proportion of steam and air as to maintain in this lower portion of the producer an incandescent zone or bed of fuel at a sufficient temperature to decompose practically all of the steam admitted. At the same time this is effected the supply of fresh fuel is so regulated that the upper portion of the producer is kept at a temperature sufficiently low to allow the formation of ammonia and prevent its decomposition.

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To the various theories concerning lightning conductors which have been advanced by scientists is now added that of Prof. Rowland, of the Johns-Hopkins University, who asserts that the best method is to provide a metal roof with an ample number of metal conductors leading to the ground, serving to carry off the electric bolts from the clouds; copper is the best material, but tin or iron will answer the purpose, and he suggests the placing of the conductors at the corners of a building, so that all parts will be equally protected. Further, lightning has no fixed portion of a building to strike—the stroke may fall at the centre of a roof, and, while it runs along the surface of a body, the body may be broken or crushed by the enormous pressure brought to bear upon it, in the same manner that an explosion of dynamite or nitro-glycerine would cause a fracture. The quantity of electricity in a stroke of lightning, Prof. Rowland remarks, is not nearly so much as passes along almost any electric wire on the street, but the voltage, or electrical pressure, of the street wire is rarely 3,000; a volt is the basis on which the pressure is estimated, and the voltage of the lightning stroke is roughly estimated at 6,000,000,000 volts—in addition to which appalling difference it may be said that the current of the wire is constant and continuing, while the lightning dart is delivered in the one two hundredth part of a second.

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The peculiarities developed in the various processes of metallurgy are no more strikingly exhibited than in the treatment of iron and steel. Thus, the addition of carbon to pure iron results in the production of steel, while the addition of a hydrocarbon produces effects so marked that steel itself becomes modified to such an extent that its properties are not recognizable; steel may in this way be as soft as pure iron. On adding hydrogen, in varying quantity, the metal acquires the quality of resilience, as in the watch spring, or that of tenacity, as in the knife or razor, or may be given nearly the hardness of a diamond, as in a file. With steel at a low temperature, from 400 to 450 degrees F., edge tools are produced, the color in the yellow shades; from 500 to 525 degrees, various sorts of springs are produced; color blue; while by heating iron to whiteness and plunging it into water, which is mainly composed of hydrogen, files are produced, or forms even harder.

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A new aluminum flux called stephenite, from the name of the inventor, is receiving considerable attention at Birmingham, England. It is composed of alumina and emery, the alumina being about seventy per cent. In its natural state this flux is not volatilizable like the refined commercial aluminum, but in a blast cupola or reverberatory furnace it gives off its metallic gases or vapors, these uniting with the fusible iron, for which they have great affinity, and which acts as a condensing agent, while all impurities go to the liquid slag, and are drawn off in the usual manner. It is found that metal manufactured by means of this flux will work equally well under the hammer with the most malleable wrought iron, and will harden up to the hardest steel; it also appears that the metal will work over and over again, becoming hard or soft as the operator may desire. Tests having likewise proved that, in its soft state, it will stand a tensile strain of about thirty-eight tons on the square inch, and when hardened, of about forty-eight tons. Another point upon which stress is laid is that the use of such a flux causes the iron to flow in a much more liquid state and to remain in that condition a considerable time longer than by the ordinary process, thus preventing blowholes and faulty castings, which is, of course, a great desideratum. It is regarded as a great advantage that, by this means, iron founders are enabled to produce their own steel castings, independent of steel works, by simply emelting scrap steel in their own crucibles.

Ladies of London South will find all they require in the way of Ladies' and Children's Clothing and Fancy Goods of all kinds by calling at MRS. GIBBONS, Craig street—"The New Store." A10ly